

INSTALLATION INSTRUCTIONS

PACKAGE AIR CONDITIONER

RLRL-C & RLRL-H SERIES 7.5 & 10 TON [26.4 & 35.2 kW]

RLRL-C: ASHRAE 90.1 2007 COMPLIANT, WITH CLEAR CONTROL

RLRL-H: ASHRAE 90.1 2010 COMPLIANT, WITH CLEAR CONTROL & VFD



Recognize this symbol as an indication of Important Safety Information!

DO NOT DESTROY
PLEASE READ CAREFULLY AND KEEP IN A SAFE PLACE
FOR FUTURE REFERENCE.

WARNING

THESE INSTRUCTIONS ARE INTENDED AS AN AID TO QUALIFIED, LICENSED SERVICE PERSONNEL FOR PROPER INSTALLATION, ADJUSTMENT AND OPERATION OF THIS UNIT. READ THESE INSTRUCTIONS THOROUGHLY BEFORE ATTEMPTING INSTALLATION OR OPERATION. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN IMPROPER INSTALLATION, ADJUSTMENT, SERVICE OR MAINTENANCE POSSIBLY RESULTING IN FIRE, ELECTRICAL SHOCK, PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

[] Designates Metric Conversions



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II. INTRODUCTION

▲ WARNING

THE MANUFACTURER'S WARRANTY DOES NOT COVER ANY DAMAGE OR DEFECT TO THE AIR CONDITIONER CAUSED BY THE ATTACHMENT OR USE OF ANY COMPONENTS, ACCESSORIES OR DEVICES (OTHER THAN THOSE AUTHORIZED BY THE MANUFACTURER) INTO, ONTO OR IN CONJUNCTION WITH THE AIR CONDITIONER. YOU SHOULD BE AWARE THAT THE USE OF UNAUTHORIZED COMPONENTS, ACCESSORIES OR DEVICES MAY ADVERSELY AFFECT THE OPERATION OF THE AIR CONDITIONER AND MAY ALSO ENDANGER LIFE AND PROPERTY. THE MANUFACTURER DISCLAIMS ANY RESPONSIBILITY FOR SUCH LOSS OR INJURY RESULTING FROM THE USE OF SUCH UNAUTHORIZED COMPONENTS, ACCESSORIES OR DEVICES.

This booklet contains the installation and operating instructions for your air conditioner. There are a few precautions that should be taken to derive maximum satisfaction from it. Improper installation can result in unsatisfactory operation or dangerous conditions.

Read this booklet and any instructions packaged with separate equipment required to make up the system prior to installation. Give this booklet to the owner and explain its provisions. The owner should retain this booklet for future reference.

III. CHECKING PRODUCT RECEIVED

Upon receiving the unit, inspect it for any damage from shipment. Claims for damage, either shipping or concealed, should be filed immediately with the shipping company. Check the unit model number, heating size, electrical characteristics, and accessories to determine if they are correct.

IV. EQUIPMENT PROTECTION FROM THE ENVIRONMENT

The metal parts of this unit may be subject to rust or deterioration in adverse environmental conditions. This oxidation could shorten the equipment's useful life. Salt spray, fog or mist in seacoast areas, sulphur or chlorine from lawn watering systems, and various chemical contaminants from industries such as paper mills and petroleum refineries are especially corrosive.

If the unit is to be installed in an area where contaminants are likely to be a problem, special attention should be given to the equipment location and exposure.

1. Avoid having lawn sprinkler heads spray direction on the unit cabinet.
2. In coastal areas, locate the unit on the side of the building away from the waterfront.
3. Shielding provided by a fence or shrubs may give some protection.

Regular maintenance will reduce the buildup of contaminants and help to protect the unit's finish.

▲ WARNING

DISCONNECT ALL POWER TO THE UNIT BEFORE STARTING MAINTENANCE. FAILURE TO DO SO CAN RESULT IN SEVERE ELECTRICAL SHOCK OR DEATH.

1. Frequent washing of the cabinet, fan blade and coil with fresh water will remove most of the salt or other contaminants that build up on the unit.
2. Regular cleaning and waxing of the cabinet with a good automobile polish will provide some protection.
3. A good liquid cleaner may be used several times a year to remove matter that will not wash off with water.

Several different types of protective coatings are offered in some areas. These coatings may provide some benefit, but the effectiveness of such coating materials cannot be verified by the equipment manufacturer.

The best protection is frequent cleaning, maintenance and minimal exposure to contaminants.

V. SPECIFICATIONS

A. GENERAL

The Packaged Air Conditioner is available without heat or with 10, 15, 20, 30, 40 or 50 kW electric heat. Cooling capacities of 7½ and 10 nominal tons of cooling are available. Units are convertible from horizontal supply and return to bottom supply and return by relocation of supply and return air access panels. See cover installation detail.

The units are weatherized for mounting outside of the building.

The information on the rating plate is in compliance with the FTC and DOE rating for single phase units. The following information is for three phase units which **are not** covered under the DOE certification program.

1. The efficiency rating of this unit is a product thermal efficiency rating determined under continuous operating conditions independent of any installed system.

B. MAJOR COMPONENTS

The unit includes a hermetically-sealed refrigerating system (consisting of a compressor, condenser coil, evaporator coil with thermal expansion valve), a circulation air blower, a condenser fan, and all necessary internal electrical wiring. The cooling system of these units is factory-evacuated, charged and performance tested. Refrigerant amount and type are indicated on rating plate.

C. R-410A REFRIGERANT

All units are factory charged with R-410A refrigerant.

1. Specification of R-410A:

Application: R-410A is not a drop-in replacement for R-22; equipment designs must accommodate its higher pressures. It cannot be retrofitted into R-22 units.

Pressure: The pressure of R-410A is approximately 60% (1.6 times) greater than R-22. Recovery and recycle equipment, pumps, hoses and the like need to have design pressure ratings appropriate for R-410A. *Manifold sets need to range up to 800 psig high-side and 250 psig low-side with a 550 psig low-side retard. Hoses need to have a service pressure rating of 800 psig. Recovery cylinders need to have a 400 psig service pressure rating.* DOT 4BA400 or DOT BW400.

Combustibility: At pressures above 1 atmosphere, mixture of R-410A and air can become combustible. **R-410A and air should never be mixed in tanks or supply lines, or be allowed to accumulate in storage tanks. Leak checking should never be done with a mixture of R-410A and air.** Leak checking can be performed safely with nitrogen or a mixture of R-410A and nitrogen.

2. Quick Reference Guide For R-410A

- R-410A refrigerant operates at approximately 60% higher pressure (1.6 times) than R-22. Ensure that servicing equipment is designed to operate with R-410A.

- R-410A refrigerant cylinders are pink.
- R-410A, as with other HFC's is only compatible with POE oils.
- Vacuum pumps will not remove moisture from POE oil.
- R-410A systems are to be charged with liquid refrigerants. Prior to March 1999, R-410A refrigerant cylinders had a dip tube. These cylinders should be kept upright for equipment charging. Post March 1999 cylinders do not have a dip tube and should be inverted to ensure liquid charging of the equipment.
- Do not install a suction line filter drier in the liquid line.
- A liquid line filter drier is standard on every unit.
- Desiccant (drying agent) must be compatible for POE oils and R-410A.

3. Evaporator Coil / TXV

The thermostatic expansion valve is specifically designed to operate with R-410A. **DO NOT use an R-22 TXV. The existing evaporator must be replaced with the factory specified TXV evaporator specifically designed for R-410A.**

4. Tools Required For Installing & Servicing R-410A Models

Manifold Sets:

- Up to 800 PSIG High side
- Up to 250 PSIG Low Side
- 550 PSIG Low Side Retard

Manifold Hoses:

- Service Pressure Rating of 800 PSIG

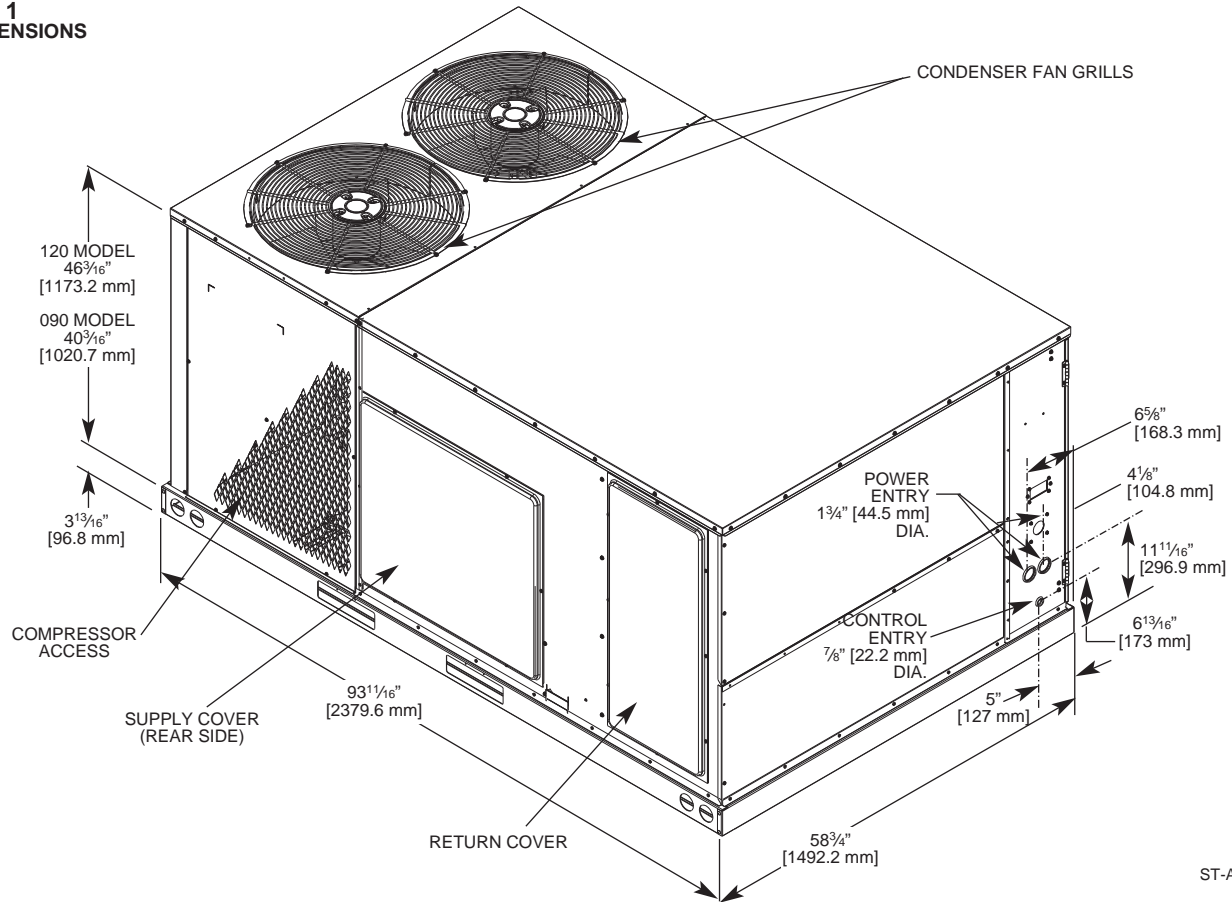
Recovery Cylinders:

- 400 PSIG Pressure Rating
- Dept. of Transportation 4BA400 or BW400

▲ CAUTION

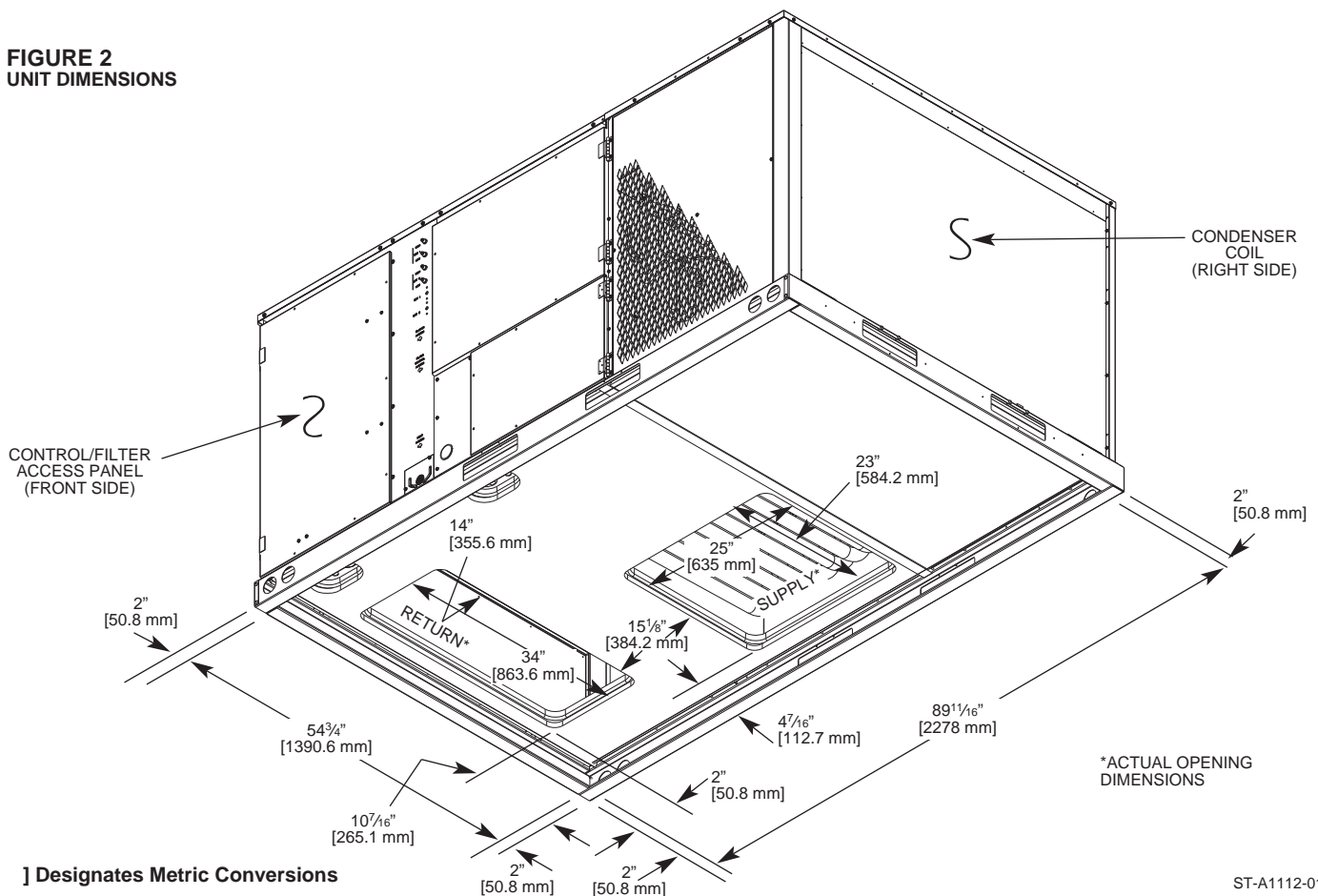
R-410A systems operate at higher pressures than R-22 systems. Do not use R-22 service equipment or components on R-410A equipment.

**FIGURE 1
UNIT DIMENSIONS**



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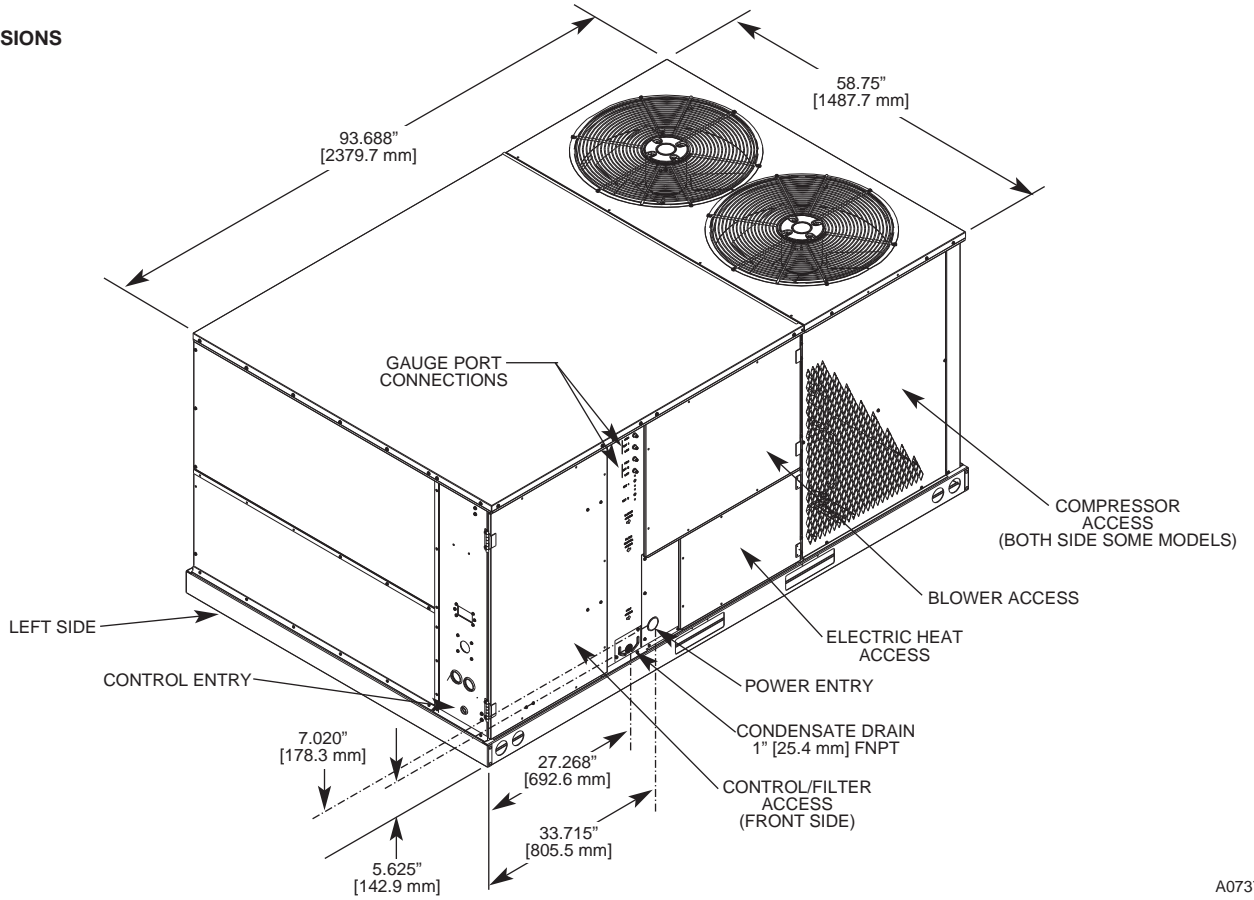
**FIGURE 2
UNIT DIMENSIONS**



[] Designates Metric Conversions

ST-A1112-01-00

**FIGURE 3
UNIT DIMENSIONS**



**FIGURE 4
BOTTOM VIEW**

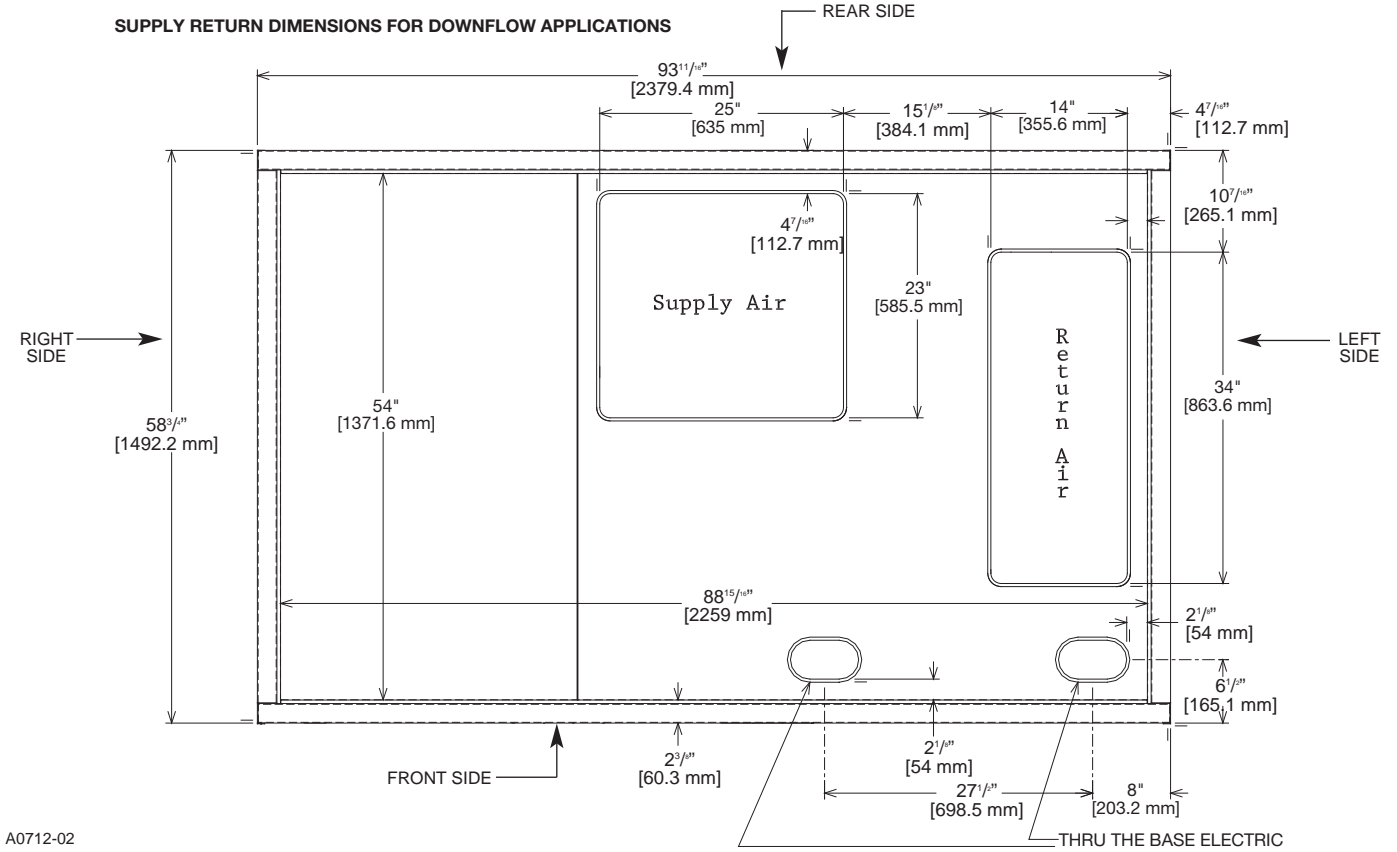
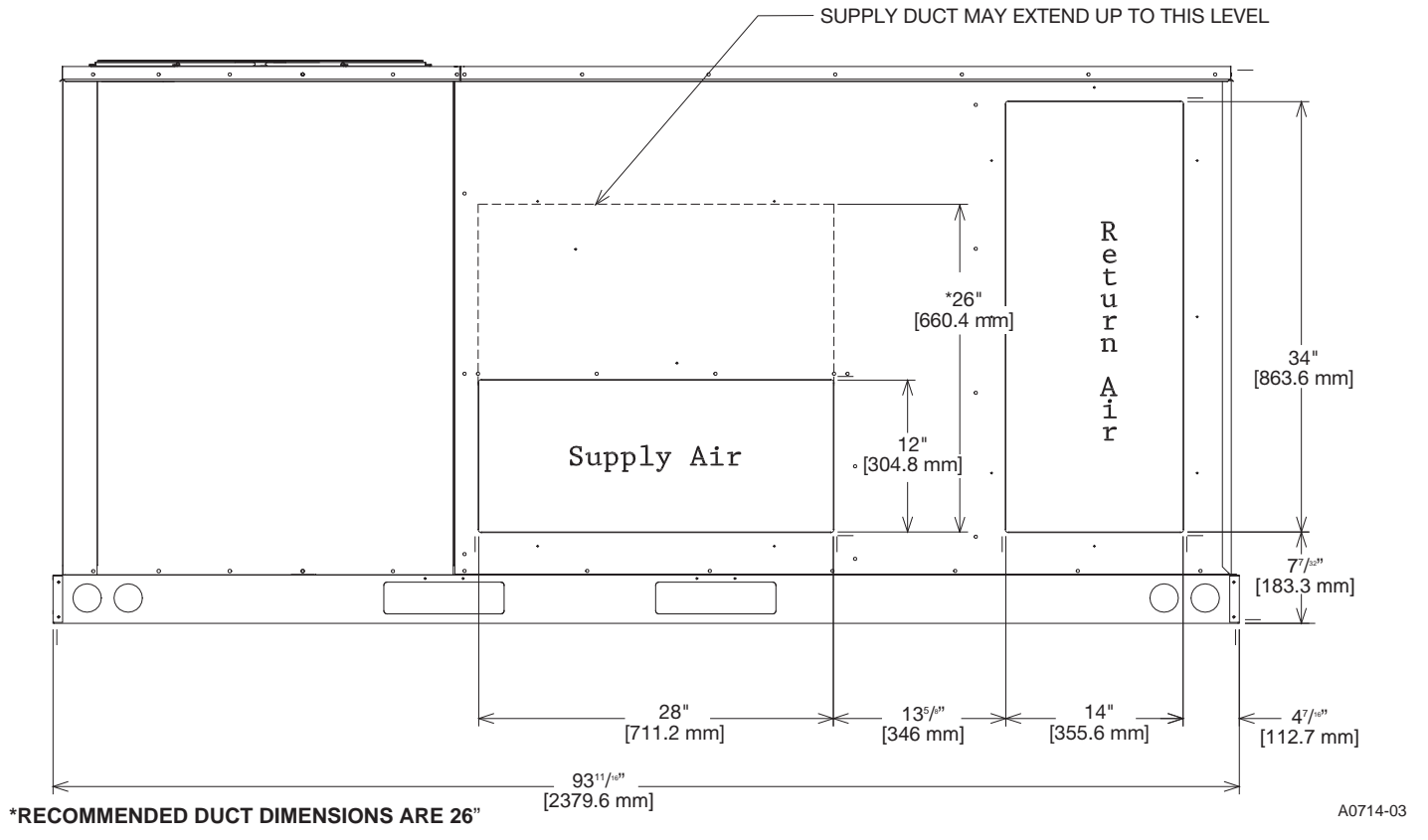


FIGURE 5
REAR VIEW

SUPPLY AND RETURN DIMENSIONS FOR HORIZONTAL APPLICATION



GENERAL DATA - RLRL

NOM. SIZES 7.5-10 TONS [26.4-35.2 kW]

Model RLRL-Series Model RLRL-Series (with VFD)	C090CL H090CR	C090CM H090CS	C090CN H090CT	C090DL H090DR
Cooling Performance¹				CONTINUED →
Gross Cooling Capacity Btu [kW]	95,000 [27.83]	95,000 [27.83]	95,000 [27.83]	95,000 [27.83]
EER/SEER ²	13/NA	13/NA	13/NA	13/NA
Nominal CFM/AHRI Rated CFM [L/s]	3000/2600 [1416/1227]	3000/2600 [1416/1227]	3000/2600 [1416/1227]	3000/2600 [1416/1227]
AHRI Net Cooling Capacity Btu [kW]	92,000 [26.96]	92,000 [26.96]	92,000 [26.96]	92,000 [26.96]
Net Sensible Capacity Btu [kW]	66,200 [19.4]	66,200 [19.4]	66,200 [19.4]	66,200 [19.4]
Net Latent Capacity Btu [kW]	25,800 [7.56]	25,800 [7.56]	25,800 [7.56]	25,800 [7.56]
IEER ³	14/15.8	14/15.8	14/15.8	14/15.8
Net System Power kW	7.04	7.04	7.04	7.04
Compressor				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
Outdoor Sound Rating (dB)⁵	88	88	88	88
Outdoor Coil—Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	MicroChannel	MicroChannel	MicroChannel	MicroChannel
Tube Size in. [mm] OD	1 [25.4]	1 [25.4]	1 [25.4]	1 [25.4]
Face Area sq. ft. [sq. m]	27 [2.51]	27 [2.51]	27 [2.51]	27 [2.51]
Rows / FPI [FPcm]	1 / 23 [9]	1 / 23 [9]	1 / 23 [9]	1 / 23 [9]
Indoor Coil—Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Size in. [mm]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Face Area sq. ft. [sq. m]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]
Rows / FPI [FPcm]	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]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]
Outdoor Fan—Type	Propeller	Propeller	Propeller	Propeller
No. Used/Diameter in. [mm]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1	Direct/1
CFM [L/s]	8000 [3775]	8000 [3775]	8000 [3775]	8000 [3775]
No. Motors/HP	2 at 1/3 HP	2 at 1/3 HP	2 at 1/3 HP	2 at 1/3 HP
Motor RPM	1075	1075	1075	1075
Indoor Fan—Type	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
No. Used/Diameter in. [mm]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]
Drive Type	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)
No. Speeds (Standard / VFD)	Single / Multiple	Single / Multiple	Single / Multiple	Single / Multiple
No. Motors	1	1	1	1
Motor HP	2	2	3	2
Motor RPM	1725	1725	1725	1725
Motor Frame Size	56	56	56	56
Filter—Type	Disposable	Disposable	Disposable	Disposable
Furnished	Yes	Yes	Yes	Yes
(NO.) Size Recommended in. [mm x mm x mm]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]
Refrigerant Charge Oz. (Sys. 1/Sys. 2) [g]	105.6/105.6 [2994/2994]	105.6/105.6 [2994/2994]	105.6/105.6 [2994/2994]	105.6/105.6 [2994/2994]
Weights				
Net Weights lbs. [kg]	1020 [463]	1020 [463]	1028 [466]	1020 [463]
Ship Weights lbs. [kg]	1057 [479]	1057 [479]	1065 [483]	1057 [479]

GENERAL DATA - RLRL

NOM. SIZES 7.5-10 TONS [26.4-35.2 kW]

Model RLRL-Series Model RLRL-Series (with VFD)	C090DM H090DS	C090DN H090DT	C090YL	C090YM
Cooling Performance¹				CONTINUED →
Gross Cooling Capacity Btu [kW]	95,000 [27.83]	95,000 [27.83]	95,000 [27.83]	95,000 [27.83]
EER/SEER ²	13/NA	13/NA	13/NA	13/NA
Nominal CFM/AHRI Rated CFM [L/s]	3000/2600 [1416/1227]	3000/2600 [1416/1227]	3000/2600 [1416/1227]	3000/2600 [1416/1227]
AHRI Net Cooling Capacity Btu [kW]	92,000 [26.96]	92,000 [26.96]	92,000 [26.96]	92,000 [26.96]
Net Sensible Capacity Btu [kW]	66,200 [19.4]	66,200 [19.4]	66,200 [19.4]	66,200 [19.4]
Net Latent Capacity Btu [kW]	25,800 [7.56]	25,800 [7.56]	25,800 [7.56]	25,800 [7.56]
IEER ³	14/15.8	14/15.8	14/15.8	14/15.8
Net System Power kW	7.04	7.04	7.04	7.04
Compressor				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
Outdoor Sound Rating (dB)⁵	88	88	88	88
Outdoor Coil—Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	MicroChannel	MicroChannel	MicroChannel	MicroChannel
Tube Size in. [mm] OD	1 [25.4]	1 [25.4]	1 [25.4]	1 [25.4]
Face Area sq. ft. [sq. m]	27 [2.51]	27 [2.51]	27 [2.51]	27 [2.51]
Rows / FPI [FPcm]	1 / 23 [9]	1 / 23 [9]	1 / 23 [9]	1 / 23 [9]
Indoor Coil—Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Size in. [mm]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Face Area sq. ft. [sq. m]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]
Rows / FPI [FPcm]	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]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]
Outdoor Fan—Type	Propeller	Propeller	Propeller	Propeller
No. Used/Diameter in. [mm]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1	Direct/1
CFM [L/s]	8000 [3775]	8000 [3775]	8000 [3775]	8000 [3775]
No. Motors/HP	2 at 1/3 HP	2 at 1/3 HP	2 at 1/3 HP	2 at 1/3 HP
Motor RPM	1075	1075	1075	1075
Indoor Fan—Type	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
No. Used/Diameter in. [mm]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]
Drive Type	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)
No. Speeds (Standard / VFD)	Single / Multiple	Single / Multiple	Single	Single
No. Motors	1	1	1	1
Motor HP	2	3	2	2
Motor RPM	1725	1725	1725	1725
Motor Frame Size	56	56	56	56
Filter—Type	Disposable	Disposable	Disposable	Disposable
Furnished	Yes	Yes	Yes	Yes
(NO.) Size Recommended in. [mm x mm x mm]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]
Refrigerant Charge Oz. (Sys. 1/Sys. 2) [g]	105.6/105.6 [2994/2994]	105.6/105.6 [2994/2994]	105.6/105.6 [2994/2994]	105.6/105.6 [2994/2994]
Weights				
Net Weights lbs. [kg]	1020 [463]	1028 [466]	1020 [463]	1020 [463]
Ship Weights lbs. [kg]	1057 [479]	1065 [483]	1057 [479]	1057 [479]

GENERAL DATA - RLRL

NOM. SIZES 7.5-10 TONS [26.4-35.2 kW]

Model RLRL-Series Model RLRL-Series (with VFD)	C090YN	C120CL H120CR	C120CM H120CS	C120DL H120DR
Cooling Performance¹				CONTINUED →
Gross Cooling Capacity Btu [kW]	95,000 [27.83]	95,000 [27.83]	95,000 [27.83]	124,000 [36.33]
EER/SEER ²	13/NA	12.5/NA	12.5/NA	12.5/NA
Nominal CFM/AHRI Rated CFM [L/s]	3000/2600 [1416/1227]	4000/3575 [1888/1687]	4000/3575 [1888/1687]	4000/3575 [1888/1687]
AHRI Net Cooling Capacity Btu [kW]	92,000 [26.96]	120,000 [35.16]	120,000 [35.16]	120,000 [35.16]
Net Sensible Capacity Btu [kW]	66,200 [19.4]	87,600 [25.67]	87,600 [25.67]	87,600 [25.67]
Net Latent Capacity Btu [kW]	25,800 [7.56]	32,400 [9.49]	32,400 [9.49]	32,400 [9.49]
IEER ³	14	13.8/15.6	13.8/15.6	13.8/15.6
Net System Power kW	7.04	9.62	9.62	9.62
Compressor				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
Outdoor Sound Rating (dB)⁵	88	88	88	88
Outdoor Coil—Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	MicroChannel	MicroChannel	MicroChannel	MicroChannel
Tube Size in. [mm] OD	1 [25.4]	1 [25.4]	1 [25.4]	1 [25.4]
Face Area sq. ft. [sq. m]	27 [2.51]	27 [2.51]	27 [2.51]	27 [2.51]
Rows / FPI [FPcm]	1 / 23 [9]	2 / 23 [9]	2 / 23 [9]	2 / 23 [9]
Indoor Coil—Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled	Rifled
Tube Size in. [mm]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Face Area sq. ft. [sq. m]	13.5 [1.25]	15.75 [1.46]	15.8 [1.47]	15.75 [1.46]
Rows / FPI [FPcm]	2 / 18 [7]	4 / 15 [6]	4 / 15 [6]	4 / 15 [6]
Refrigerant Control	TX Valves	TX Valves	TX Valves	TX Valves
Drain Connection No./Size in. [mm]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]
Outdoor Fan—Type	Propeller	Propeller	Propeller	Propeller
No. Used/Diameter in. [mm]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1	Direct/1
CFM [L/s]	8000 [3775]	8000 [3775]	8000 [3775]	8000 [3775]
No. Motors/HP	2 at 1/3 HP	2 at 1/3 HP	2 at 1/3 HP	2 at 1/3 HP
Motor RPM	1075	1075	1075	1075
Indoor Fan—Type	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
No. Used/Diameter in. [mm]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]
Drive Type	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)
No. Speeds (Standard / VFD)	Single	Single / Multiple	Single / Multiple	Single / Multiple
No. Motors	1	1	1	1
Motor HP	3	2	3	2
Motor RPM	1725	1725	1725	1725
Motor Frame Size	56	56	56	56
Filter—Type	Disposable	Disposable	Disposable	Disposable
Furnished	Yes	Yes	Yes	Yes
(N0.) Size Recommended in. [mm x mm x mm]	(6)2x18x18 [51x457x457]	(3)2x18x18 [51x457x457] (3)2x18x24 [51x457x610]	(3)2x18x18 [51x457x457] (3)2x18x24 [51x457x610]	(3)2x18x18 [51x457x457] (3)2x18x24 [51x457x610]
Refrigerant Charge Oz. (Sys. 1/Sys. 2) [g]	107.5/110.7 [3048/3138]	153.6/156.8 [4355/4445]	153.6/156.8 [4355/4445]	153.6/156.8 [4355/4445]
Weights				
Net Weights lbs. [kg]	1028 [466]	1169 [530]	1177 [534]	1169 [530]
Ship Weights lbs. [kg]	1065 [483]	1206 [547]	1214 [551]	1206 [547]

GENERAL DATA - RLRL

NOM. SIZES 7.5-10 TONS [26.4-35.2 kW]

Model RLRL-Series Model RLRL-Series (with VFD)	C120DM H120DS	C120YL	C120YM
Cooling Performance¹			
Gross Cooling Capacity Btu [kW]	124,000 [36.33]	124,000 [36.33]	124,000 [36.33]
EER/SEER ²	12.5/NA	12.5/NA	12.5/NA
Nominal CFM/AHRI Rated CFM [L/s]	4000/3575 [1888/1687]	4000/3575 [1888/1687]	4000/3575 [1888/1687]
AHRI Net Cooling Capacity Btu [kW]	120,000 [35.16]	120,000 [35.16]	120,000 [35.16]
Net Sensible Capacity Btu [kW]	87,600 [25.67]	87,600 [25.67]	87,600 [25.67]
Net Latent Capacity Btu [kW]	32,400 [9.49]	32,400 [9.49]	32,400 [9.49]
IEER ³	13.8/15.6	13.8	13.8
Net System Power kW	9.62	9.62	9.62
Compressor			
No./Type	2/Scroll	2/Scroll	2/Scroll
Outdoor Sound Rating (dB)⁵			
	88	88	88
Outdoor Coil—Fin Type			
Tube Type	Louvered	Louvered	Louvered
Tube Size in. [mm] OD	MicroChannel	MicroChannel	MicroChannel
Face Area sq. ft. [sq. m]	1 [25.4]	1 [25.4]	1 [25.4]
Rows / FPI [FPcm]	27 [2.51]	27 [2.51]	27 [2.51]
	2 / 23 [9]	2 / 23 [9]	2 / 23 [9]
Indoor Coil—Fin Type			
Tube Type	Louvered	Louvered	Louvered
Tube Size in. [mm]	Rifled	Rifled	Rifled
Face Area sq. ft. [sq. m]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Rows / FPI [FPcm]	15.75 [1.46]	15.8 [1.47]	15.75 [1.46]
	4 / 15 [6]	4 / 15 [6]	4 / 15 [6]
Refrigerant Control	TX Valves	TX Valves	TX Valves
Drain Connection No./Size in. [mm]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]
Outdoor Fan—Type			
No. Used/Diameter in. [mm]	Propeller	Propeller	Propeller
Drive Type/No. Speeds	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]
CFM [L/s]	Direct/1	Direct/1	Direct/1
No. Motors/HP	8000 [3775]	8000 [3775]	8000 [3775]
Motor RPM	2 at 1/3 HP	2 at 1/3 HP	2 at 1/3 HP
	1075	1075	1075
Indoor Fan—Type			
No. Used/Diameter in. [mm]	FC Centrifugal	FC Centrifugal	FC Centrifugal
Drive Type	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]
No. Speeds (Standard / VFD)	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)
No. Motors	Single / Multiple	Single	Single
Motor HP	1	1	1
Motor RPM	3	2	3
Motor Frame Size	1725	1725	1725
	56	56	56
Filter—Type			
Furnished	Disposable	Disposable	Disposable
(NO.) Size Recommended in. [mm x mm x mm]	Yes	Yes	Yes
	(3)2x18x18 [51x457x457]	(3)2x18x18 [51x457x457]	(3)2x18x18 [51x457x457]
	(3)2x18x24 [51x457x610]	(3)2x18x24 [51x457x610]	(3)2x18x24 [51x457x610]
Refrigerant Charge Oz. (Sys. 1/Sys. 2) [g]			
	153.6/156.8 [4355/4445]	153.6/156.8 [4355/4445]	153.6/156.8 [4355/4445]
Weights			
Net Weights lbs. [kg]	1177 [534]	1169 [530]	1177 [534]
Ship Weights lbs. [kg]	1214 [551]	1206 [547]	1214 [551]

ELECTRICAL DATA - RLRL-B

ELECTRICAL DATA - RLRL SERIES										
		C090CL H090CR	C090CM H090CS	C090CN H090CT	C090DL H090DR	C090DM H090DS	C090DN H090DT	C090YL	C090YM	C090YN
Unit Information	Unit Operating Voltage Range	187-253	187-253	187-253	414-506	414-506	414-506	518-632	518-632	518-632
	Volts	208/230	208/230	208/230	460	460	460	575	575	575
	Minimum Circuit Ampacity	44/44	44/44	49/49	21	21	24	16	16	21
	Minimum Overcurrent Protection Device Size	50/50	50/50	60/60	25	25	30	20	20	25
	Maximum Overcurrent Protection Device Size	50/50	50/50	60/60	25	25	30	20	20	25
Compressor Motor	No.	2	2	2	2	2	2	2	2	2
	Volts	200/240	200/240	200/240	480	480	480	600	600	600
	Phase	3	3	3	3	3	3	3	3	3
	RPM	3450	3450	3450	3450	3450	3450	3450	3450	3450
	HP, Compressor 1	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4
	Amps (RLA), Comp. 1	13.6/13.6	13.6/13.6	13.6/13.6	6.1	6.1	6.1	4.2	4.2	4.2
	Amps (LRA), Comp. 1	83.1/83.1	83.1/83.1	83.1/83.1	41	41	41	33	33	33
	HP, Compressor 2	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4
	Amps (RLA), Comp. 2	13.6/13.6	13.6/13.6	13.6/13.6	6.1	6.1	6.1	4.2	4.2	4.2
	Amps (LRA), Comp. 2	83.1/83.1	83.1/83.1	83.1/83.1	41	41	41	33	33	33
Condenser Motor	No.	2	2	2	2	2	2	2	2	2
	Volts	208/230	208/230	208/230	460	460	460	575	575	575
	Phase	1	1	1	1	1	1	1	1	1
	HP	1/3	1/3	1/3	1/3	1/3	1/3	1/3	1/3	1/3
	Amps (FLA, each)	2.4/2.4	2.4/2.4	2.4/2.4	1.4	1.4	1.4	1	1	1
	Amps (LRA, each)	4.7/4.7	4.7/4.7	4.7/4.7	2.4	2.4	2.4	1.5	1.5	1.5
Evaporator Fan	No.	1	1	1	1	1	1	1	1	1
	Volts	208/230	208/230	208/230	460	460	460	575	575	575
	Phase	3	3	3	3	3	3	3	3	3
	HP	2	2	3	2	2	3	2	2	3
	Amps (FLA, each)	8/8	8/8	13/13	4	4	7	4	4	8
	Amps (LRA, each)	56/56	56/56	74.5/74.5	28	28	38.1	19	19	20

ELECTRICAL DATA - RLRL-B

ELECTRICAL DATA - RLRL SERIES							
		C120CL H120CR	C120CM H120CS	C120DL H120DR	C120DM H120DS	C120YL	C120YM
Unit Information	Unit Operating Voltage Range	187-253	187-253	414-506	414-506	518-632	518-632
	Volts	208/230	208/230	460	460	575	575
	Minimum Circuit Ampacity	49/49	54/54	23	26	18	23
	Minimum Overcurrent Protection Device Size	60/60	60/60	25	30	20	30
	Maximum Overcurrent Protection Device Size	60/60	60/60	25	30	20	30
Compressor Motor	No.	2	2	2	2	2	2
	Volts	200/240	200/240	480	480	575	575
	Phase	3	3	3	3	3	3
	RPM	3450	3450	3450	3450	3450	3450
	HP, Compressor 1	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4
	Amps (RLA), Comp. 1	15.9/15.9	15.9/15.9	7.1	7.1	5.1	5.1
	Amps (LRA), Comp. 1	110/110	110/110	52	52	39.5	39.5
	HP, Compressor 2	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4
	Amps (RLA), Comp. 2	15.9/15.9	15.9/15.9	7.1	7.1	5.1	5.1
	Amps (LRA), Comp. 2	110/110	110/110	52	52	39.5	39.5
Condenser Motor	No.	2	2	2	2	2	2
	Volts	208/230	208/230	460	460	575	575
	Phase	1	1	1	1	1	1
	HP	1/3	1/3	1/3	1/3	1/3	1/3
	Amps (FLA, each)	2.4/2.4	2.4/2.4	1.4	1.4	1	1
	Amps (LRA, each)	4.7/4.7	4.7/4.7	2.4	2.4	1.5	1.5
Evaporator Fan	No.	1	1	1	1	1	1
	Volts	208/230	208/230	460	460	575	575
	Phase	3	3	3	3	3	3
	HP	2	3	2	3	2	3
	Amps (FLA, each)	8/8	13/13	4	7	4	8
	Amps (LRA, each)	56/56	74.5/74.5	28	38.1	19	20

VI. INSTALLATION

A. GENERAL

1. PRE-INSTALLATION CHECK-POINTS

Before attempting any installation, the following points should be carefully considered:

- Structural strength of supporting members. (rooftop installation)
- Clearances and provision for servicing.
- Power supply and wiring.
- Air duct connections.
- Drain facilities and connections.
- Location for minimum noise.

2. LOCATION

These units are designed for outdoor installations. They can be mounted on a slab or rooftop. They are not to be installed within any part of a structure such as an attic, crawl space, closet, or any other place where condenser air flow is restricted or other than outdoor ambient conditions prevail. Since the application of the units is of the outdoor type, it is important to consult your local code authorities at the time the first installation is made.

B. OUTSIDE SLAB INSTALLATION (Typical outdoor slab installations are shown in Figures 6 and 7.)

- Select a location where external water drainage cannot collect around the unit.
- Provide a level concrete slab extending 3" [76.2 mm] beyond all four sides of the unit. The slab should be sufficient above grade to prevent ground water from entering the unit. **IMPORTANT:** To prevent transmission of noise or vibration, slab should not be connected to building structure.
- The location of the unit should be such as to provide proper access for inspection and servicing.
- Locate unit where operating sounds will not disturb owner or neighbors.
- Locate unit so roof runoff water does not pour directly on the unit. Provide gutter or other shielding at roof level. Do not locate unit in an area where excessive snow drifting may occur or accumulate.

C. CLEARANCES

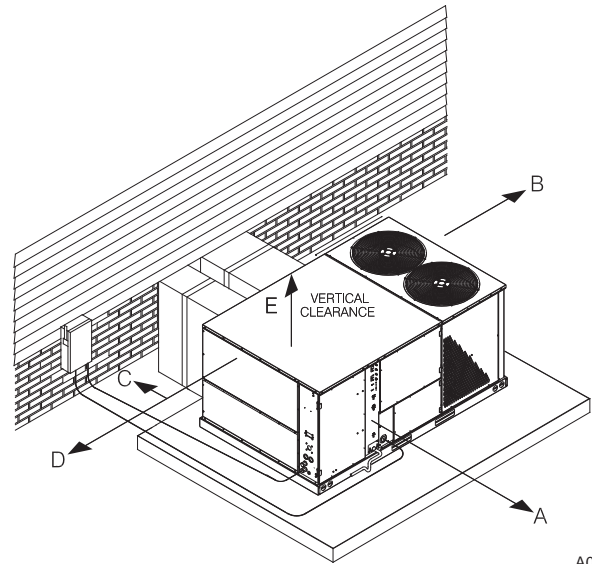
The following minimum clearances must be observed for proper unit performance and serviceability.

- Provide 48" [1219.2 mm] minimum clearance at the front of the unit. Provide 18" [457.2 mm] minimum clearance at all other sides of the unit.
- Provide 60" [1524 mm] minimum clearance between top of unit and maximum 3 foot [.91 m] overhang.
- Unit is design certified for application on combustible flooring with 0" [0 mm] minimum clearance.
- See Figure 6 for illustration of minimum installation-service clearances.

FIGURE 6
OUTSIDE SLAB INSTALLATION, BASEMENT OR CRAWL SPACE DISTRIBUTION SYSTEM

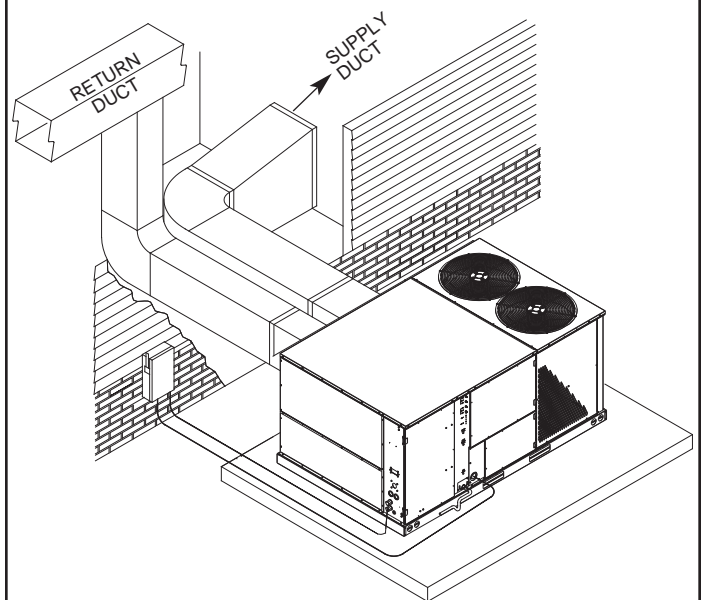
Recommended Clearance	Location
48" [1219.2 mm]	A - Front
18" [457.2 mm]	B - Condenser Coil
18" [457.2 mm]	C - Duct Side
18"* [457.2 mm]	D - Evaporator End
60" [1524 mm]	E - Above

*Without Economizer. 48" [1219.2 mm] With Economizer



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FIGURE 7
OUTSIDE SLAB INSTALLATION, CLOSET DISTRIBUTION SYSTEM. SLAB FLOOR CONSTRUCTION



A0739-03

D. ROOFTOP INSTALLATION

1. Before locating the unit on the roof, make sure that the strength of the roof and beams is adequate at that point to support the weight involved. **This is very important and user's responsibility.**
2. For rigging and roofcurb details, see Figures 8 and 9. Use field-furnished spreaders.
3. For roofcurb assembly, see Roofcurb Installation Instructions.
4. If the roofcurb is not used, provisions for disposing of condensate water runoff must be provided.
5. The unit should be placed on a solid and level roofcurb or platform of adequate strength. See Figure 10.
6. The location of the unit on the roof should be such as to provide proper access for inspection and servicing.

IMPORTANT: If unit will not be put into service immediately, cover supply and return openings to prevent excessive condensation.

**FIGURE 8
RIGGING FOR LIFTING**

CORNER WEIGHTS BY PERCENTAGE			
A	B	C	D
33%	27%	17%	23%

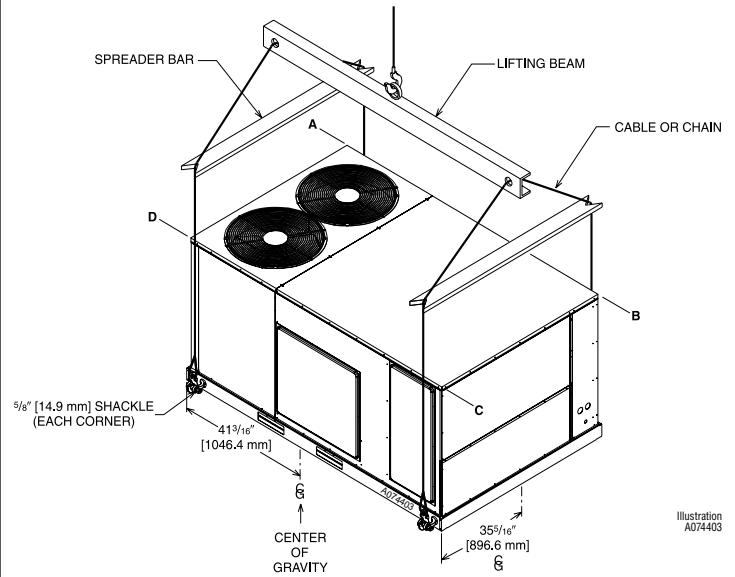
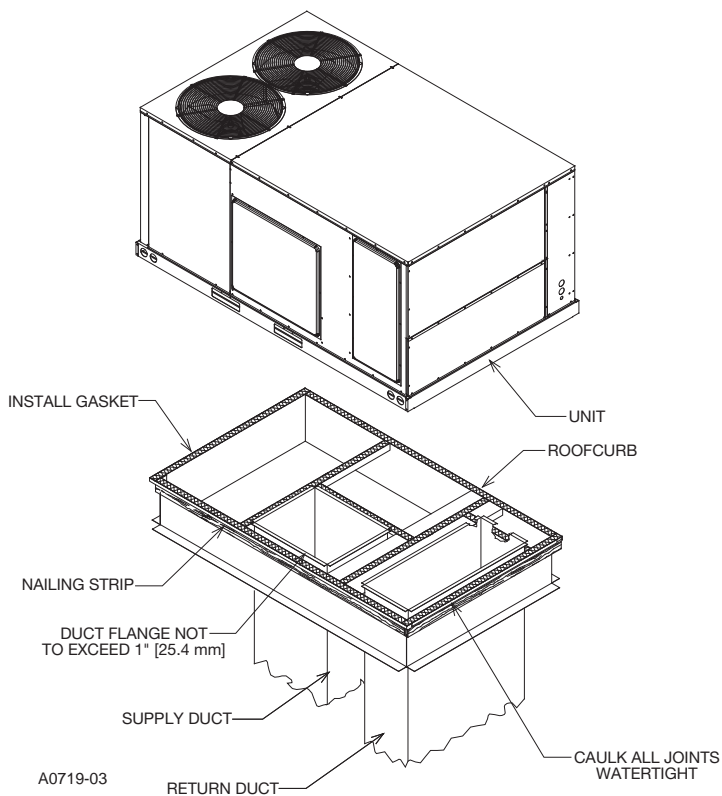


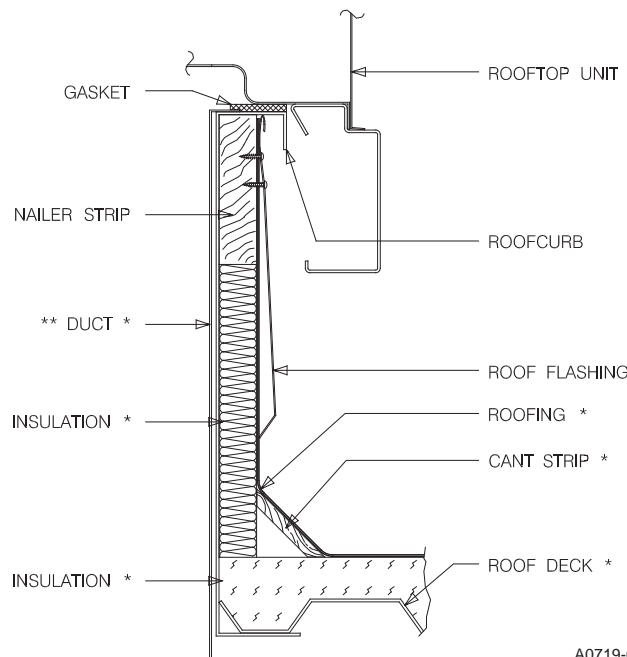
Illustration
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**FIGURE 9
ROOFCURB INSTALLATION**



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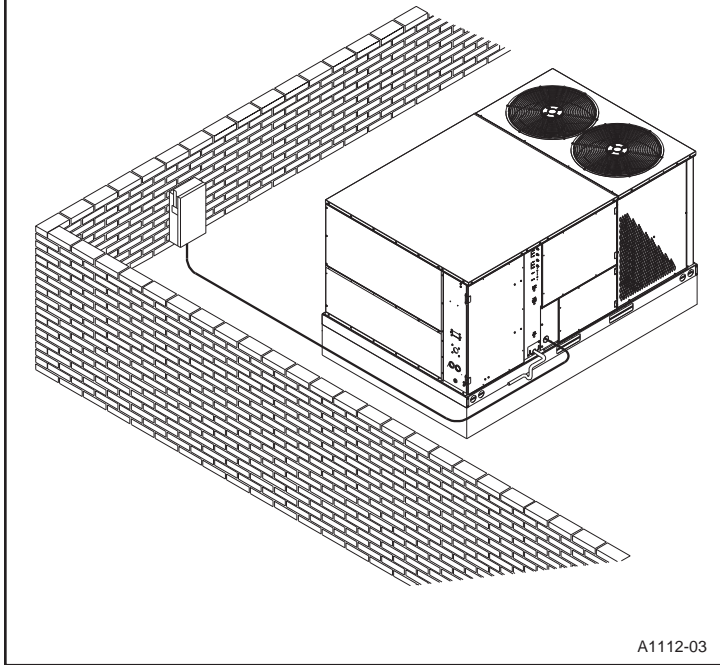


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* BY CONTRACTOR

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

FIGURE 10
FLAT ROOFTOP INSTALLATION, ATTIC OR DROP CEILING
DISTRIBUTION SYSTEM. MOUNTED ON ROOFCURB.
CURB MUST BE LEVEL



A1112-03

VII. DUCTWORK

Ductwork should be fabricated by the installing contractor in accordance with local codes and NFPA90A. Industry manuals may be used as a guide when sizing and designing the duct system - contact Air Conditioning Contractors of America, 1513 16th St. N.W., Washington, D.C. 20036.

▲ WARNING

DO NOT, UNDER ANY CIRCUMSTANCES, CONNECT RETURN DUCTWORK TO ANY OTHER HEAT PRODUCING DEVICE SUCH AS A FIREPLACE INSERT, STOVE, ETC. UNAUTHORIZED USE OF SUCH DEVICES MAY RESULT IN FIRE, CARBON MONOXIDE POISONING, EXPLOSION, PROPERTY DAMAGE, SEVERE PERSONAL INJURY OR DEATH.

The unit should be placed as close to the space to be air conditioned as possible allowing clearance dimensions as indicated. Ducts should be run as directly as possible to supply and return outlets. Use of non-flammable waterproof flexible connectors on both supply and return connections at the unit to reduce noise transmission is recommended.

It is preferable to install the unit on the roof of the structure if the registers or diffusers are located on the wall or in the ceiling. A slab installation could be considered when the registers are low on a wall or in the floor.

On ductwork exposed to outside air conditions of temperature and humidity, use a minimum of 2" [50.8 mm] of insulation and a vapor barrier. Distribution system in attic, furred space or crawl space should be insulated with at least 2" [50.8 mm] of insulation with vapor barrier. One-half to 1" [25.4 mm] thickness of insulation is usually sufficient for ductwork inside the air conditioned space.

Balancing dampers should be provided for each branch duct in the supply system. Ductwork should be properly supported from the structure.

When installing ductwork, consider the following items:

1. Noncombustible flexible connectors should be used between ductwork and unit to reduce noise and vibration transmission into the ductwork.
2. When auxiliary heaters are installed, use noncombustible flexible connectors and clearance to combustible material of 0" [0 mm] for the first 3 feet [.91 m] of discharge duct. Clearance to unit top and side is 0" [0 mm].

VIII. FILTERS

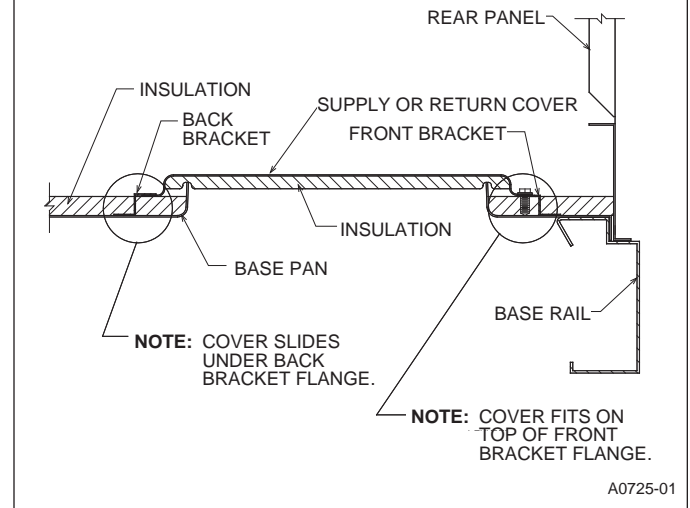
This unit is provided with 6 - 2" x 18" x 18" [51mm x 457 mm x 457 mm] disposable filters. When replacing filters, ensure they are inserted fully to the back to prevent bypass.

VIX. CONVERSION PROCEDURE

DOWNFLOW TO HORIZONTAL

1. Remove the screws and covers from the outside of the supply and return sections.
2. Install the covers over the bottom supply and return openings, painted side up inserting the leading flange under the bracket provided. Place the back flange to the top of the front bracket provided. See Figure 11.
3. Secure the return and supply cover to the front bracket with one (1) screw.

FIGURE 11
COVER GASKET DETAIL

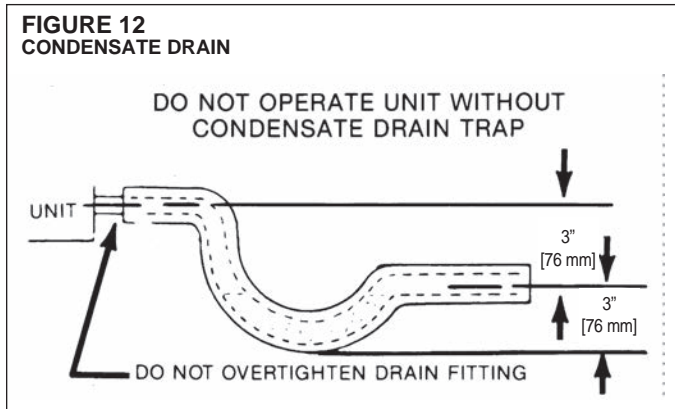


X. CONDENSATE DRAIN

IMPORTANT: Install a condensate trap to ensure proper condensate drainage. See Figure 12.

The condensate drain pan has a threaded female 1 inch NPT (11.5 TPI) connection. Consult local codes or ordinances for specific requirements of condensate drain piping and disposal.

- To use the removable drain pan feature of this unit, some of the condensate line joints should be assembled for easy removal and cleaning.
- Use a thin layer of Teflon tape or paste on drain pan connections and install only hand tight.
- Do not over tighten drain pan connections as damage to the drain pan may occur.
- Drain line **MUST NOT** block service access panels.
- Drain line must be no smaller than drain pan outlet and adequately sized to accommodate the condensate discharge from the unit.
- Drain line should slope away from unit a minimum of 1/8" per foot to ensure proper drainage.
- Drain line must be routed to an acceptable drain or outdoors in accordance with local codes.
- Do not connect condensate drain line to a closed sewer pipe.
- Drain line may need insulation or freeze protection in certain applications.



XI. ELECTRICAL WIRING

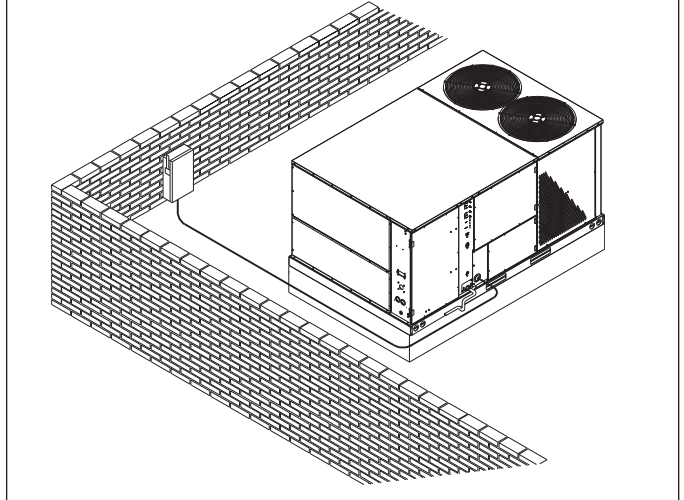
Field wiring must comply with the National Electrical Code (CEC in Canada) and local ordinances that may apply.

A. POWER WIRING

1. This unit incorporates single-point electrical connections for the unit and electric heat accessory.
2. It is important that proper electrical power is available to the unit. Voltage should not vary more than 10% from the values marked on the unit rating plate. Phase voltages must be balanced within 3%.
3. Install a branch circuit disconnect within sight of the unit. Use the unit rating plate or RLNL-B Electrical Data to determine the required size.
4. The branch circuit wire must be sized in accordance with the National Electrical Code (C.E.C. in Canada) and local ordinances that may apply using the minimum circuit ampacity found on the unit rating plate.
5. Field-installed power wiring must be run through grounded rain-tight conduit attached to the unit power entry panel and connected as follows:

UNITS WITHOUT ELECTRIC HEAT - Connect power wiring to the power terminal block located on the left side of the electric heat compartment. Connect the ground wire to the adjacent ground lug.

**FIGURE 13
BRANCH CIRCUIT DISCONNECT LOCATION**



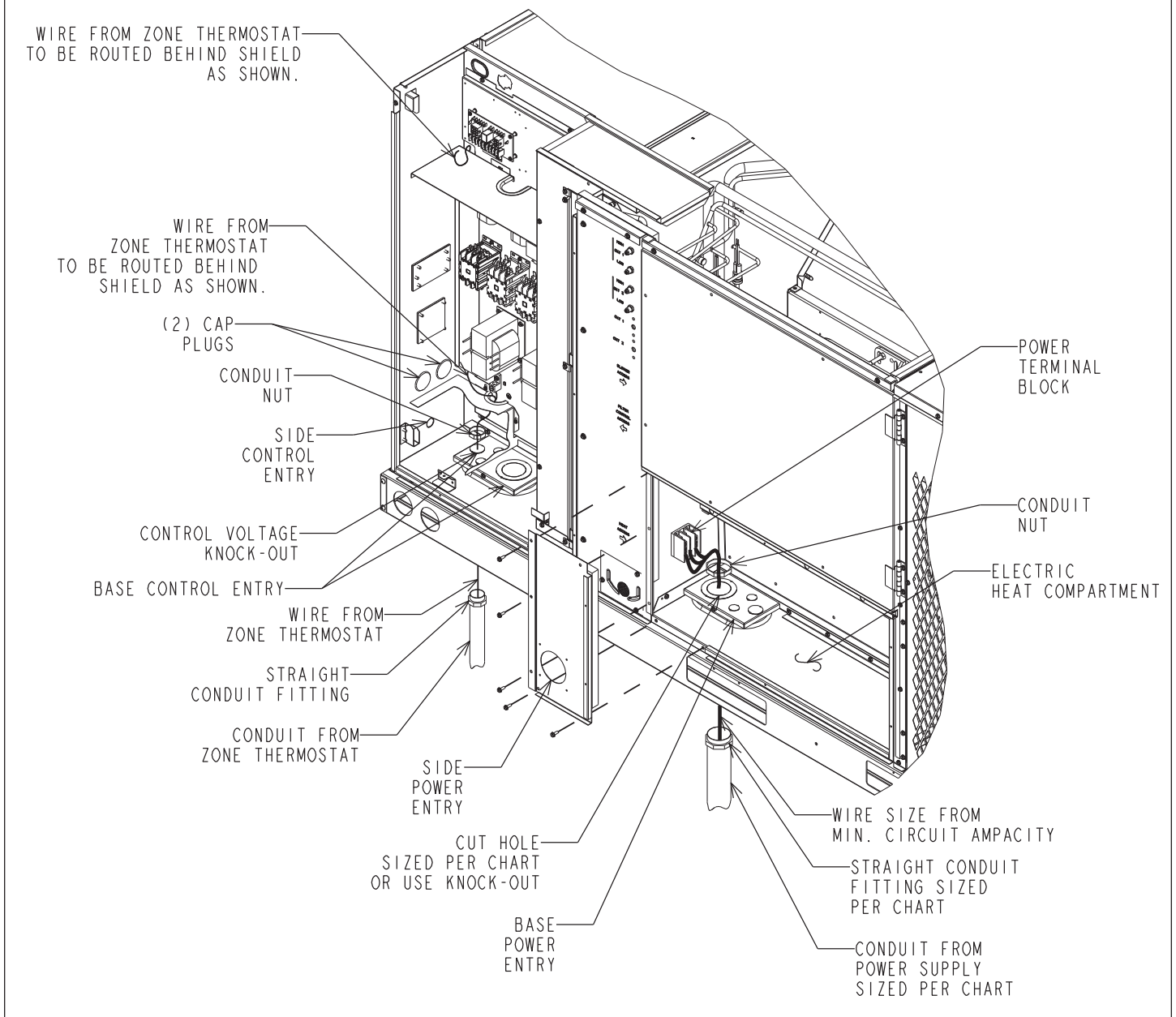
UNITS WITH FACTORY INSTALLED ELECTRIC HEAT - Connect power wiring to the power terminal block located on the electric heater kit. Connect the ground wire to the adjacent ground lug. **DO NOT** connect aluminum wiring directly to the electric heater terminal block. Wiring to the unit contactors is factory-connected.

6. For field installation of an electric heater kit, follow the instructions below. Refer to the information supplied with the kit.
 - a. Removing screws as required, open heater access door and detach adjacent power entry panel.
 - b. Remove wires to unit contactor (1L1, 1L2, 1L3) from unit terminal block on the left side of the electric heat compartment. Remove and discard the terminal block and the adjacent ground lug.
 - c. Remove the heater kit block-off panel and install the heater kit in its place using 9 of the 12 screws previously removed.
 - d. Connect the unit contactor wires (1L1, 1L2, 1L3) to the compressor fuse block on the heater kit.
 - e. Re-install the power entry panel & run conduit and the proper size field wiring through the opening in the panel.
 - f. Connect field wiring to the power terminal block located on the electric heater kit. Connect ground wire to the adjacent ground lug.
 - g. Connect heater kit control plug to the receptacle on the control wiring harness.
 - h. Close heater access door and secure with screws previously removed.

B. CONTROL WIRING (Class II)

1. Low voltage wiring should not be run in conduit with power wiring.
2. Control wiring is routed through the 7/8" [22 mm] hole in the unit side panel. See Figure 14. Use a minimum #18 AWG thermostat wire. For wire lengths exceeding 50' [15.24 m] use #16 AWG thermostat wire. Connect the control wiring to the low voltage terminal block located on the unit integrated control. Route wires under the control voltage shield. See Figure 14.
3. It is necessary that only approved thermostats be used. Please contact your distributor for part number information. See thermostat specification catalog for recommended thermostat.

FIGURE 14



4. Figure 15 shows representative low voltage connection diagrams. Read your thermostat installation instructions for any special requirements for your specific thermostat.

C. INTERNAL WIRING

1. A diagram of the internal wiring of this unit is located on the inside of the control access panel and in this manual. If any of the original wiring must be replaced, the wire gauge and insulation must be the same as original wiring. Transformer is factory-wired for 230 volts on 208/230 volt models and must be changed for 208-volt applications. See unit wiring diagram for 208-volt wiring.

D. GROUNDING

▲ WARNING

THE UNIT MUST BE PERMANENTLY GROUNDED. A GROUNDING LUG IS PROVIDED IN THE ELECTRIC HEAT ACCESS AREA FOR A GROUND WIRE. FAILURE TO GROUND THIS UNIT CAN RESULT IN FIRE OR

ELECTRICAL SHOCK CAUSING PROPERTY DAMAGE, SEVERE PERSONAL INJURY OR DEATH.

E. THERMOSTAT

The thermostat should be mounted on an inside wall about five feet above the floor in a location where it will not be affected by unconditioned air, sun, or drafts from open doors or other sources. READ installation instructions in air conditioner thermostat package CAREFULLY because each has some different wiring requirements.

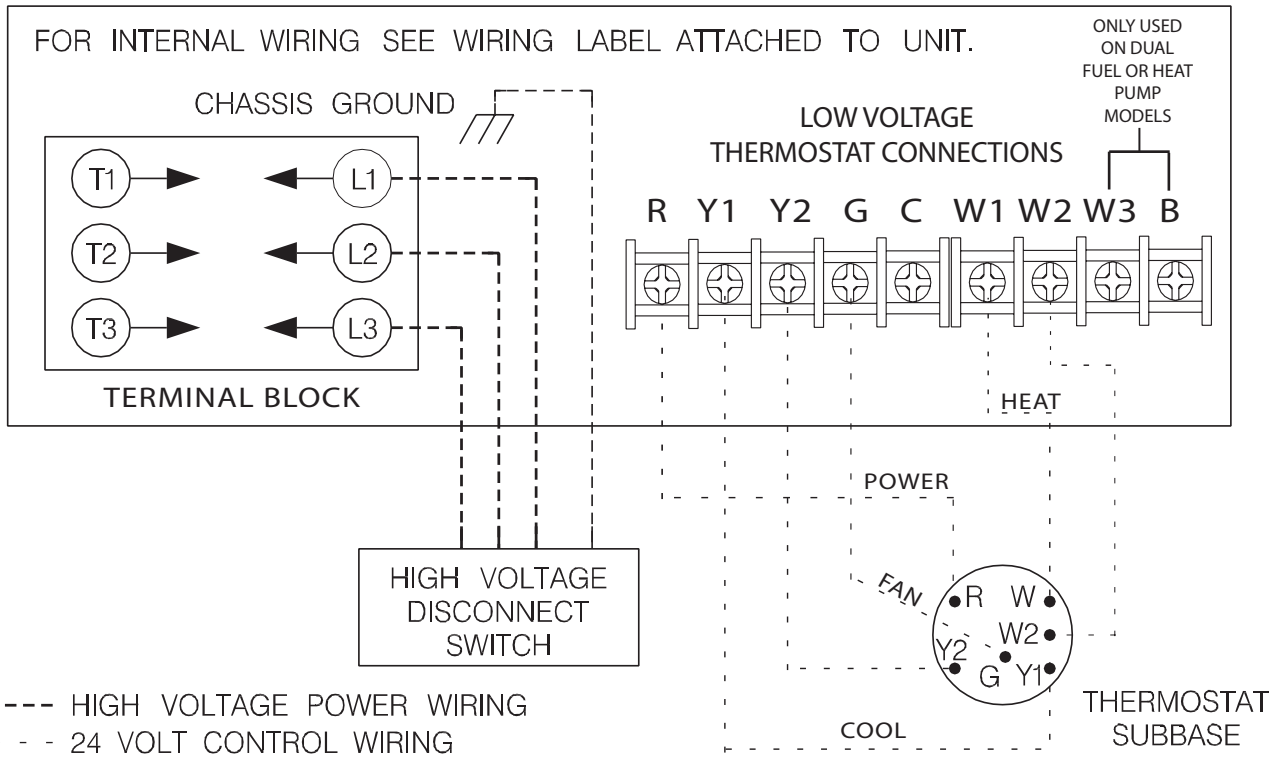
XII. INDOOR AIR FLOW DATA

Belt-drive blower models have motor sheaves set for proper CFM at a typical external static. See Tables C through G for blower performance.

XIII. CRANKCASE HEAT (OPTIONAL)

Crankcase heat is not required on these models, but may be desirable under certain conditions.

**FIGURE 15
THERMOSTAT
CONNECTIONS
DIAGRAM**



XIV. PRE-START CHECK

1. Is unit properly located and slightly slanted toward indoor condensate drain?
2. Is ductwork insulated, weatherproofed, with proper spacing to combustible materials?
3. Is air free to travel to and from outdoor coil? (See Figure 4.)
4. Is the wiring correct, tight, and according to unit wiring diagram?
5. Is unit grounded?
6. Are field supplied air filters in place and clean?
7. Do the outdoor fan and indoor blower turn freely without rubbing, and are they tight on the motor shafts?

XV. STARTUP

1. Turn thermostat to "OFF," turn "on" power supply at disconnect switch.
 2. Turn temperature setting as high as it will go.
 3. Turn fan switch to "ON."
 4. Indoor blower should run. Be sure it is running in the right direction.
 5. Turn fan switch to "AUTO." Turn system switch to "COOL" and turn temperature setting below room temperature. Unit should run in cooling mode.
 6. Is outdoor fan operating correctly in the right direction?
 7. Is compressor running correctly.
- Record the following after the unit has run some time.

- A. Operating Mode _____
- B. Discharge Pressures (High) _____ PSIG [kPa]
- C. Vapor Pressure at Compressors (Low) _____ PSIG [kPa]

- D. Vapor Line Temperature at Compressors _____ °F [C°].
- E. Indoor Dry Bulb _____ °F [C°].
- F. Indoor Wet Bulb _____ °F [C°].
- G. Outdoor Dry Bulb _____ °F [C°].
- H. Outdoor Wet Bulb _____ °F [C°].
- I. Voltage at Contactor _____ Volts
- J. Current at Contactors _____ Amps
- K. Model Number _____
- L. Serial Number _____
- M. Location _____
- N. Owner _____
- O. Date _____

8. Turn thermostat system switch to "HEAT." Unit compressors should stop. Raise temperature setting to above room temperature. Unit should run in heating mode and auxiliary heaters, if installed, should come on.
9. Check the refrigerant charge using the instructions located on unit charging chart. Replace service port caps. Service port cores are for system access only and will leak if not tightly capped.
10. Adjust discharge air grilles and balance system.
11. Check ducts for condensation and air leaks.
12. Check unit for tubing and sheet metal rattles.
13. Instruct the owner on operation and maintenance.
14. Leave "INSTALLATION" and "USE AND CARE" instructions with owner

XVI. OPERATION

COOLING MODE

With thermostat in the cool mode, fan auto and the room temperature higher than the thermostat setting:

- A. Indoor blower contactor is energized through thermostat contact (G).
- B. Compressor contactors are energized through thermostat contacts (Y1) & (Y2) and high pressure controls.
- C. Economizer enthalpy control (if installed) controls operation of first-stage cooling and positions fresh air damper to maintain mixed air temperature. Second-stage cooling operates normally as required by second stage of thermostats.
- D. The system will continue in cooling operation as long as all safety controls are closed, until the thermostat is satisfied.

HEATING MODE

With the thermostat in heat mode, fan on auto, and the room temperature lower than the thermostat setting, the Indoor blower contactor is energized through thermostat contact (G).

XVII. BLOWER VFD (VFD equipped models only)

No adjustments of the VFD are required for installation or operation of this unit.

VFD MODEL

Schneider Altivar 212 (factory programmed).

REPLACEMENT

The VFD is horsepower and voltage specific therefore; replacement must be the same model as the existing. A pre-programmed VFD is recommended and available from ProStock. A non-programmed Schneider Altivar 212 may be used but must be programmed exactly per the included VFD I & O Manual (92-104334-01) programming guide for safe and proper function.

OPERATION

The purpose of the VFD is to allow low airflow in Fan Only (G) and First Stage Cooling (Y1) operation of a two stage unit. Unit air balancing should be performed at High Airflow (100% at RTU-C, 60Hz at VFD) by adjusting the blower motor sheave. High Airflow always occurs during a W1, W2, or Y2 call. For air balancing, without heating or cooling, the fan only speed can be temporarily increased to 100% by adjustment through the RTU-C keypad. To meet ASHRAE 90.1-2010 and for best performance, First Stage Cool and Fan Only speeds are factory set at 50% airflow (30 Hz at VFD). Both of these speeds are independently adjustable at the RTU-C. The VFD display will indicate an equivalent value in Hz (i.e. Low Cool adjusted to 60% at RTU-C will display as 36Hz at the VFD). A 20 second (adjustable at the VFD) ramp-up or ramp-down is used whenever the blower speed is increased or decreased. Low speed blower operation first ramps to 75%, to close fan proving switch, before ramping to the desired speed. Since the VFD operates on 24VDC control voltage, a blower relay (with 24VAC across the coil) is used to turn the VFD on. Blower speeds are changed via Modbus communication from the RTU-C.

For more information see VFD I & O Manual (92-104334-01).

▲ WARNING

ONLY ELECTRIC HEATER KITS SUPPLIED BY THIS MANUFACTURER AS DESCRIBED IN THIS PUBLICATION HAVE BEEN DESIGNED, TESTED, AND EVALUATED FOR USE WITH THIS UNIT. USE OF ANY OTHER MANUFACTURED ELECTRIC HEATERS INSTALLED WITHIN THIS UNIT MAY CAUSE HAZARDOUS CONDITIONS RESULTING IN PROPERTY DAMAGE, FIRE, BODILY INJURY OR DEATH.

In the heating mode, the thermostat will energize one or more supplementary heaters.

XVIII. MISCELLANEOUS

REPLACEMENT PARTS

Contact your local distributor for a complete parts list.

XIX. AIR-FLOW PERFORMANCE – 7.5 TON RLRL-C090 MODELS

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

Air Flow CFM [L/s]		External Static Pressure — Inches of Water [kPa]																			
		0.1 [0.02]	0.2 [0.05]	0.3 [0.07]	0.4 [0.10]	0.5 [0.12]	0.6 [0.15]	0.7 [0.17]	0.8 [0.20]	0.9 [0.22]	1.0 [0.25]	1.1 [0.27]	1.2 [0.30]	1.3 [0.32]	1.4 [0.35]	1.5 [0.37]	1.6 [0.40]	1.7 [0.42]	1.8 [0.45]	1.9 [0.47]	2.0 [0.50]
2400 [1133]	—	550 [810]	582 [845]	614 [883]	645 [924]	677 [968]	708 [1015]	740 [1066]	771 [1119]	802 [1175]	833 [1234]	864 [1296]	895 [1361]	924 [1435]	955 [1508]	985 [1584]	1016 [1663]	1046 [1744]	1076 [1829]	1104 [1916]	1133 [1999]
2500 [1180]	—	559 [839]	590 [876]	622 [916]	653 [959]	684 [1004]	715 [1053]	745 [1105]	776 [1160]	807 [1218]	837 [1279]	867 [1343]	897 [1410]	927 [1480]	957 [1554]	987 [1631]	1017 [1711]	1047 [1794]	1077 [1880]	1105 [1970]	1134 [2062]
2600 [1227]	—	569 [872]	600 [910]	630 [952]	661 [997]	691 [1044]	722 [1095]	752 [1149]	782 [1205]	812 [1264]	842 [1328]	871 [1394]	901 [1462]	931 [1534]	961 [1611]	990 [1691]	1019 [1774]	1049 [1860]	1078 [1954]	1106 [2044]	1135 [2139]
2700 [1274]	549	870 [579]	908 [610]	948 [640]	992 [670]	1038 [699]	1086 [729]	1140 [759]	1196 [788]	1255 [818]	1316 [847]	1381 [876]	1448 [905]	1519 [935]	1606 [964]	1683 [993]	1763 [1022]	1846 [1050]	1931 [1079]	2020 [1107]	2111 [1136]
2800 [1321]	561	909 [591]	948 [620]	990 [650]	1036 [679]	1084 [708]	1136 [737]	1190 [766]	1247 [795]	1308 [824]	1371 [853]	1437 [881]	1507 [910]	1579 [940]	1667 [968]	1746 [996]	1827 [1025]	1911 [1052]	1998 [1080]	2088 [1108]	2181 [1137]
2900 [1368]	573	951 [602]	982 [631]	1036 [660]	1083 [689]	1134 [718]	1187 [746]	1243 [775]	1302 [803]	1365 [831]	1430 [860]	1498 [888]	1569 [915]	1644 [943]	1732 [973]	1811 [1000]	1894 [1028]	1980 [1055]	2068 [1082]	2159 [1109]	2253 [1137]
3000 [1416]	586	997 [615]	1040 [643]	1086 [672]	1135 [700]	1187 [728]	1242 [756]	1300 [784]	1361 [812]	1425 [839]	1492 [867]	1563 [894]	1636 [923]	1720 [950]	1798 [977]	1879 [1004]	1963 [1031]	2050 [1058]	2140 [1084]	2233 [1111]	2328 [1139]
3100 [1463]	600	1047 [628]	1092 [656]	1140 [684]	1190 [711]	1244 [739]	1301 [767]	1361 [794]	1424 [821]	1490 [848]	1559 [875]	1631 [902]	1706 [929]	1787 [956]	1867 [982]	1950 [1009]	2035 [1035]	2123 [1061]	2215 [1087]	2309 [1113]	2405 [1140]
3200 [1510]	615	1101 [642]	1147 [669]	1197 [697]	1250 [724]	1305 [751]	1364 [779]	1426 [804]	1491 [831]	1558 [857]	1629 [884]	1703 [910]	1780 [936]	1857 [962]	1939 [988]	2022 [1013]	2109 [1039]	2199 [1064]	2291 [1090]	2387 [1117]	2485 [1145]
3300 [1557]	630	1158 [657]	1207 [683]	1258 [710]	1313 [736]	1370 [763]	1431 [789]	1495 [815]	1561 [841]	1631 [867]	1703 [893]	1779 [919]	1858 [945]	1930 [968]	2012 [993]	2098 [1018]	2186 [1043]	2277 [1068]	2371 [1093]	2468 [1117]	2567 [1146]
3400 [1604]	646	1220 [672]	1270 [698]	1324 [724]	1380 [750]	1439 [776]	1502 [801]	1567 [827]	1636 [852]	1707 [878]	1781 [903]	1859 [925]	1924 [950]	2005 [975]	2089 [999]	2175 [1024]	2265 [1048]	2357 [1072]	2453 [1096]	2551 [1120]	2652 [1146]
3500 [1652]	662	1286 [688]	1337 [713]	1393 [739]	1451 [764]	1512 [789]	1576 [814]	1644 [839]	1714 [864]	1787 [889]	1863 [914]	1943 [933]	2000 [958]	2082 [982]	2167 [1006]	2255 [1029]	2346 [1053]	2440 [1077]	2537 [1100]	2636 [1124]	2739 [1149]
3600 [1699]	679	1355 [704]	1409 [729]	1466 [754]	1526 [779]	1589 [804]	1655 [828]	1724 [853]	1796 [877]	1871 [901]	1949 [918]	1988 [942]	2078 [966]	2162 [989]	2249 [1012]	2338 [1035]	2430 [1058]	2525 [1081]	2623 [1104]	2724 [1127]	2828 [1151]

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

Drive Package	L						M						N					
Motor H.P. [kW]	2 [1491.4]						2 [1491.4]						3 [2237.1]					
Blower Sheave	BK110H						BK90H						BK65H					
Motor Sheave	1VP-44						1VP-44						1VP-44					
Turns Open	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
RPM	708	676	646	612	580	548	868	830	794	752	713	673	1192	1134	1085	1031	979	919

- NOTES: 1. Factory sheave settings are shown in bold type.
 2. Do not set motor sheave below minimum or maximum turns open shown.
 3. Re-adjustment of sheave required to achieve rated airflow at AHRl minimum External Static Pressure
 4. Drive data shown is for horizontal airflow with dry coil. Add component resistance (below) to duct resistance to determine total External Static Pressure.

Airflow CFM [L/s]	AIRFLOW CORRECTION FACTORS *			COMPONENT AIRFLOW RESISTANCE					
	Total MBH	Sensible MBH	Power kW	Resistance — Inches of Water [kPa]					
				Wet Coil	Downflow Economizer RA Damper Open	Downflow Economizer RA Damper Open	Horizontal Economizer RA Damper Open	Concentric Grill RXRN-FA65 or RXRN FA75 & Transition RXMC-CC04	
2400 [1133]	0.97	0.87	0.98	0.09 [0.02]	0.10 [0.02]	0.10 [0.02]	0.10 [0.02]	0.10 [0.02]	0.13 [0.03]
2500 [1180]	0.97	0.90	0.98	0.10 [0.02]	0.10 [0.02]	0.10 [0.02]	0.10 [0.02]	0.10 [0.02]	0.15 [0.04]
2600 [1227]	0.98	0.92	0.99	0.10 [0.02]	0.11 [0.03]	0.11 [0.03]	0.11 [0.03]	0.11 [0.03]	0.17 [0.04]
2700 [1274]	0.98	0.94	0.99	0.11 [0.03]	0.11 [0.03]	0.11 [0.03]	0.11 [0.03]	0.11 [0.03]	0.19 [0.05]
2800 [1321]	0.99	0.97	0.99	0.11 [0.03]	0.12 [0.03]	0.12 [0.03]	0.12 [0.03]	0.12 [0.03]	0.21 [0.05]
2900 [1368]	1.00	0.99	1.00	0.12 [0.03]	0.12 [0.03]	0.12 [0.03]	0.12 [0.03]	0.12 [0.03]	0.23 [0.06]
3000 [1416]	1.00	1.02	1.00	0.12 [0.03]	0.13 [0.03]	0.13 [0.03]	0.13 [0.03]	0.13 [0.03]	0.25 [0.06]
3100 [1463]	1.01	1.04	1.00	0.13 [0.03]	0.13 [0.03]	0.13 [0.03]	0.13 [0.03]	0.13 [0.03]	0.28 [0.07]
3200 [1510]	1.02	1.06	1.01	0.13 [0.03]	0.14 [0.03]	0.14 [0.03]	0.14 [0.03]	0.14 [0.03]	0.31 [0.08]
3300 [1557]	1.02	1.06	1.01	0.13 [0.03]	0.14 [0.03]	0.14 [0.03]	0.14 [0.03]	0.14 [0.03]	0.34 [0.08]
3400 [1604]	1.02	1.06	1.01	0.13 [0.03]	0.15 [0.04]	0.15 [0.04]	0.15 [0.04]	0.15 [0.04]	0.37 [0.09]
3500 [1652]	1.02	1.06	1.01	0.14 [0.03]	0.15 [0.04]	0.15 [0.04]	0.15 [0.04]	0.15 [0.04]	0.40 [0.10]
3600 [1699]	1.02	1.06	1.01	0.14 [0.03]	0.15 [0.04]	0.15 [0.04]	0.15 [0.04]	0.15 [0.04]	0.44 [0.11]

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

[] Designates Metric Conversions

XX. HEATER KIT CHARACTERISTICS

TABLE A

AUXILIARY HEATER KITS CHARACTERISTICS AND APPLICATION (RLRL MODELS)

208/240V – 3 PHASE

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						
RHEEM Model Number	Heater Kit					Air Conditioner			Heater Kit		Air Conditioner		
	RXJJ-Heater Kit Nominal kW	No. of Sequence Steps	Rated Heater kW @ 208/240 V	Heater KBTU/Hr @ 208/240 V	Heater Amp. @ 208/240 V	Unit Min. Ckt. Ampacity @ 208-240V	Over Current Protective Device Size		Min. Ckt. Ampacity 208/240V	Max. Fuse Size 208/240V	Min. Circuit Ampacity 208/240V	Over Current Protective Device Size	
							Min./Max. @ 208 V	Min./Max. @ 240 V				Min./Max. @ 208 V	Min./Max. @ 240 V
RLRL-C090CL	No Heat	—	—	—	—	44/44	50/50	50/50	—	—	44/44	50/50	50/50
	CC10C	1	7.2/9.6	24.56/32.75	20/23.1	44/44	50/50	50/50	25/29	25/30	44/44	50/50	50/50
	CC15C	1	10.8/14.4	36.84/49.13	30/34.6	48/54	50/50	60/60	38/44	40/45	44/44	50/50	50/50
	CC20C	1	14.4/19.2	49.13/65.5	40/46.2	60/68	60/60	70/70	50/58	50/60	44/44	50/50	50/50
	CC30C	1	21.6/28.8	73.69/98.25	60/69.3	85/97	90/90	100/100	75/87	80/90	44/44	50/50	50/50
	CC40C	1	28.8/38.4	98.25/131	80.1/92.4	111/126	125/125	150/150	101/116	110/125	44/44	50/50	50/50
RLRL-C120CL	No Heat	—	—	—	—	49/49	60/60	60/60	—	—	49/49	60/60	60/60
	CC10C	1	7.2/9.6	24.56/32.75	20/23.1	49/49	60/60	60/60	25/29	25/30	49/49	60/60	60/60
	CC15C	1	10.8/14.4	36.84/49.13	30/34.6	49/54	60/60	60/60	38/44	40/45	49/49	60/60	60/60
	CC20C	1	14.4/19.2	49.13/65.5	40/46.2	60/68	60/60	70/70	50/58	50/60	49/49	60/60	60/60
	CC30C	1	21.6/28.8	73.69/98.25	60/69.3	85/97	90/90	100/100	75/87	80/80	49/49	60/60	60/60
	CC40C	1	28.8/38.4	98.25/131	80.1/92.4	111/126	125/125	150/150	101/116	110/125	49/49	60/60	60/60
RLRL-C090CM	No Heat	—	—	—	—	44/44	50/50	50/50	—	—	44/44	50/50	50/50
	CC10C	1	7.2/9.6	24.56/32.75	20/23.1	44/44	50/50	50/50	25/29	25/30	44/44	50/50	50/50
	CC15C	1	10.8/14.4	36.84/49.13	30/34.6	48/54	50/50	60/60	38/44	40/45	44/44	50/50	50/50
	CC20C	1	14.4/19.2	49.13/65.5	40/46.2	60/68	60/60	70/70	50/58	50/60	44/44	50/50	50/50
	CC30C	1	21.6/28.8	73.69/98.25	60/69.3	85/97	90/90	100/100	75/87	80/90	44/44	50/50	50/50
	CC40C	1	28.8/38.4	98.25/131	80.1/92.4	111/126	125/125	150/150	101/116	110/125	44/44	50/50	50/50
RLRL-C120CM	No Heat	—	—	—	—	54/54	60/60	60/60	—	—	54/54	60/60	60/60
	CC10C	1	7.2/9.6	24.56/32.75	20/23.1	54/54	60/60	60/60	25/29	25/30	54/54	60/60	60/60
	CC15C	1	10.8/14.4	36.84/49.13	30/34.6	54/60	60/60	60/60	38/44	40/45	54/54	60/60	60/60
	CC20C	1	14.4/19.2	49.13/65.5	40/46.2	67/75	70/70	80/80	50/58	50/60	54/54	60/60	60/60
	CC30C	1	21.6/28.8	73.69/98.25	60/69.3	99/103	100/100	110/110	75/87	80/90	54/54	60/60	60/60
	CC40C	1	28.8/38.4	98.25/131	80.1/92.4	117/132	125/125	150/150	101/116	110/125	54/54	60/60	60/60
RLRL-C090CN	No Heat	—	—	—	—	49/49	60/60	60/60	—	—	49/49	60/60	60/60
	CC10C	1	7.2/9.6	24.56/32.75	20/23.1	49/49	60/60	60/60	25/29	25/30	49/49	60/60	60/60
	CC15C	1	10.8/14.4	36.84/49.13	30/34.6	54/60	60/60	60/60	38/44	40/45	49/49	60/60	60/60
	CC20C	1	14.4/19.2	49.13/65.5	40/46.2	67/75	70/70	80/80	50/58	50/60	49/49	60/60	60/60
	CC30C	1	21.6/28.8	73.69/98.25	60/69.3	92/103	100/100	110/110	75/87	80/90	49/49	60/60	60/60
	CC40C	1	28.8/38.4	98.25/131	80.1/92.4	117/132	125/125	150/150	101/116	110/125	49/49	60/60	60/60

HEATER KIT CHARACTERISTICS (continued)

TABLE A

AUXILIARY HEATER KITS CHARACTERISTICS AND APPLICATION (RLRL MODELS) 208/240V – 3 PHASE

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						
RHEEM Model Number	Heater Kit					Air Conditioner			Heater Kit		Air Conditioner		
	RXJJ-Heater Kit Nominal kW	No. of Sequence Steps	Rated Heater kW @ 208/240 V	Heater KBTU/Hr @ 208/240 V	Heater Amp. @ 208/240 V	Unit Min. Ckt. Ampacity @ 208-240V	Over Current Protective Device Size		Min. Ckt. Ampacity 208/240V	Max. Fuse Size 208/240V	Min. Circuit Ampacity 208/240V	Over Current Protective Device Size	
							Min./Max. @ 208 V	Min./Max. @ 240 V				Min./Max. @ 208 V	Min./Max. @ 240 V
RLRL-H090CR	No Heat	—	—	—	—	44/44	50/50	50/50	—	—	44/44	50/50	50/50
	CC10C	1	7.2/9.6	24.56/32.75	20/23.1	44/44	50/50	50/50	25/29	25/30	44/44	50/50	50/50
	CC15C	1	10.8/14.4	36.84/49.13	30/34.6	48/54	50/50	60/60	38/44	40/45	44/44	50/50	50/50
	CC20C	1	14.4/19.2	49.13/65.5	40/46.2	60/68	60/60	70/70	50/58	50/60	44/44	50/50	50/50
	CC30C	1	21.6/28.8	73.69/98.25	60/69.3	85/97	90/90	100/100	75/87	80/90	44/44	50/50	50/50
	CC40C	1	28.8/38.4	98.25/131	80.1/92.4	111/126	125/125	150/150	101/116	110/125	44/44	50/50	50/50
RLRL-H120CR	No Heat	—	—	—	—	49/49	60/60	60/60	—	—	49/49	60/60	60/60
	CC10C	1	7.2/9.6	24.56/32.75	20/23.1	49/49	60/60	60/60	25/29	25/30	49/49	60/60	60/60
	CC15C	1	10.8/14.4	36.84/49.13	30/34.6	49/54	60/60	60/60	38/44	40/45	49/49	60/60	60/60
	CC20C	1	14.4/19.2	49.13/65.5	40/46.2	60/68	60/60	70/70	50/58	50/60	49/49	60/60	60/60
	CC30C	1	21.6/28.8	73.69/98.25	60/69.3	85/97	90/90	100/100	75/87	80/80	49/49	60/60	60/60
	CC40C	1	28.8/38.4	98.25/131	80.1/92.4	111/126	125/125	150/150	101/116	110/125	49/49	60/60	60/60
RLRL-H090CS	No Heat	—	—	—	—	44/44	50/50	50/50	—	—	44/44	50/50	50/50
	CC10C	1	7.2/9.6	24.56/32.75	20/23.1	44/44	50/50	50/50	25/29	25/30	44/44	50/50	50/50
	CC15C	1	10.8/14.4	36.84/49.13	30/34.6	48/54	50/50	60/60	38/44	40/45	44/44	50/50	50/50
	CC20C	1	14.4/19.2	49.13/65.5	40/46.2	60/68	60/60	70/70	50/58	50/60	44/44	50/50	50/50
	CC30C	1	21.6/28.8	73.69/98.25	60/69.3	85/97	90/90	100/100	75/87	80/90	44/44	50/50	50/50
	CC40C	1	28.8/38.4	98.25/131	80.1/92.4	111/126	125/125	150/150	101/116	110/125	44/44	50/50	50/50
RLRL-H120CS	No Heat	—	—	—	—	54/54	60/60	60/60	—	—	54/54	60/60	60/60
	CC10C	1	7.2/9.6	24.56/32.75	20/23.1	54/54	60/60	60/60	25/29	25/30	54/54	60/60	60/60
	CC15C	1	10.8/14.4	36.84/49.13	30/34.6	54/60	60/60	60/60	38/44	40/45	54/54	60/60	60/60
	CC20C	1	14.4/19.2	49.13/65.5	40/46.2	67/75	70/70	80/80	50/58	50/60	54/54	60/60	60/60
	CC30C	1	21.6/28.8	73.69/98.25	60/69.3	99/103	100/100	110/110	75/87	80/90	54/54	60/60	60/60
	CC40C	1	28.8/38.4	98.25/131	80.1/92.4	117/132	125/125	150/150	101/116	110/125	54/54	60/60	60/60
RLRL-H090CT	No Heat	—	—	—	—	49/49	60/60	60/60	—	—	49/49	60/60	60/60
	CC10C	1	7.2/9.6	24.56/32.75	20/23.1	49/49	60/60	60/60	25/29	25/30	49/49	60/60	60/60
	CC15C	1	10.8/14.4	36.84/49.13	30/34.6	54/60	60/60	60/60	38/44	40/45	49/49	60/60	60/60
	CC20C	1	14.4/19.2	49.13/65.5	40/46.2	67/75	70/70	80/80	50/58	50/60	49/49	60/60	60/60
	CC30C	1	21.6/28.8	73.69/98.25	60/69.3	92/103	100/100	110/110	75/87	80/90	49/49	60/60	60/60
	CC40C	1	28.8/38.4	98.25/131	80.1/92.4	117/132	125/125	150/150	101/116	110/125	49/49	60/60	60/60

HEATER KIT CHARACTERISTICS (continued)

TABLE A

AUXILIARY HEATER KITS CHARACTERISTICS AND APPLICATION (RLRL MODELS) 480V – 3 PHASE

480 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						
RHEEM Model Number	Heater Kit					Air Conditioner			Heater Kit		Air Conditioner		
	RXJJ-Heater Kit Nominal kW	No. of Sequence Steps	Rated Heater kW @ 480 V	Heater KBTU/Hr @ 480 V	Heater Amp. @ 480 V	Unit Min. Ckt. Ampacity @ 480V	Over Current Protective Device Size		Min. Ckt. Ampacity 480V	Max. Fuse Size 480V	Min. Circuit Ampacity 480V	Over Current Protective Device Size	
							Min./Max. @ 480 V	Min./Max. @ 480 V				Min./Max. @ 480 V	Min./Max. @ 480 V
RLRL-C90DL	No Heat	—	—	—	—	21	25/25	—	—	—	21	25/25	—
	CC10D	1	9.6	32.75	11.5	21	25/25	—	15	15	21/0	25/25	0/0
	CC15D	1	14.4	49.13	17.3	27	30/30	—	22	25	21/0	25/25	0/0
	CC20D	1	19.2	65.5	23.1	34	35/35	—	29	30	21/0	25/25	0/0
	CC30D	1	28.8	98.25	34.6	49	50/50	—	44	45	21/0	25/25	0/0
	CC40D	1	38.4	131	46.2	63	70/70	—	58	60	23/0	25/25	0/0
RLRL-C120DL	No Heat	—	—	—	—	23	25/25	—	—	—	23	25/25	—
	CC10D	1	9.6	32.75	11.5	23	25/25	—	15	15	23/0	25/25	0/0
	CC15D	1	14.4	49.13	17.3	27	30/30	—	22	25	23/0	25/25	0/0
	CC20D	1	19.2	65.5	23.1	34	35/35	—	29	30	23/0	25/25	0/0
	CC30D	1	28.8	98.25	34.6	49	50/50	—	44	45	23/0	25/25	0/0
	CC40D	1	38.4	131	46.2	63	70/70	—	58	60	23/0	25/25	0/0
RLRL-C090DM	No Heat	—	—	—	—	21	25/25	—	—	—	21	25/25	—
	CC10D	1	9.6	32.75	11.5	21	25/25	—	15	15	21/0	25/25	0/0
	CC15D	1	14.4	49.13	17.3	27	30/30	—	22	25	21/0	25/25	0/0
	CC20D	1	19.2	65.5	23.1	34	35/35	—	29	30	21/0	25/25	0/0
	CC30D	1	28.8	98.25	34.6	49	50/50	—	44	45	21/0	25/25	0/0
	CC40D	1	38.4	131	46.2	63	70/70	—	58	60	21/0	25/25	0/0
RLRL-C120DM	No Heat	—	—	—	—	26	30/30	—	—	—	26	30/30	—
	CC10D	1	9.6	32.75	11.5	26	30/30	—	15	15	26/0	30/30	0/0
	CC15D	1	14.4	49.13	17.3	31	35/35	—	22	25	26/0	30/30	0/0
	CC20D	1	19.2	65.5	23.1	38	40/40	—	29	30	26/0	30/30	0/0
	CC30D	1	28.8	98.25	34.6	52	60/60	—	44	45	26/0	30/30	0/0
	CC40D	1	38.4	131	46.2	67	70/70	—	58	60	26/0	30/30	0/0
RLRL-C090DN	No Heat	—	—	—	—	24	30/30	—	—	—	24	30/30	—
	CC10D	1	9.6	32.75	11.5	24	30/30	—	15	15	24/0	30/30	0/0
	CC15D	1	14.4	49.13	17.3	31	35/35	—	22	25	24/0	30/30	0/0
	CC20D	1	19.2	65.5	23.1	38	40/40	—	29	30	24/0	30/30	0/0
	CC30D	1	28.8	98.25	34.6	52	60/60	—	44	45	24/0	30/30	0/0
	CC40D	1	38.4	131	46.2	67	70/70	—	58	60	24/0	30/30	0/0

HEATER KIT CHARACTERISTICS (continued)

TABLE A

AUXILIARY HEATER KITS CHARACTERISTICS AND APPLICATION (RLRL MODELS) 480V – 3 PHASE

480 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						
RHEEM Model Number	Heater Kit					Air Conditioner			Heater Kit		Air Conditioner		
	RXJJ-Heater Kit Nominal kW	No. of Sequence Steps	Rated Heater kW @ 480 V	Heater KBTU/Hr @ 480 V	Heater Amp. @ 480 V	Unit Min. Ckt. Ampacity @ 480V	Over Current Protective Device Size		Min. Ckt. Ampacity 480V	Max. Fuse Size 480V	Min. Circuit Ampacity 480V	Over Current Protective Device Size	
							Min./Max. @ 480 V	Min./Max. @ 480 V				Min./Max. @ 480 V	Min./Max. @ 480 V
RLRL-H090DR	No Heat	—	—	—	—	21	25/25	—	—	—	21	25/25	—
	CC10D	1	9.6	32.75	11.5	21	25/25	—	15	15	21/0	25/25	0/0
	CC15D	1	14.4	49.13	17.3	27	30/30	—	22	25	21/0	25/25	0/0
	CC20D	1	19.2	65.5	23.1	34	35/35	—	29	30	21/0	25/25	0/0
	CC30D	1	28.8	98.25	34.6	49	50/50	—	44	45	21/0	25/25	0/0
	CC40D	1	38.4	131	46.2	63	70/70	—	58	60	21/0	25/25	0/0
RLRL-H120DR	No Heat	—	—	—	—	23	25/25	—	—	—	23	25/25	—
	CC10D	1	9.6	32.75	11.5	23	25/25	—	15	15	23/0	25/25	0/0
	CC15D	1	14.4	49.13	17.3	27	30/30	—	22	25	23/0	25/25	0/0
	CC20D	1	19.2	65.5	23.1	34	35/35	—	29	30	23/0	25/25	0/0
	CC30D	1	28.8	98.25	34.6	49	50/50	—	44	45	23/0	25/25	0/0
	CC40D	1	38.4	131	46.2	63	70/70	—	58	60	23/0	25/25	0/0
RLRL-H090DS	No Heat	—	—	—	—	21	25/25	—	—	—	21	25/25	—
	CC10D	1	9.6	32.75	11.5	21	25/25	—	15	15	21/0	25/25	0/0
	CC15D	1	14.4	49.13	17.3	27	30/30	—	22	25	21/0	25/25	0/0
	CC20D	1	19.2	65.5	23.1	34	35/35	—	29	30	21/0	25/25	0/0
	CC30D	1	28.8	98.25	34.6	49	50/50	—	44	45	21/0	25/25	0/0
	CC40D	1	38.4	131	46.2	63	70/70	—	58	60	21/0	25/25	0/0
RLRL-H120DS	No Heat	—	—	—	—	26	30/30	—	—	—	26	30/30	—
	CC10D	1	9.6	32.75	11.5	26	30/30	—	15	15	26/0	30/30	0/0
	CC15D	1	14.4	49.13	17.3	31	35/35	—	22	25	26/0	30/30	0/0
	CC20D	1	19.2	65.5	23.1	38	40/40	—	29	30	26/0	30/30	0/0
	CC30D	1	28.8	98.25	34.6	52	60/60	—	44	45	26/0	30/30	0/0
	CC40D	1	38.4	131	46.2	67	70/70	—	58	60	26/0	30/30	0/0
RLRL-H090DT	No Heat	—	—	—	—	24	30/30	—	—	—	24	30/30	—
	CC10D	1	9.6	32.75	11.5	24	30/30	—	15	15	24/0	30/30	0/0
	CC15D	1	14.4	49.13	17.3	31	35/35	—	22	25	24/0	30/30	0/0
	CC20D	1	19.2	65.5	23.1	38	40/40	—	29	30	24/0	30/30	0/0
	CC30D	1	28.8	98.25	34.6	52	60/60	—	44	45	24/0	30/30	0/0
	CC40D	1	38.4	131	46.2	67	70/70	—	58	60	24/0	30/30	0/0

HEATER KIT CHARACTERISTICS (continued)

TABLE A

AUXILIARY HEATER KITS CHARACTERISTICS AND APPLICATION (RLRL MODELS)

600V – 3 PHASE

600 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						
RHEEM Model Number	Heater Kit					Air Conditioner			Heater Kit		Air Conditioner		
	RXJJ-Heater Kit Nominal kW	No. of Sequence Steps	Rated Heater kW @ 600 V	Heater KBTU/Hr @ 600 V	Heater Amp. @ 600 V	Unit Min. Ckt. Ampacity @ 600V	Over Current Protective Device Size		Min. Ckt. Ampacity 600V	Max. Fuse Size 600V	Min. Circuit Ampacity 600V	Over Current Protective Device Size	
							Min./Max. @ 600 V	Min./Max. @ 600 V				Min./Max. @ 600 V	Min./Max. @ 600 V
RLRL-C090YL	No Heat	—	—	—	—	16	20/20	—	—	—	16	20/20	—
	CC10Y	1	9.6	32.75	9.2	17	20/20	—	12	15	16/0	20/20	0/0
	CC15Y	1	14.4	49.13	13.9	23	25/25	—	18	20	16/0	20/20	0/0
	CC20Y	1	19.2	65.5	18.5	29	30/30	—	24	25	16/0	20/20	0/0
	CC30Y	1	28.8	98.25	27.7	40	40/40	—	35	35	16/0	20/20	0/0
	CC40Y	1	38.4	131	37	52	60/60	—	47	50	16/0	20/20	0/0
RLRL-C120YL	No Heat	—	—	—	—	18	20/20	—	—	—	18	20/20	—
	CC10Y	1	9.6	32.75	9.2	18	20/20	—	12	15	18/0	20/20	0/0
	CC15Y	1	14.4	49.13	13.9	23	25/25	—	18	20	18/0	20/20	0/0
	CC20Y	1	19.2	65.5	18.5	29	30/30	—	24	25	18/0	20/20	0/0
	CC30Y	1	28.8	98.25	27.7	40	40/40	—	35	35	18/0	20/20	0/0
	CC40Y	1	38.4	131	37	52	60/60	—	47	50	18/0	20/20	0/0
RLRL-C090YM	No Heat	—	—	—	—	16	20/20	—	—	—	16	20/20	—
	CC10Y	1	9.6	32.75	9.2	17	20/20	—	12	15	16/0	20/20	0/0
	CC15Y	1	14.4	49.13	13.9	23	25/25	—	18	20	16/0	20/20	0/0
	CC20Y	1	19.2	65.5	18.5	29	30/30	—	24	25	16/0	20/20	0/0
	CC30Y	1	28.8	98.25	27.7	40	40/40	—	35	35	16/0	20/20	0/0
	CC40Y	1	38.4	131	37	52	60/60	—	47	50	16/0	20/20	0/0
RLRL-C120YM	No Heat	—	—	—	—	23	30/30	—	—	—	23	30/30	—
	CC10Y	1	9.6	32.75	9.2	23	30/30	—	12	15	23/0	30/30	0/0
	CC15Y	1	14.4	49.13	13.9	28	30/30	—	18	20	23/0	30/30	0/0
	CC20Y	1	19.2	65.5	18.5	34	35/35	—	24	25	23/0	30/30	0/0
	CC30Y	1	28.8	98.25	27.7	45	45/45	—	35	35	23/0	30/30	0/0
	CC40Y	1	38.4	131	37	57	60/60	—	47	50	23/0	30/30	0/0
RLRL-C090YN	No Heat	—	—	—	—	21	25/25	—	—	—	21	25/25	—
	CC10Y	1	9.6	32.75	9.2	22	25/25	—	12	15	21/0	25/25	0/0
	CC15D	1	14.4	49.13	13.9	28	30/30	—	18	20	21/0	25/25	0/0
	CC20Y	1	19.2	65.5	18.5	34	35/35	—	24	25	21/0	25/25	0/0
	CC30Y	1	28.8	98.25	27.7	45	45/45	—	35	35	21/0	25/25	0/0
	CC40Y	1	38.4	131	37	57	60/60	—	47	50	21/0	25/25	0/0

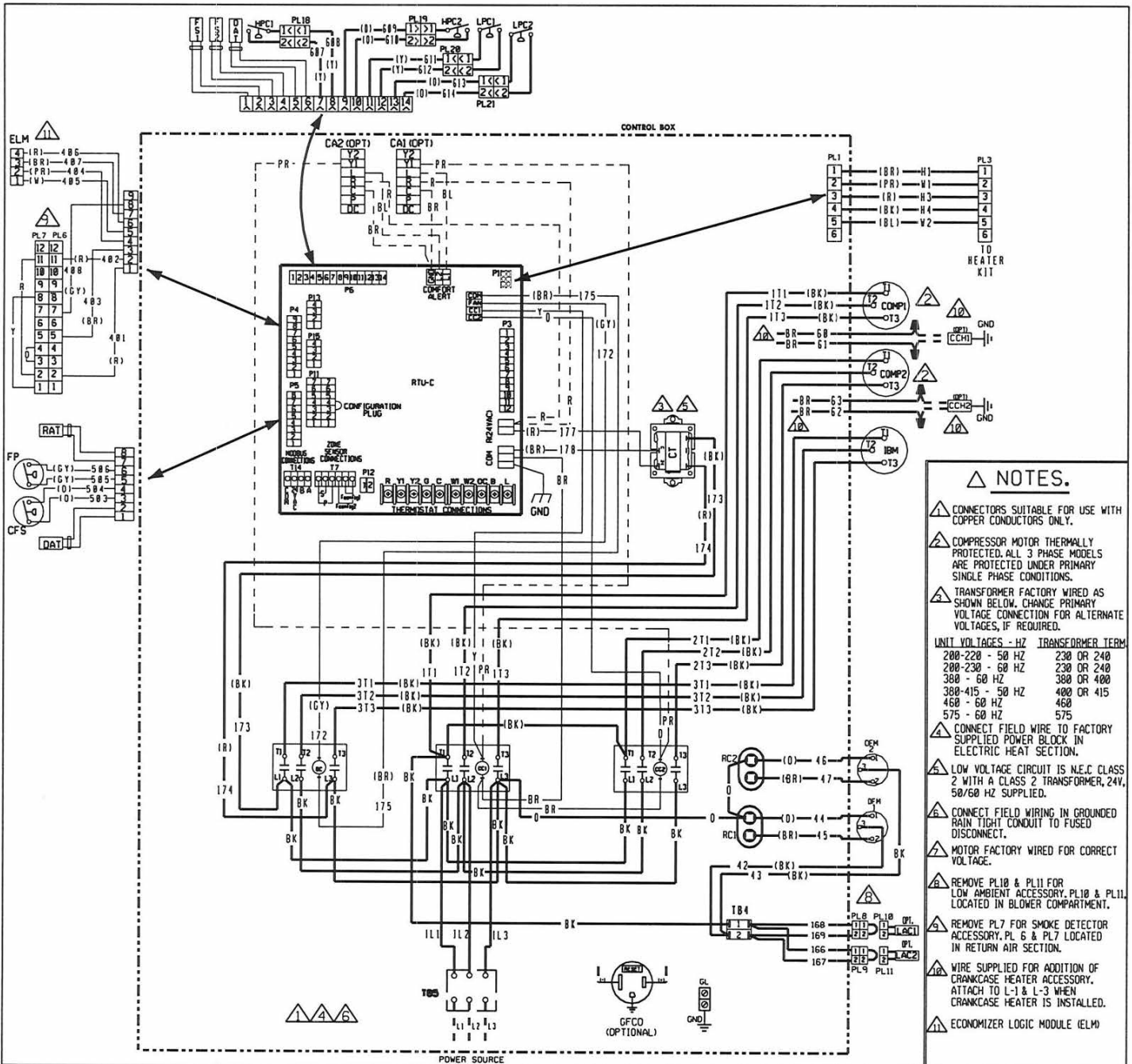
XXI. TROUBLE SHOOTING CHART

▲ WARNING

DISCONNECT ALL POWER TO UNIT BEFORE SERVICING. CONTACTOR MAY BREAK ONLY ONE SIDE. FAILURE TO SHUT OFF POWER CAN CAUSE ELECTRICAL SHOCK RESULTING IN PERSONAL INJURY OR DEATH.

SYMPTOM	POSSIBLE CAUSE	REMEDY
Unit will not run	<ul style="list-style-type: none"> Power off or loose electrical connection Thermostat out of calibration-set too high Defective contactor Blown fuses Transformer defective High pressure control open (if provided) Interconnecting low voltage wiring damaged 	<ul style="list-style-type: none"> Check for correct voltage at compressor contactor in control box Reset Check for 24 volts at contactor coil - replace if contacts are open Replace fuses Check wiring-replace transformer Reset-also see high head pressure remedy- Replace thermostat wiring
Condenser fan runs, compressor doesn't	<ul style="list-style-type: none"> Run capacitor defective (single phase only) Loose connection Compressor stuck, grounded or open motor winding open internal overload. Low voltage condition 	<ul style="list-style-type: none"> Replace Check for correct voltage at compressor - check & tighten all connections Wait at least 2 hours for overload to reset. If still open, replace the compressor. At compressor terminals, voltage must be within 10% of rating plate volts when unit is operating.
Insufficient cooling	<ul style="list-style-type: none"> Improperly sized unit Improper airflow Incorrect refrigerant charge Air, non-condensibles or moisture in system Incorrect voltage 	<ul style="list-style-type: none"> Recalculate load Check - should be approximately 400 CFM [188.78 L/s] per ton. Charge per procedure attached to unit service panel. Recover refrigerant, evacuate & recharge, add filter drier At compressor terminals, voltage must be within 10% of rating plate volts when unit is operating.
Compressor short cycles	<ul style="list-style-type: none"> Incorrect voltage Defective overload protector Refrigerant undercharge 	<ul style="list-style-type: none"> At compressor terminals, voltage must be \pm 10% of nameplate marking when unit is operating. Replace - check for correct voltage Add refrigerant
Registers sweat	<ul style="list-style-type: none"> Low evaporator airflow 	<ul style="list-style-type: none"> Increase speed of blower or reduce restriction - replace air filter
High head-low vapor pressures	<ul style="list-style-type: none"> Restriction in liquid line, expansion device or filter drier Flow check piston size too small Incorrect capillary tubes TXV does not open 	<ul style="list-style-type: none"> Remove or replace defective component Change to correct size piston Change coil assembly Replace TXV
High head-high or normal vapor pressure - Cooling mode	<ul style="list-style-type: none"> Dirty condenser coil Refrigerant overcharge Condenser fan not running Air or non-condensibles in system 	<ul style="list-style-type: none"> Clean coil Correct system charge Repair or replace Recover refrigerant, evacuate & recharge
High head-high or normal vapor pressure - Heating mode	<ul style="list-style-type: none"> Low air flow - condenser coil Refrigerant overcharge Air or non-condensibles in system Dirty condenser coil 	<ul style="list-style-type: none"> Check filters - correct to speed Correct system charge Recover refrigerant, evacuate & recharge Check filter - clean coil
Low head-high vapor pressures	<ul style="list-style-type: none"> Defective Compressor valves 	<ul style="list-style-type: none"> Replace compressor
Low vapor - cool compressor - iced evaporator coil	<ul style="list-style-type: none"> Low evaporator airflow Operating below 65°F outdoors Moisture in system TXV limiting refrigerant flow 	<ul style="list-style-type: none"> Increase speed of blower or reduce restriction - replace air filter Add Low Ambient Kit Recover refrigerant - evacuate & recharge - add filter drier Replace TXV
High vapor pressure	<ul style="list-style-type: none"> Excessive load Defective compressor 	<ul style="list-style-type: none"> Recheck load calculation Replace
Fluctuating head & vapor pressures	<ul style="list-style-type: none"> TXV hunting Air or non-condensibles in system 	<ul style="list-style-type: none"> Check TXV bulb clamp - check air distribution on coil - replace TXV Recover refrigerant, evacuate & recharge
Gurgle or pulsing noise at expansion device or liquid line	<ul style="list-style-type: none"> Air or non-condensibles in system 	<ul style="list-style-type: none"> Recover refrigerant, evacuate & recharge

XXII. WIRING DIAGRAMS

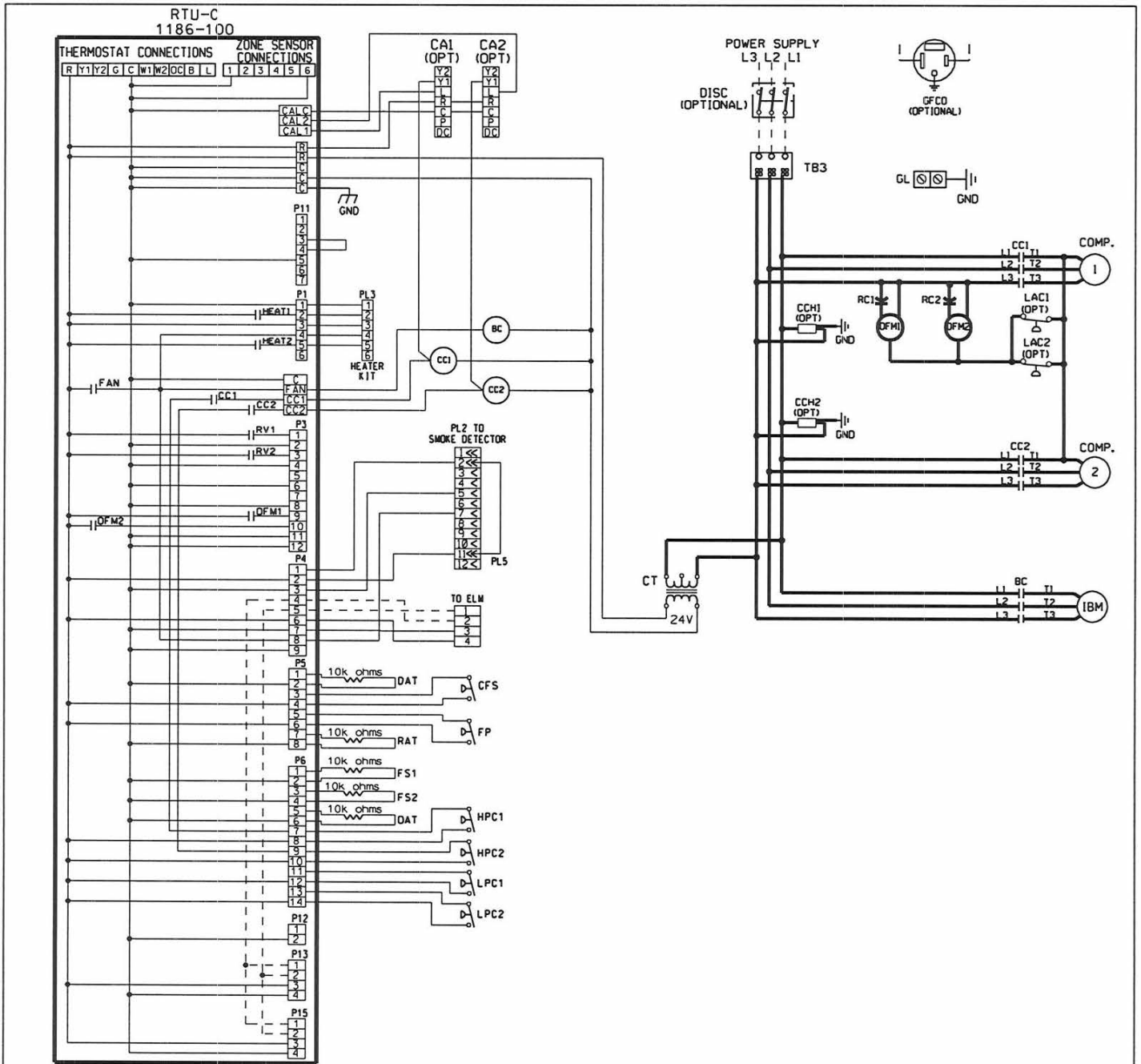


- NOTES.**
- ⚠ CONNECTORS SUITABLE FOR USE WITH COPPER CONDUCTORS ONLY.
 - ⚠ COMPRESSOR MOTOR THERMALLY PROTECTED. ALL 3 PHASE MODELS ARE PROTECTED UNDER PRIMARY SINGLE PHASE CONDITIONS.
 - ⚠ TRANSFORMER FACTORY WIRING AS SHOWN BELOW. CHANGE PRIMARY VOLTAGE CONNECTION FOR ALTERNATE VOLTAGES, IF REQUIRED.
- | UNIT VOLTAGES - HZ | TRANSFORMER TERM |
|--------------------|------------------|
| 200-220 - 50 HZ | 230 OR 240 |
| 200-230 - 60 HZ | 230 OR 240 |
| 380 - 60 HZ | 380 OR 400 |
| 380-415 - 50 HZ | 400 OR 415 |
| 460 - 60 HZ | 460 |
| 575 - 60 HZ | 575 |
- ⚠ CONNECT FIELD WIRE TO FACTORY SUPPLIED POWER BLOCK IN ELECTRIC HEAT SECTION.
 - ⚠ LOW VOLTAGE CIRCUIT IS N.E.C CLASS 2 WITH A CLASS 2 TRANSFORMER, 24V, 50/60 HZ SUPPLIED.
 - ⚠ CONNECT FIELD WIRING IN GROUNDED RAIN TIGHT CONDUIT TO FUSED DISCONNECT.
 - ⚠ MOTOR FACTORY WIRING FOR CORRECT VOLTAGE.
 - ⚠ REMOVE PL10 & PL11 FOR LOW AMBIENT ACCESSORY. PL10 & PL11 LOCATED IN BLOWER COMPARTMENT.
 - ⚠ REMOVE PL7 FOR SMOKE DETECTOR ACCESSORY. PL 6 & PL7 LOCATED IN RETURN AIR SECTION.
 - ⚠ WIRE SUPPLIED FOR ADDITION OF CRANKCASE HEATER ACCESSORY. ATTACH TO L-1 & L-3 WHEN CRANKCASE HEATER IS INSTALLED.
 - ⚠ ECONOMIZER LOGIC MODULE (ELM)

DWG. NO.	COMPONENT CODE	WIRING INFORMATION	WIRE COLOR CODE
90-103089-03 REV 02	BC BLOWER CONTACTOR	LINE VOLTAGE	BK BLACK
	CA COMFORT ALERT MODULE	-FACTORY STANDARD	BR BROWN
	CC COMPRESSOR CONTACTOR	-FACTORY OPTION	BL BLUE
	CH CRANKCASE HEATER	-FIELD INSTALLED	C GREEN
	CFS CLOGGED FILTER SWITCH	LOW VOLTAGE	CY GRAY
	COMP COMPRESSOR	-FACTORY STANDARD	O ORANGE
	CT CONTROL TRANSFORMER	-FACTORY OPTION	PR PURPLE
	DAT DISCHARGE AIR SENSOR	-FIELD INSTALLED	R RED
	DISC DISCONNECT SWITCH	REPLACEMENT WIRE	W WHITE
	FP FAN PROVING	-MUST BE THE SAME SIZE AND TYPE OF INSULATION AS ORIGINAL (105° C MIN.)	Y YELLOW
	FS FREEZE SENSOR	WARNING	
	GFCO GROUND FAULT CONVENIENCE OUTLET	-CABINET MUST BE PERMANENTLY GROUNDED AND CONFORM TO I.E.C., N.E.C., C.E.C., AND LOCAL CODES AS APPLICABLE.	
	GL GROUND LUG		
	GND GROUND		
	HPC HIGH PRESSURE CONTROL		
IBM INDOOR BLOWER MOTOR BELT DRIVE			
LAC LOW AMBIENT COOLING CONTROL			
LPC LOW PRESSURE CONTROL			
OAT OUTSIDE AIR SENSOR			
OFM OUTDOOR FAN MOTOR			
PL PLUG			
RAT RETURN AIR SENSOR			
RC RUN CAPACITOR			
RTU-C ROOFTOP UNIT CONTROL			
TB TERMINAL BLOCK			
WIRE NUT			

WIRING DIAGRAM
 (-)L?L-C090/102/120/150/151
 208-230/460/575V 3 PH, 60 HZ.
 PACKAGED A/C W/RTU-C

DR. BY	MGR	DATE	4-15-09	DWG. NO.	90-103089-03
				REV	02



COMPONENT CODE

BC	BLOWER CONTACTOR	IFC	INTEGRATED FURNACE CONTROL
CA	COMFORT ALERT MODULE	LAC	LOW AMBIENT COOLING CONTROL
CC	COMPRESSOR CONTACTOR	LC	LIMIT CONTROL
CCH	CRANKCASE HEATER	LPC	LOW PRESSURE CONTROL
CFS	CLOGGED FILTER SWITCH	MAS	MIX AIR SENSOR
COMP	COMPRESSOR	OAT	OUTSIDE AIR SENSOR
CT	CONTROL TRANSFORMER	OFM	OUTDOOR FAN MOTOR
DISC	DISCONNECT SWITCH	PL	PLUG
FP	FAN PROVING	RAT	RETURN AIR SENSOR
FS	FREEZE SENSOR	RC	RUN CAPACITOR
GFCO	GROUND FAULT CONVENIENCE OUTLET	SCC	SPACE COMFORT CONTROL
GL	GROUND LUG	SE	SPARK ELECTRODE
GND	GROUND	TB	TERMINAL BLOCK
HPC	HIGH PRESSURE CONTROL	▲	WIRE NUT
IBM	INDOOR BLOWER MOTOR BELT DRIVE		

WIRING INFORMATION

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

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

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

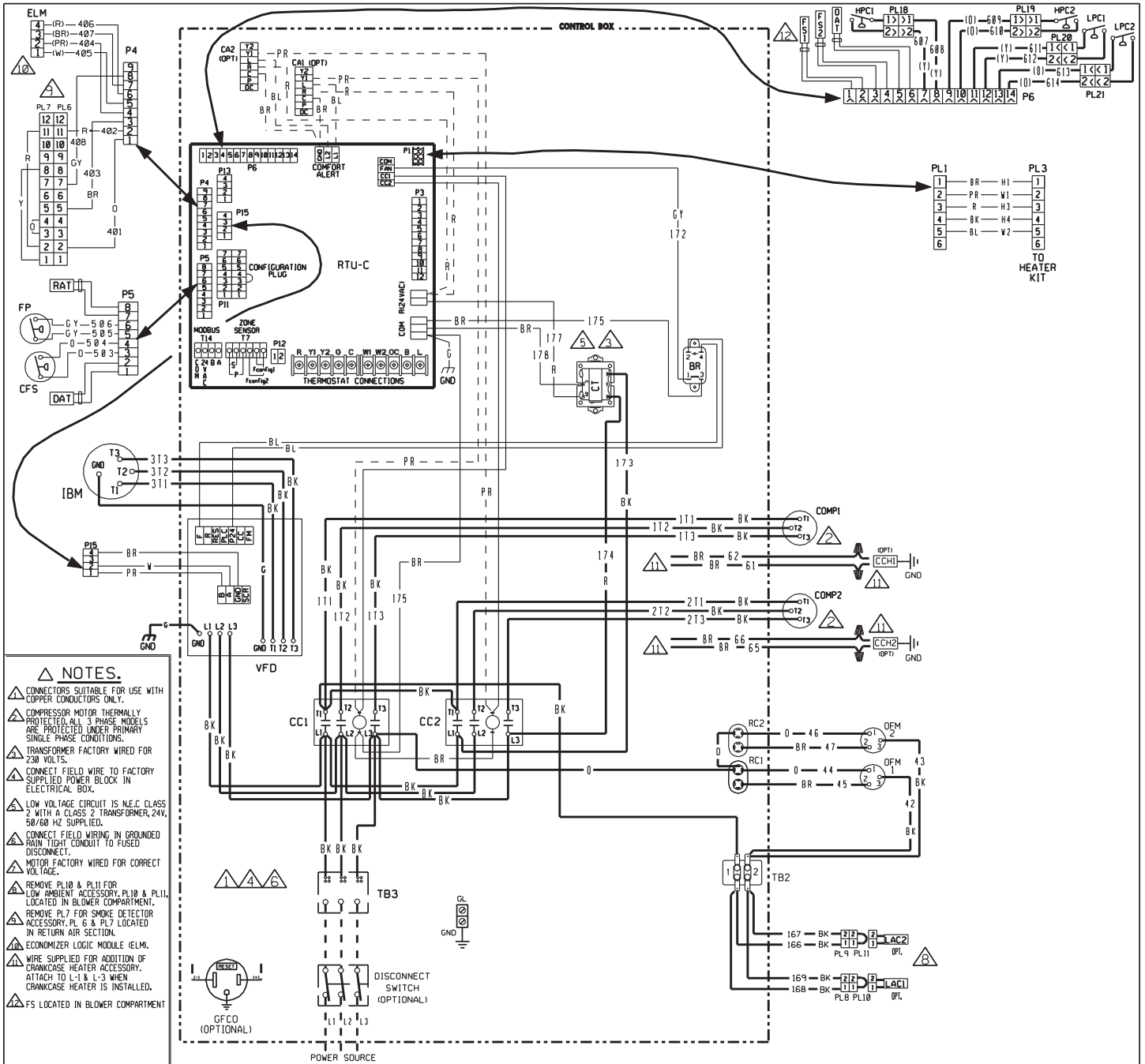
WARNING
 -CABINET MUST BE PERMANENTLY GROUNDED AND CONFORM TO I.E.C., N.E.C., C.E.C., AND LOCAL CODES AS APPLICABLE.

WIRE COLOR CODE

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

WIRING SCHEMATIC
 (-)L?L-C090/102/120/150/151
 208-230/460/575V 3 PH, 60 HZ.
 PACKAGED A/C

DR. BY	APPR. BY	DATE	DWG. NO.	REV
MGR		7-16-09	90-103246-03	01



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

COMPONENT CODE

BR BLOWER RELAY	HPC HIGH PRESSURE CONTROL
CA COMFORT ALERT MODULE	IBM INDOOR BLOWER MOTOR BELT DRIVE
CC COMPRESSOR CONTACTOR	LAC LOW AMBIENT COOLING CONTROL
CCH CRANKCASE HEATER	LC LIMIT CONTROL
CFS CLOGGED FILTER SWITCH	LPC LOW PRESSURE CONTROL
COMP COMPRESSOR	DAT OUTSIDE AIR SENSOR
CT CONTROL TRANSFORMER	OFM OUTDOOR FAN MOTOR
DAT DISCHARGE AIR SENSOR	PL PLUG
DISC DISCONNECT SWITCH	RAT RETURN AIR SENSOR
FP FAN PROWING	RC RUN CAPACITOR
FS FREEZE SENSOR	RTU-C ROOF TOP UNIT CONTROL
GFCO GROUND FAULT CONVENIENCE OUTLET	TB TERMINAL BLOCK
GL GROUND LUG	VFD VARIABLE FREQUENCY DRIVE
GND GROUND	▲ WIRE NUT

WIRING INFORMATION

LINE VOLTAGE
 -FACTORY STANDARD
 -FACTORY OPTION
 -FIELD INSTALLED

LOW VOLTAGE
 -FACTORY STANDARD
 -FACTORY OPTION
 -FIELD INSTALLED

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

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

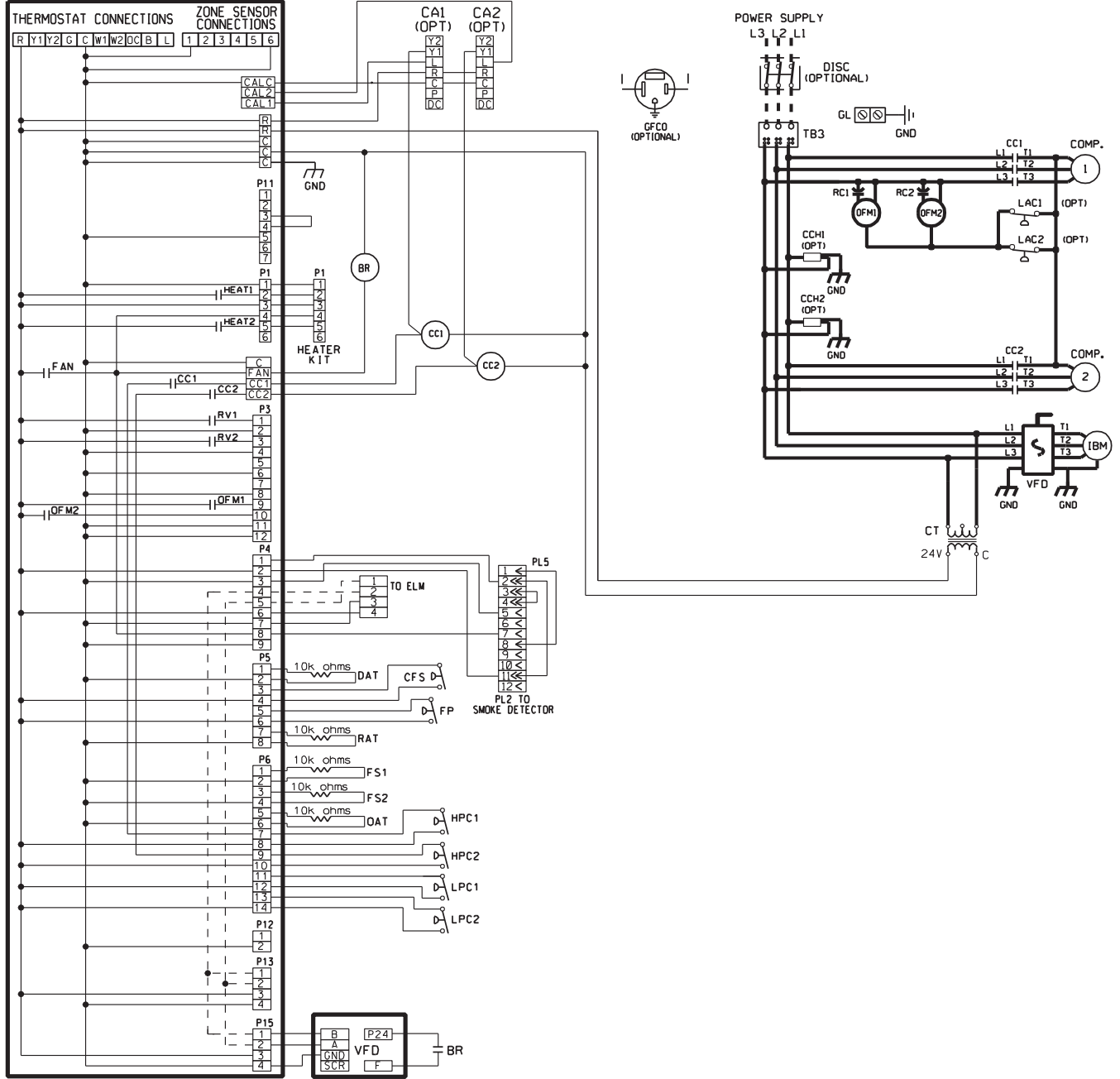
WIRE COLOR CODE

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

WIRING DIAGRAM
 090/102/120/151 W/VFD
 208-230/460V 3 PH, 60 HZ.
 PACKAGED A/C W/RTU-C

DR. BY	APP. BY	DATE	DWG. NO.	REV
JRJ		01-12-12	90-103089-32	00

RTU-C 1186-100



COMPONENT CODE

BR	BLOWER RELAY	HPC	HIGH PRESSURE CONTROL
CA	COMFORT ALERT MODULE	IBM	INDOOR BLOWER MOTOR BELT DRIVE
CC	COMPRESSOR CONTACTOR	LAC	LOW AMBIENT COOLING CONTROL
CCH	CRANKCASE HEATER	LC	LIMIT CONTROL
CFS	CLOGGED FILTER SWITCH	LPC	LOW PRESSURE CONTROL
COMP	COMPRESSOR	OAT	OUTSIDE AIR SENSOR
CT	CONTROL TRANSFORMER	OFM	OUTDOOR FAN MOTOR
DAT	DISCHARGE AIR SENSOR	PL	PLUG
DISC	DISCONNECT SWITCH	RAT	RETURN AIR SENSOR
FP	FAN PROVING	RC	RUN CAPACITOR
FS	FREEZE SENSOR	RTU-C	ROOFTOP UNIT CONTROL
GFCO	GROUND FAULT CONVENIENCE OUTLET	TB	TERMINAL BLOCK
GL	GROUND LUG	VFD	VARIABLE FREQUENCY DRIVE
GND	GROUND	W	WIRE NUT

WIRING INFORMATION

LINE VOLTAGE
 -FACTORY STANDARD
 -FACTORY OPTION
 -FIELD INSTALLED
 LOW VOLTAGE
 -FACTORY STANDARD
 -FACTORY OPTION
 -FIELD INSTALLED
 REPLACEMENT WIRE
 -MUST BE THE SAME SIZE AND TYPE OF INSULATION AS ORIGINAL (105° C MIN.)
 WIRING
 -CABINET MUST BE PERMANENTLY GROUNDED AND CONFORM TO I.E.C., N.E.C., C.E.C., AND LOCAL CODES AS APPLICABLE.

WIRE COLOR CODE

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

WIRING SCHEMATIC
 090/102/120/151 W/VFD
 208-230/460V 3 PH, 60 HZ.
 PACKAGED A/C

DR. BY	APP. BY	DATE	DWG. NO.	REV
JRJ		01-12-12	90-103246-28	01

XXIII. CHARGING CHARTS

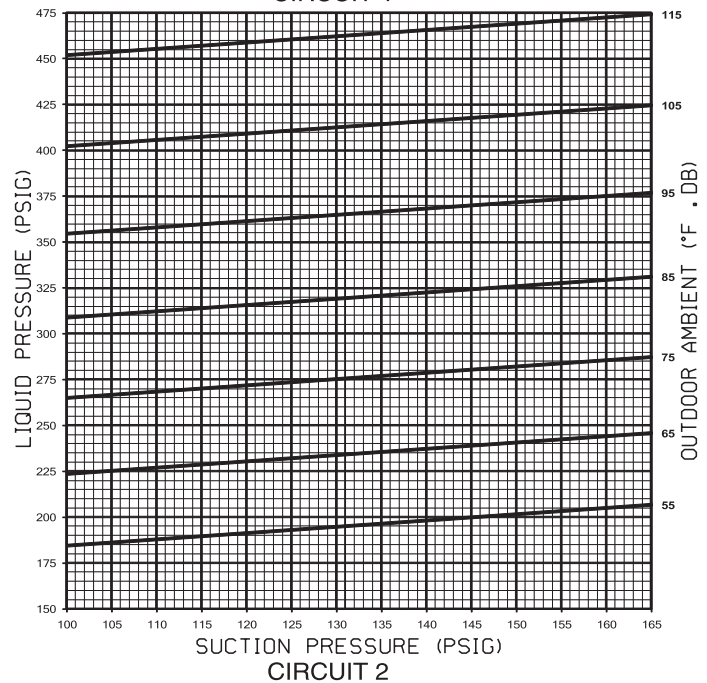
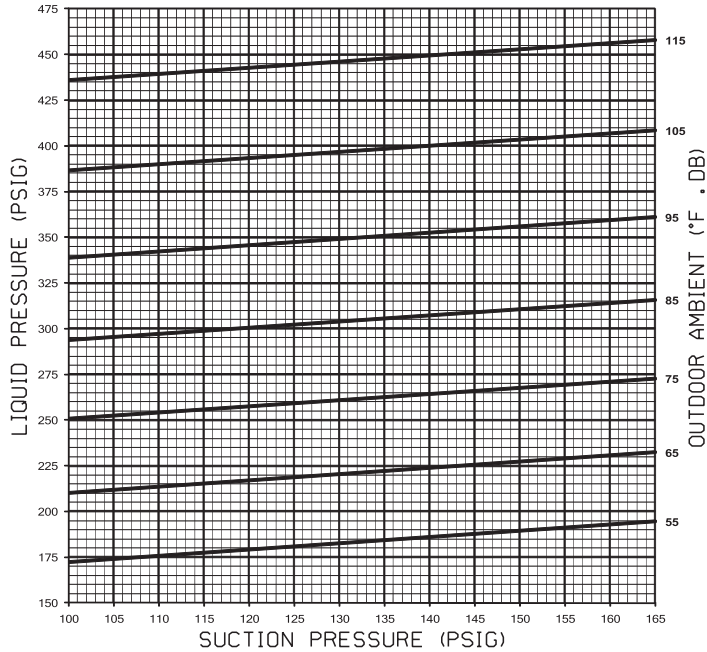
RLRL SYSTEM CHARGE CHARTS

FIGURE 16

SYSTEM CHARGE CHART - REFRIGERANT 410A 7-1/2 TON, CIRCUITS 1 & 2

- CAUTION:**
1. BOTH COMPRESSORS MUST BE OPERATING BEFORE CHECKING REFRIGERANT CHARGE.
 2. RETURN AIR TEMPERATURE MUST BE WITHIN COMFORT CONDITIONS BEFORE FINAL REFRIGERANT CHECK!

- INSTRUCTIONS:**
1. MEASURE PRESSURE AT COMPRESSOR SUCTION AND LIQUID.
 2. MEASURE OUTDOOR AMBIENT TO UNIT.
 3. PLACE (X) ON CHART WHERE SUCTION AND LIQUID INTERSECT.
 4. IF (X) IS BELOW OUTDOOR AMBIENT LINE, ADD CHARGE AND REPEAT STEPS 1-3.
 5. IF (X) IS ABOVE OUTDOOR AMBIENT LINE, RECOVER EXCESS CHARGE AND REPEAT STEPS 1-3.



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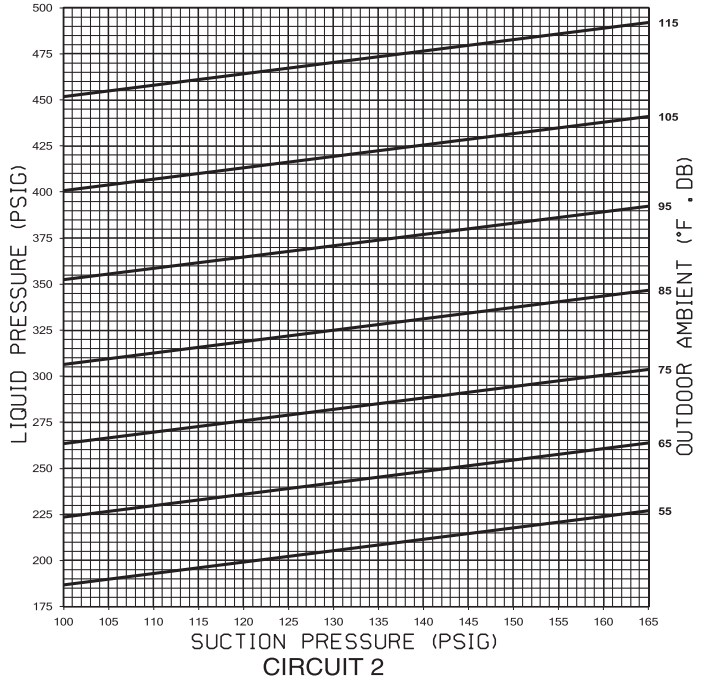
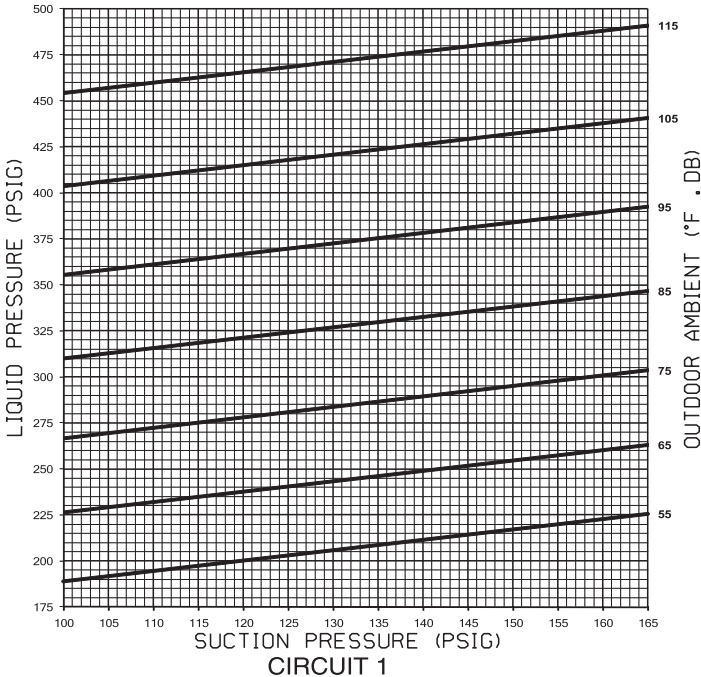
RLRL SYSTEM CHARGE CHARTS

FIGURE 17

SYSTEM CHARGE CHART - REFRIGERANT 410A 10 TON, CIRCUITS 1 & 2

- CAUTION:**
1. BOTH COMPRESSORS MUST BE OPERATING BEFORE CHECKING REFRIGERANT CHARGE.
 2. RETURN AIR TEMPERATURE MUST BE WITHIN COMFORT CONDITIONS BEFORE FINAL REFRIGERANT CHECK!

- INSTRUCTIONS:**
1. MEASURE PRESSURE AT COMPRESSOR SUCTION AND LIQUID.
 2. MEASURE OUTDOOR AMBIENT TO UNIT.
 3. PLACE (X) ON CHART WHERE SUCTION AND LIQUID INTERSECT.
 4. IF (X) IS BELOW OUTDOOR AMBIENT LINE, ADD CHARGE AND REPEAT STEPS 1-3.
 5. IF (X) IS ABOVE OUTDOOR AMBIENT LINE, RECOVER EXCESS CHARGE AND REPEAT STEPS 1-3.



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