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



c UL us LISTED

AHRI CERTIFIED™ www.ahridirectory.org
Unitary Large AC
AHRI Standard 340/360
Certification applies only when the complete system is listed with AHRI.

Accredited by the RvA
ABS Quality Evaluations, Inc. ★ Management System Certification ★
ANAB ACCREDITED
ISO 9001:2008
Certificate Number: 30164

[ ] Designates Metric Conversions

⚠ 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.

92-23577-118-01
SUPERSEDES 92-23577-118-00

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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

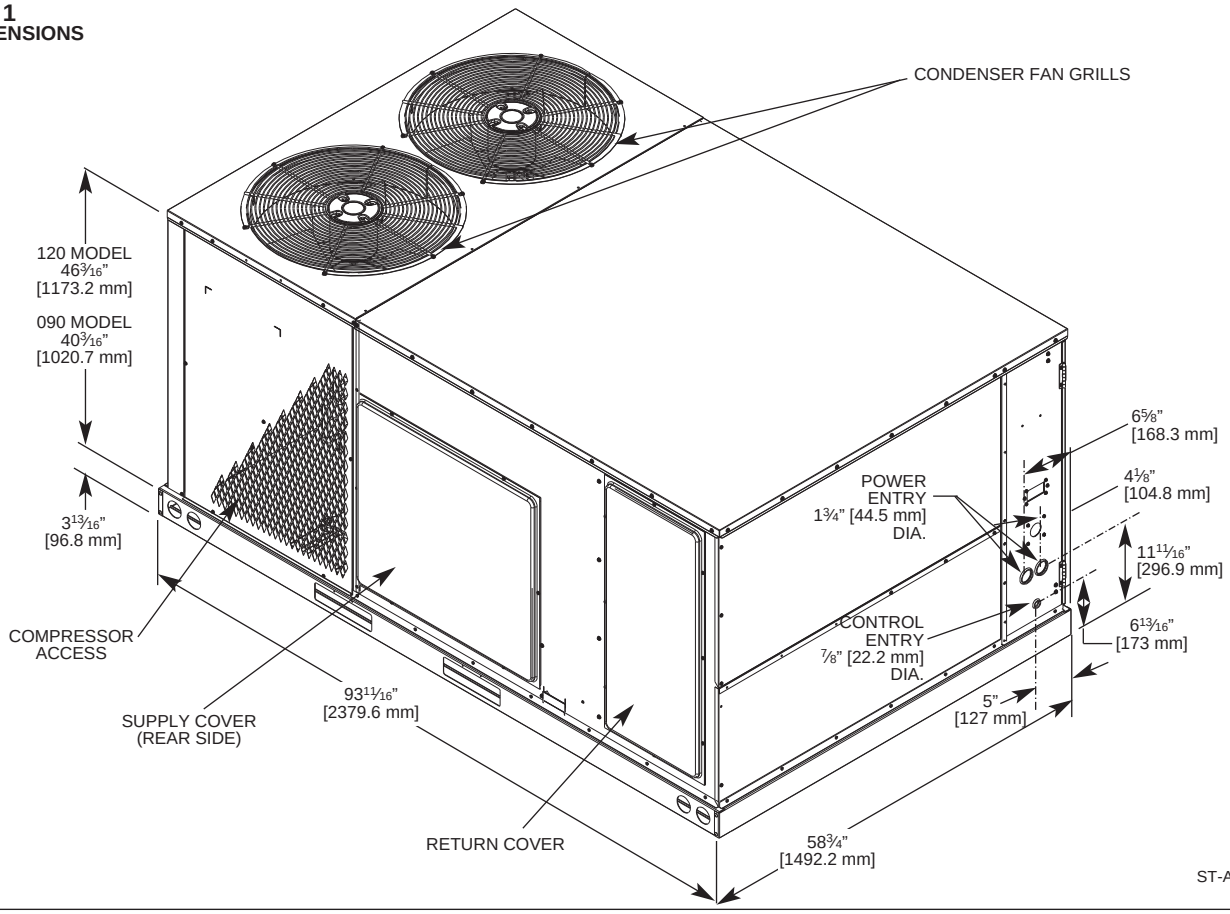
Manifold Hoses:
- -Service Pressure Rating of 800 PSIG

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

⚠ CAUTION

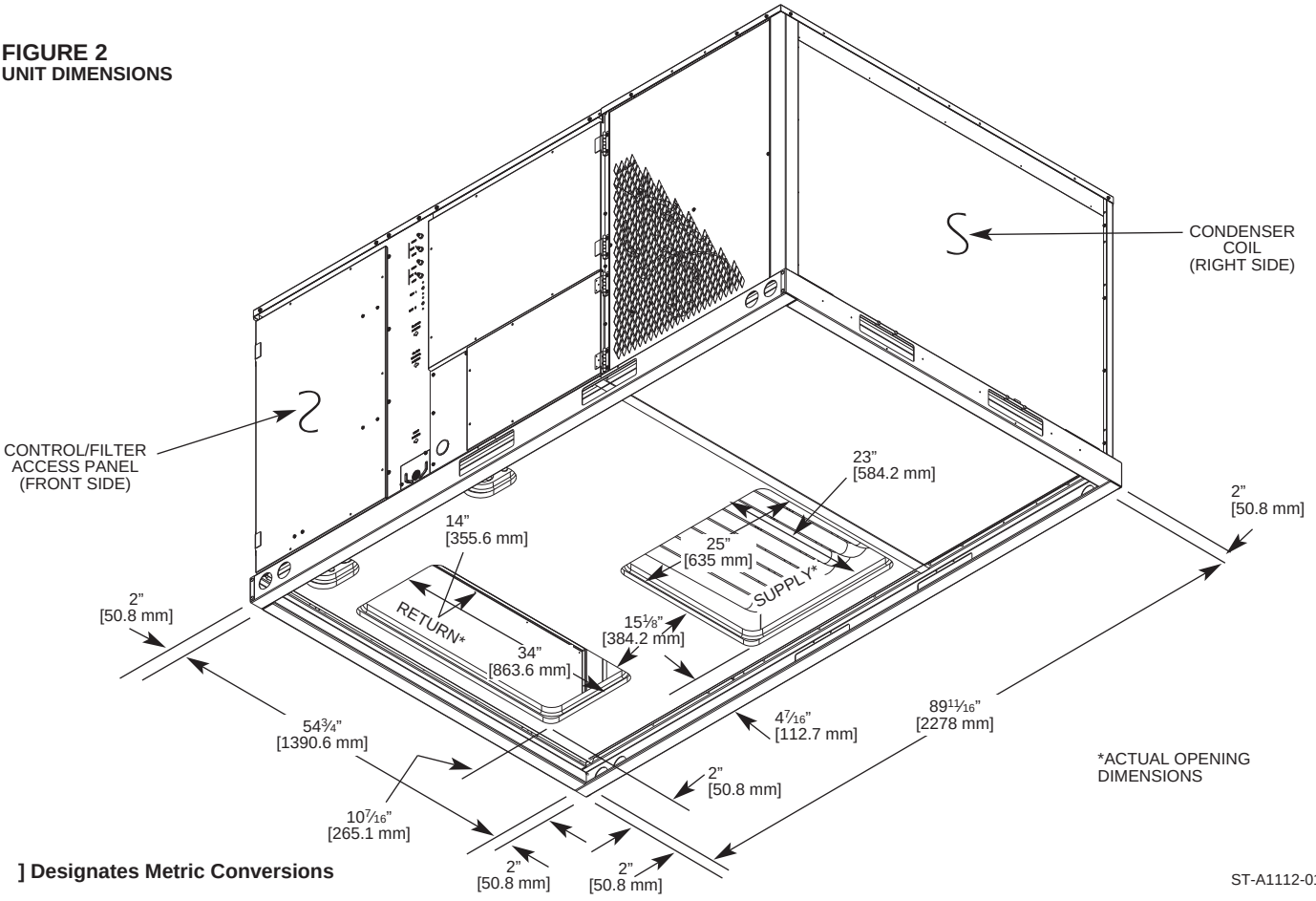
R-410A systems operate at higher pressures than R-22 systems. Do not use R-22 service equipment or components on R-410A equipment.

FIGURE 1
UNIT DIMENSIONS



ST-A1112-02-00

FIGURE 2
UNIT DIMENSIONS



[ ] Designates Metric Conversions

ST-A1112-01-00

FIGURE 3
UNIT DIMENSIONS

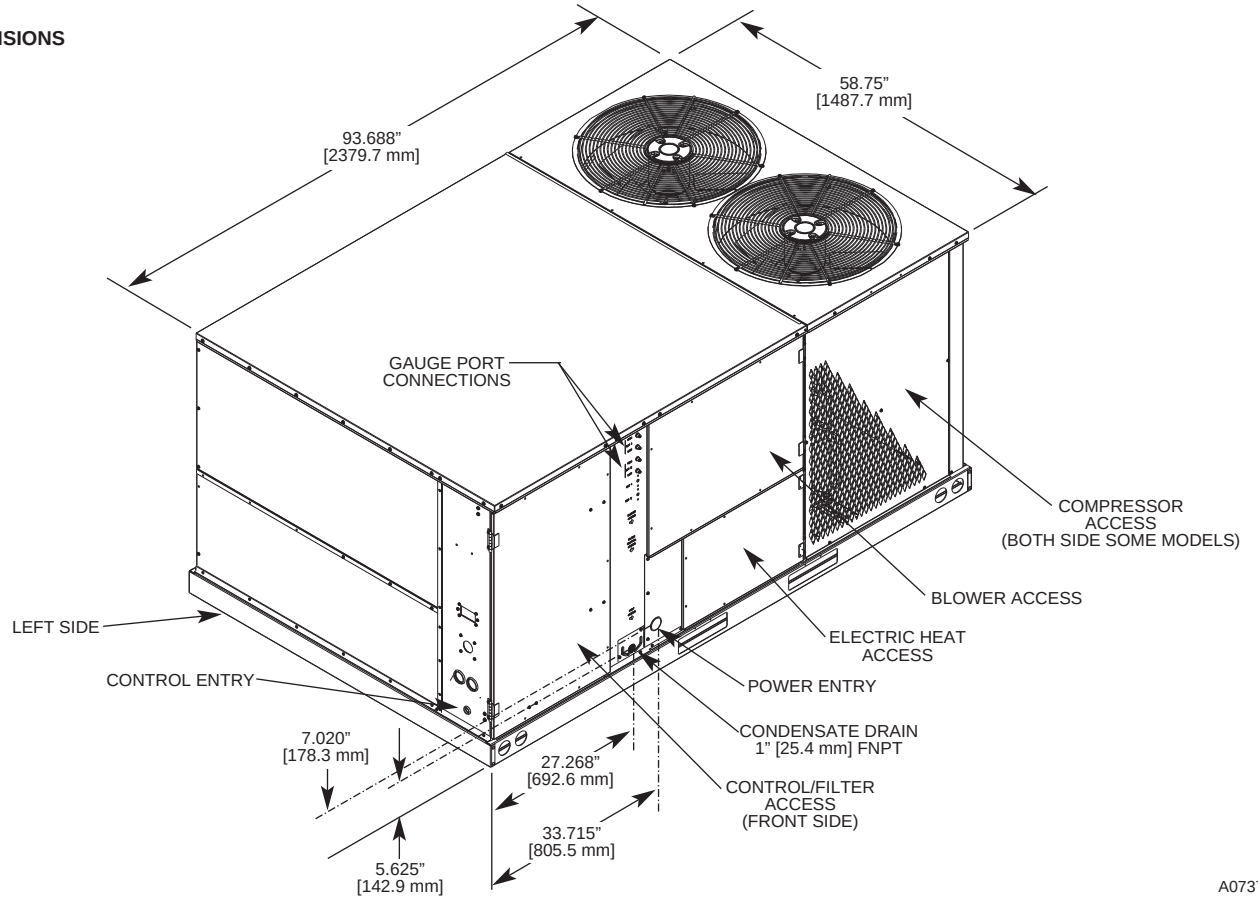


FIGURE 4
BOTTOM VIEW

SUPPLY RETURN DIMENSIONS FOR DOWNFLOW APPLICATIONS

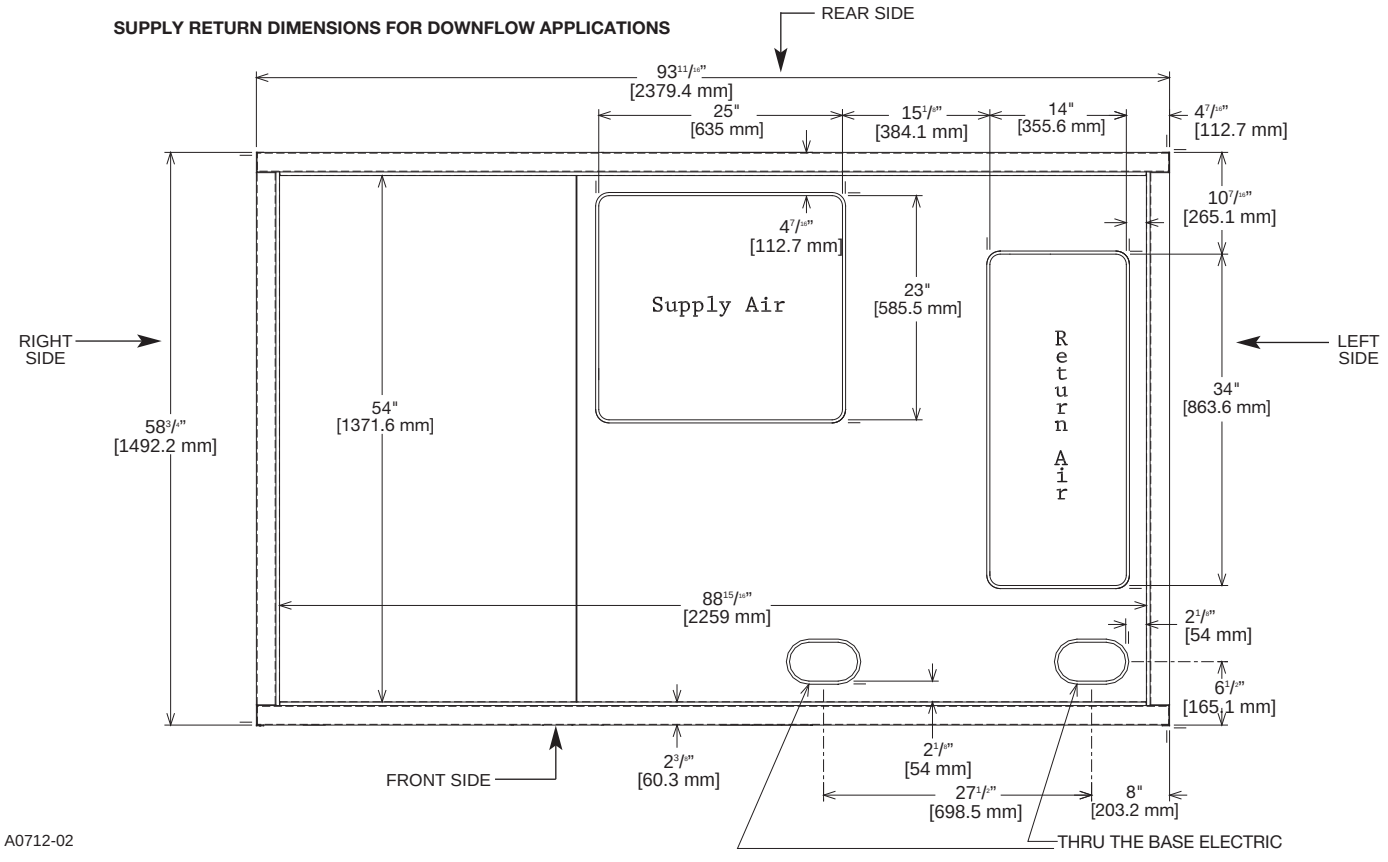
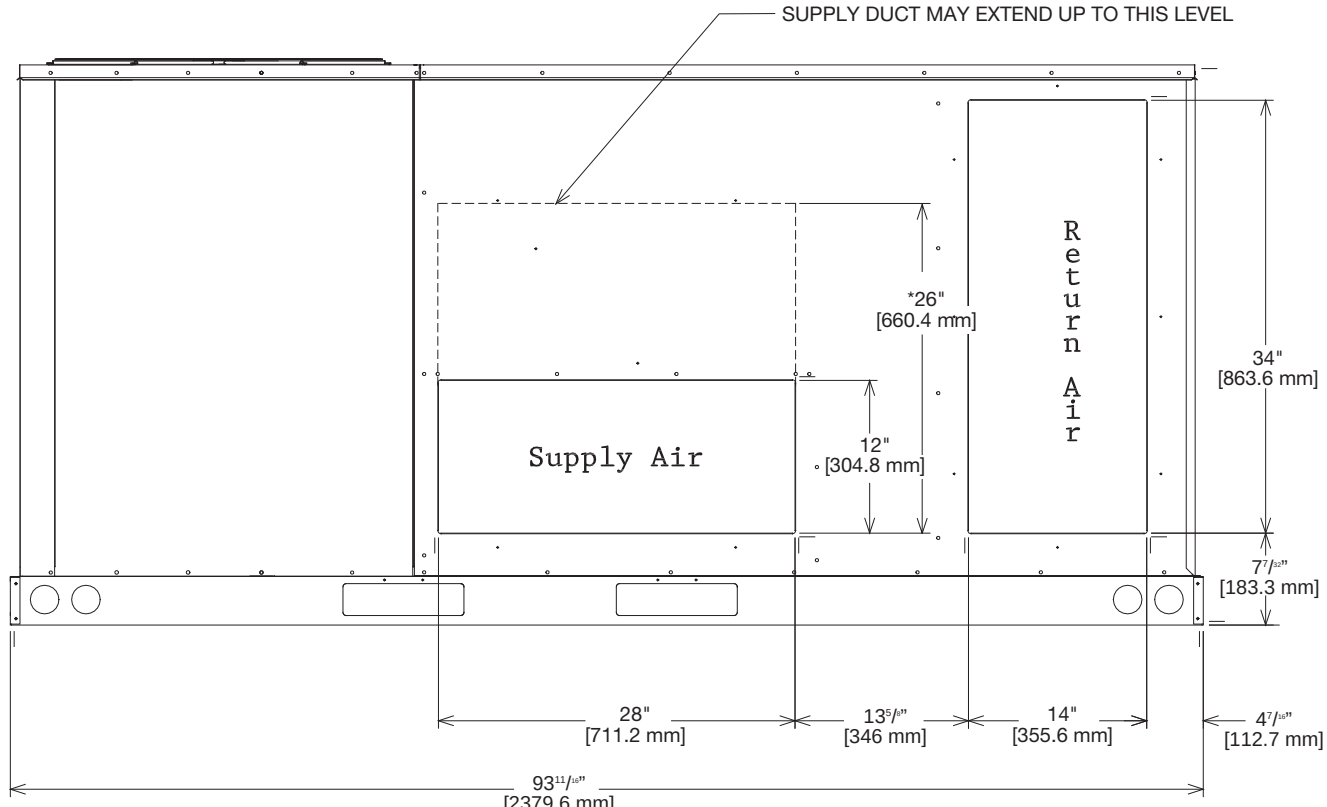


FIGURE 5
REAR VIEW

SUPPLY AND RETURN DIMENSIONS FOR HORIZONTAL APPLICATION



***RECOMMENDED DUCT DIMENSIONS ARE 26"**

A0714-03

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 Performance[1]				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
(N0.) 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 Performance[1]				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
(N0.) 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 Performance[1]				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 Performance[1]			
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	Louvered	Louvered	Louvered
Tube Type	MicroChannel	MicroChannel	MicroChannel
Tube Size in. [mm] OD	1 [25.4]	1 [25.4]	1 [25.4]
Face Area sq. ft. [sq. m]	27 [2.51]	27 [2.51]	27 [2.51]
Rows / FPI [FPcm]	2 / 23 [9]	2 / 23 [9]	2 / 23 [9]
Indoor Coil—Fin Type	Louvered	Louvered	Louvered
Tube Type	Rifled	Rifled	Rifled
Tube Size in. [mm]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Face Area sq. ft. [sq. m]	15.75 [1.46]	15.8 [1.47]	15.75 [1.46]
Rows / FPI [FPcm]	4 / 15 [6]	4 / 15 [6]	4 / 15 [6]
Refrigerant Control	TX Valves	TX Valves	TX Valves
Drain Connection No./Size in. [mm]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]
Outdoor Fan—Type	Propeller	Propeller	Propeller
No. Used/Diameter in. [mm]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1
CFM [L/s]	8000 [3775]	8000 [3775]	8000 [3775]
No. Motors/HP	2 at 1/3 HP	2 at 1/3 HP	2 at 1/3 HP
Motor RPM	1075	1075	1075
Indoor Fan—Type	FC Centrifugal	FC Centrifugal	FC Centrifugal
No. Used/Diameter in. [mm]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]
Drive Type	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)
No. Speeds (Standard / VFD)	Single / Multiple	Single	Single
No. Motors	1	1	1
Motor HP	3	2	3
Motor RPM	1725	1725	1725
Motor Frame Size	56	56	56
Filter—Type	Disposable	Disposable	Disposable
Furnished	Yes	Yes	Yes
(N0.) Size Recommended in. [mm x mm x mm]	(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]	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:

a. Structural strength of supporting members. (rooftop installation)

b. Clearances and provision for servicing.

c. Power supply and wiring.

d. Air duct connections.

e. Drain facilities and connections.

f. 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.)

1. Select a location where external water drainage cannot collect around the unit.
2. 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.*
3. The location of the unit should be such as to provide proper access for inspection and servicing.
4. Locate unit where operating sounds will not disturb owner or neighbors.
5. 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.

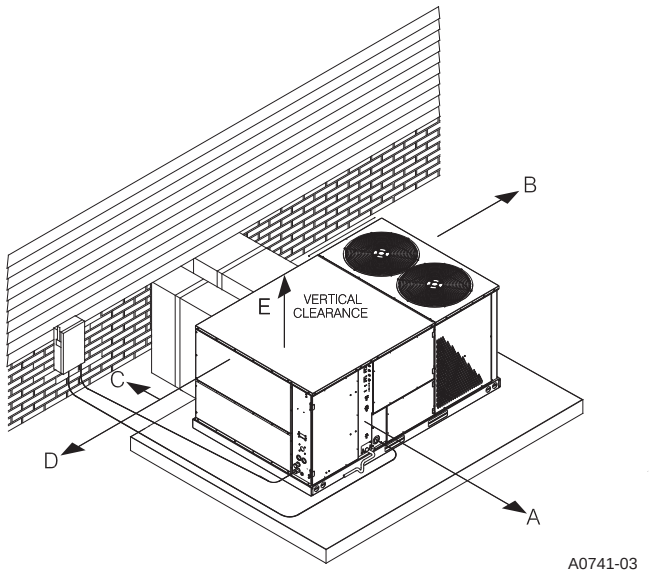
C. CLEARANCES

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

1. 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.
2. Provide 60" [1524 mm] minimum clearance between top of unit and maximum 3 foot [.91 m] overhang.
3. Unit is design certified for application on combustible flooring with 0" [0 mm] minimum clearance.
4. See Figure 6 for illustration of minimum installation-service clearances.

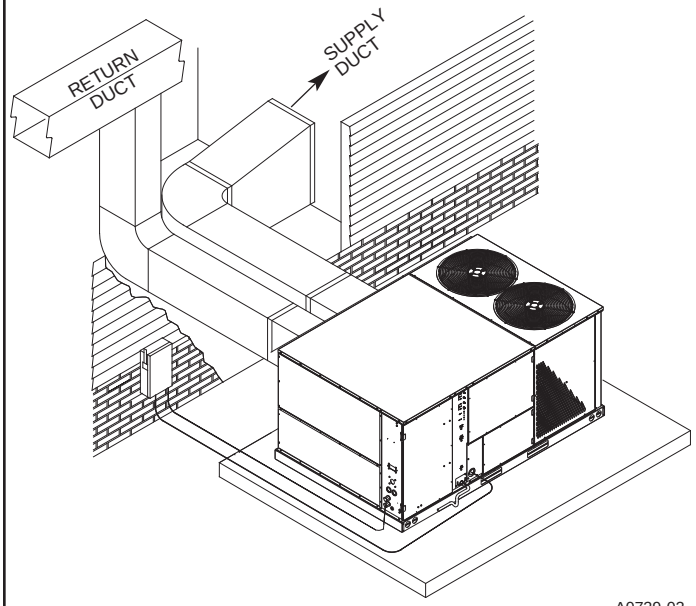
FIGURE 6
OUTSIDE SLAB INSTALLATION, BASEMENT OR CRAWL SPACE DISTRIBUTION SYSTEM

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	



A0741-03

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



A0739-03

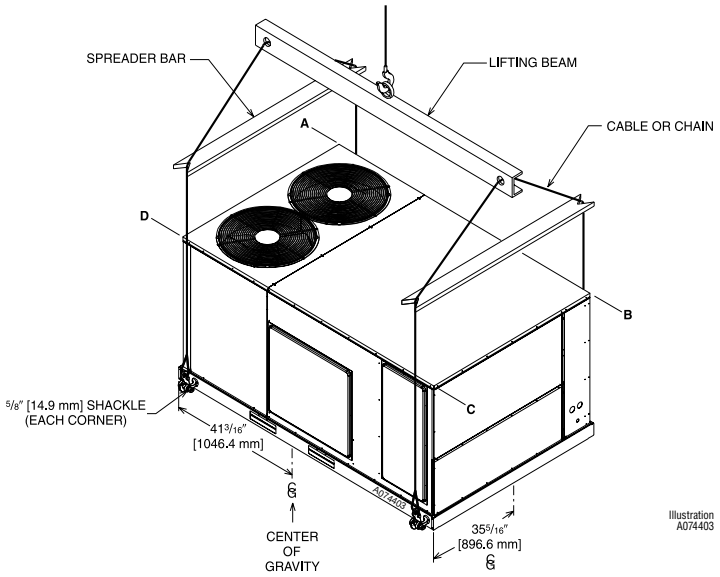
D. ROOFTOP INSTALLATION

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.*

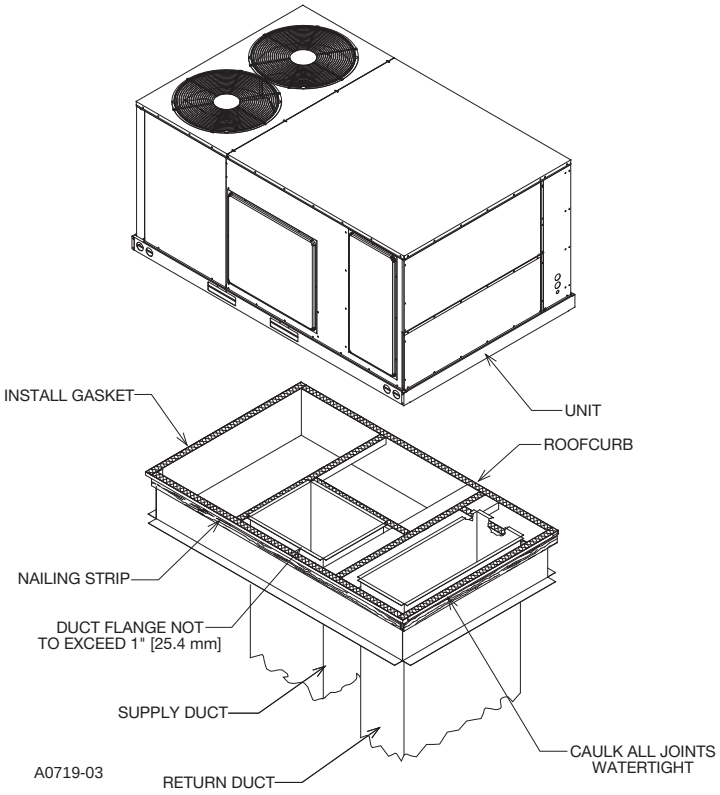
FIGURE 8
RIGGING FOR LIFTING

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

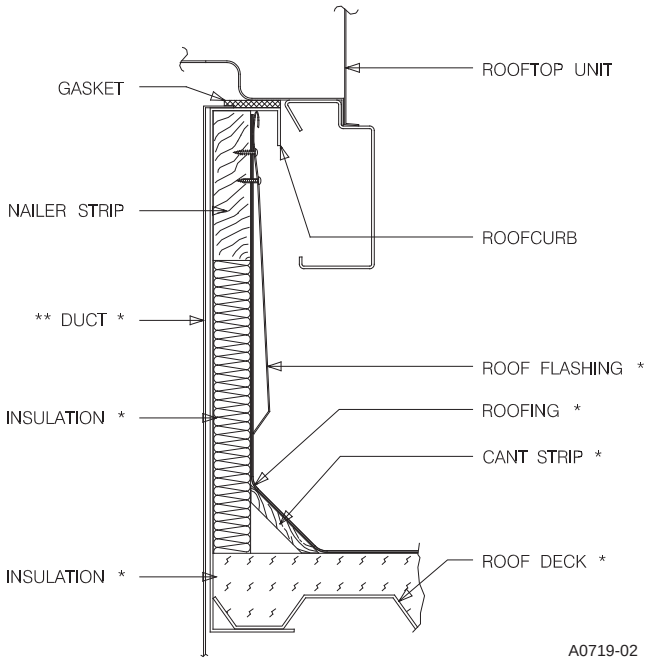


A0744-03

FIGURE 9
ROOFCURB INSTALLATION



A0719-03

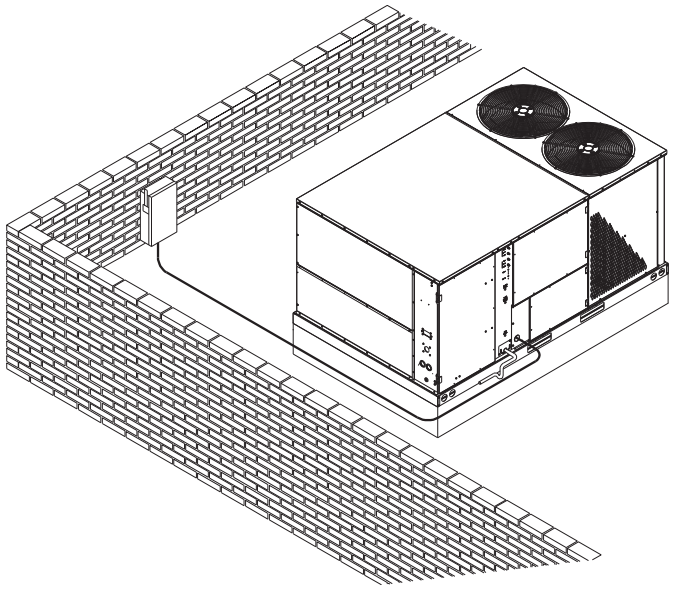


A0719-02

* BY CONTRACTOR

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

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

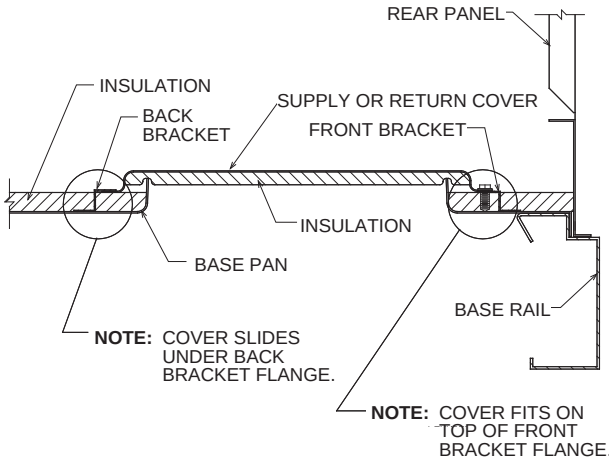
This unit is provided with 6 - 2" x 18" x 18" [51mm x 457 mm x 457 mm] disposable filters. When replacing filters, ensure they are inserted fully to the back to prevent bypass.

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



A0725-01

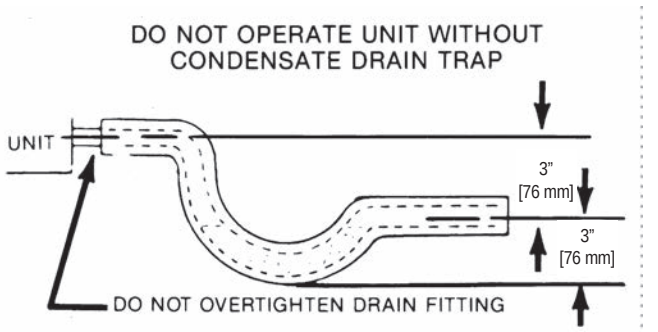
X. CONDENSATE DRAIN

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 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.

FIGURE 12
CONDENSATE DRAIN



XI. ELECTRICAL WIRING

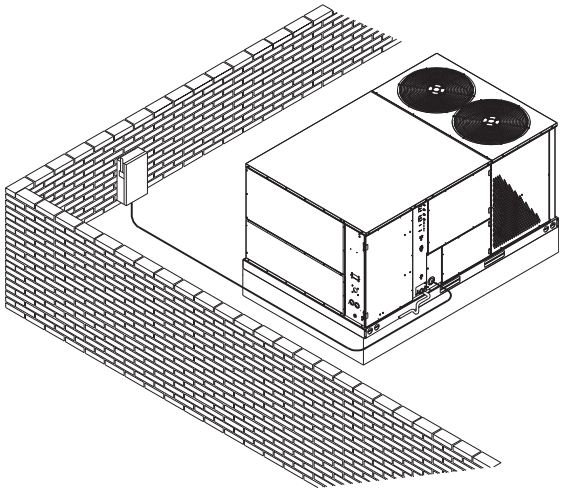
Field wiring must comply with the National Electrical Code (CEC in Canada) and local ordinances that may apply.

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



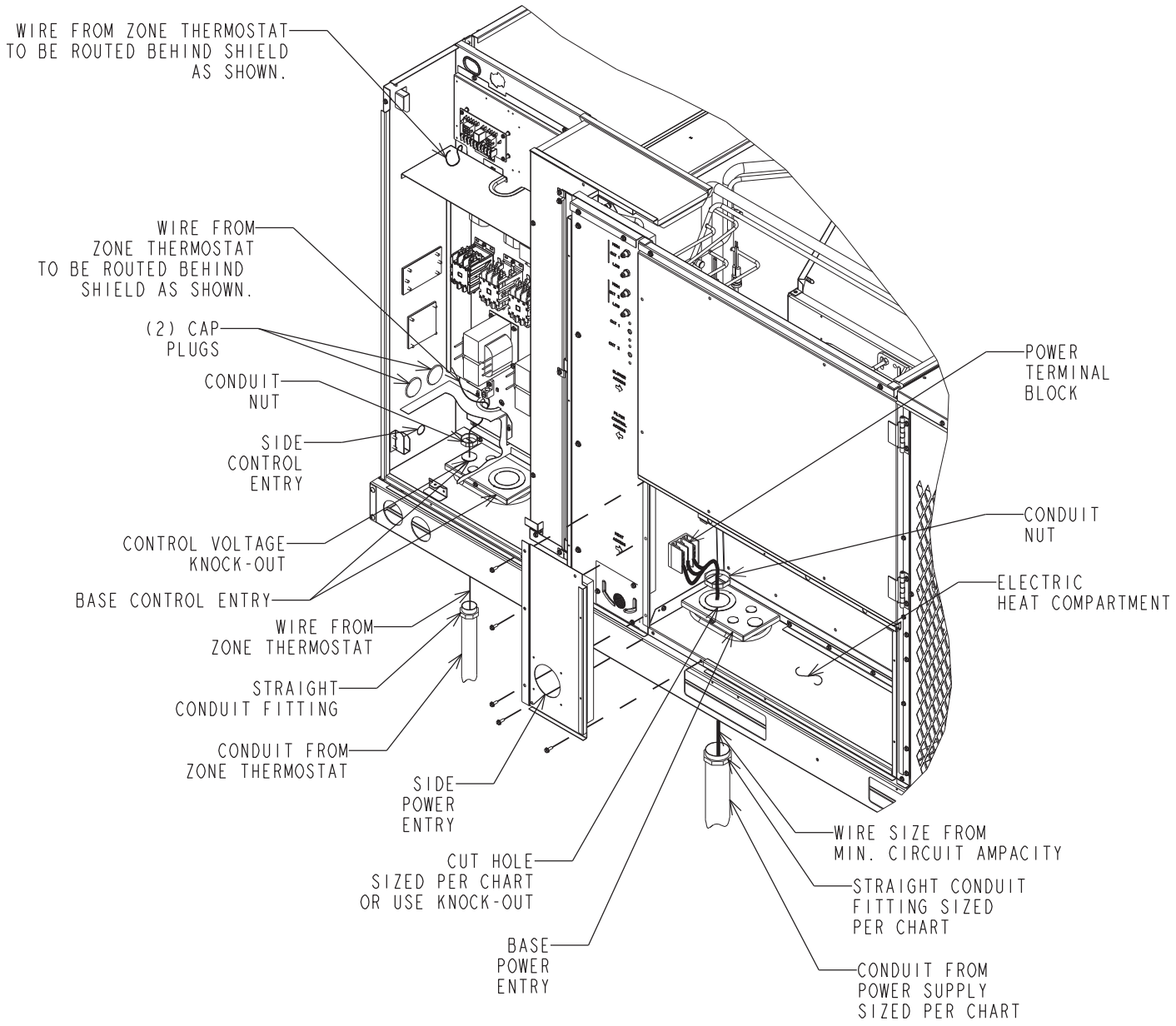
   UNITS WITH FACTORY INSTALLED ELECTRIC HEAT - Connect power wiring to the power terminal block located on the electric heater kit. Connect the ground wire to the adjacent ground lug. DO NOT connect aluminum wiring directly to the electric heater terminal block. Wiring to the unit contactors is factory-connected.

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.

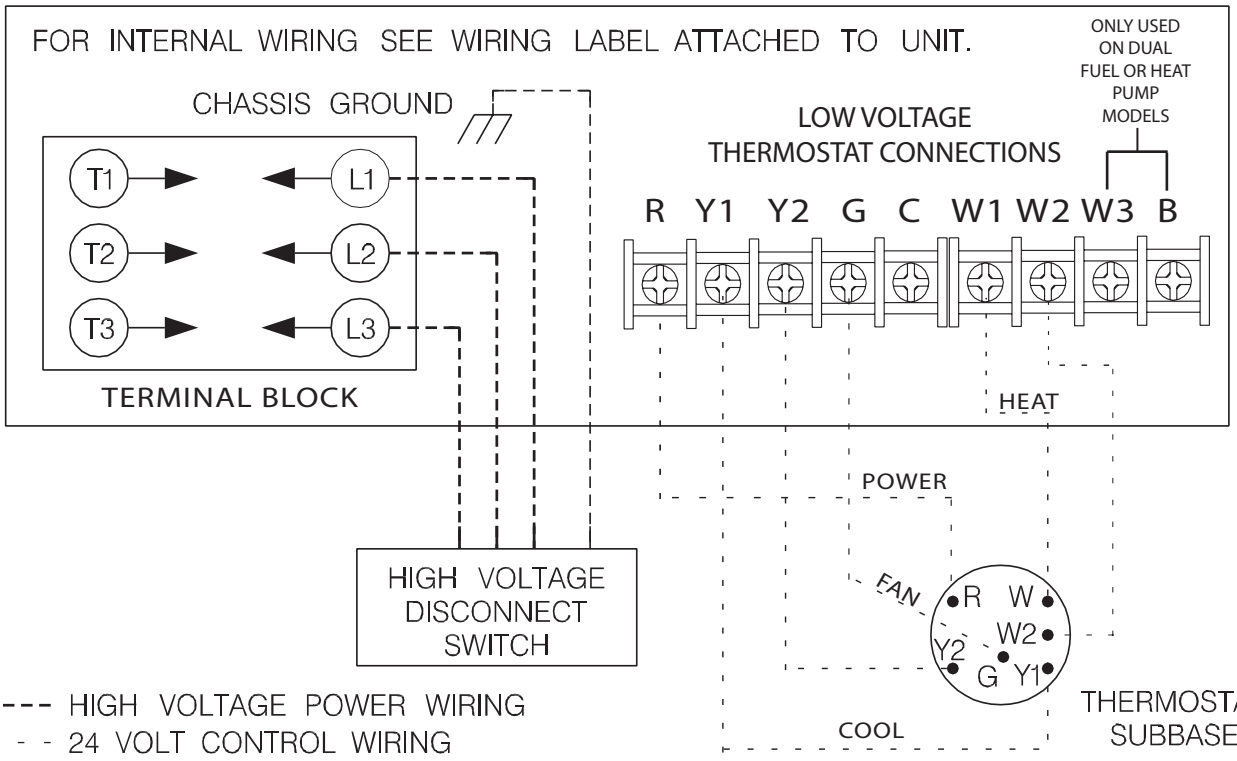
XII. INDOOR AIR FLOW DATA

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 replay (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]	Model RLRL-C090 Voltage 208/230, 460, 575 — 3 phase 60 Hz																																					
	External Static Pressure — Inches of Water [kPa]																																						
	0.1 [.02]		0.2 [.05]		0.3 [.07]		0.4 [.10]		0.5 [.12]		0.6 [.15]		0.7 [.17]		0.8 [.20]		0.9 [.22]		1.0 [.25]		1.1 [.27]		1.2 [.30]		1.3 [.32]		1.4 [.35]		1.5 [.37]		1.6 [.40]		1.7 [.42]		1.8 [.45]		1.9 [.47]		2.0 [.50]	
	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W
2400 [1133]	—	—	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
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	1490	957	1564	987	1641	1017	1721	1047	1804	1077	1890	1105	1979
2600 [1227]	—	—	569	872	600	910	630	952	661	997	691	1044	722	1095	752	1149	782	1205	812	1265	842	1328	871	1394	901	1462	931	1546	961	1622	990	1701	1019	1782	1049	1866	1078	1954	1106	2044
2700 [1274]	549	870	579	908	610	948	640	992	670	1038	699	1088	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
2800 [1321]	561	909	591	948	620	990	650	1036	679	1084	708	1135	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
2900 [1368]	573	951	602	992	631	1036	660	1083	689	1134	718	1187	746	1243	775	1302	803	1365	831	1430	860	1498	888	1569	915	1644	945	1732	973	1811	1000	1894	1028	1980	1055	2068	1082	2159	1109	2253
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
3100 [1463]	600	1047	628	1092	656	1140	684	1190	711	1244	739	1301	766	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
3200 [1510]	615	1101	642	1147	669	1197	697	1250	724	1305	751	1364	777	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	1115	2485
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	943	1930	968	2012	993	2098	1018	2186	1043	2277	1068	2371	1093	2468	1117	2567
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
3500 [1652]	662	1285	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
3600 [1699]	679	1355	704	1409	729	1466	754	1526	779	1589	804	1655	828	1724	853	1796	877	1871	901	1949	918	1998	942	2078	966	2162	989	2249	1012	2338	1035	2430	1058	2525	1081	2623	1104	2724	1127	2828

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. [W]	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 AHRI minimum External Static Pressure
4. Drive data shown is for horizontal airflow with dry coil. Add component resistance (below) to duct resistance to determine total External Static Pressure.

Airflow CFM [L/s]	AIRFLOW CORRECTION FACTORS *			COMPONENT AIRFLOW RESISTANCE				
				Wet Coil	Downflow	Downflow Economizer RA Damper Open	Horizontal Economizer RA Damper Open	Concentric Grill RXRN-FA65 or RXRN FA75 & Transition RXMC-CC04
	Total MBH	Sensible MBH	Power kW	Resistance — Inches of Water [kPa]				
2400 [1133]	0.97	0.87	0.98	0.09 [.02]	0.08 [.02]	0.10 [.02]	0.10 [.02]	0.13 [.03]
2500 [1180]	0.97	0.90	0.98	0.10 [.02]	0.08 [.02]	0.10 [.02]	0.10 [.02]	0.15 [.04]
2600 [1227]	0.98	0.92	0.99	0.10 [.02]	0.09 [.02]	0.11 [.03]	0.11 [.03]	0.17 [.04]
2700 [1274]	0.98	0.94	0.99	0.11 [.03]	0.09 [.02]	0.11 [.03]	0.11 [.03]	0.19 [.05]
2800 [1321]	0.99	0.97	0.99	0.11 [.03]	0.10 [.02]	0.12 [.03]	0.12 [.03]	0.21 [.05]
2900 [1368]	1.00	0.99	1.00	0.12 [.03]	0.10 [.02]	0.12 [.03]	0.12 [.03]	0.23 [.06]
3000 [1416]	1.00	1.02	1.00	0.12 [.03]	0.11 [.03]	0.13 [.03]	0.13 [.03]	0.25 [.06]
3100 [1463]	1.01	1.04	1.00	0.13 [.03]	0.11 [.03]	0.13 [.03]	0.13 [.03]	0.28 [.07]
3200 [1510]	1.02	1.06	1.01	0.13 [.03]	0.11 [.03]	0.14 [.03]	0.14 [.03]	0.31 [.08]
3300 [1557]	1.02	1.06	1.01	0.13 [.03]	0.11 [.03]	0.14 [.03]	0.14 [.03]	0.34 [.08]
3400 [1604]	1.02	1.06	1.01	0.13 [.03]	0.11 [.03]	0.15 [.04]	0.15 [.04]	0.37 [.09]
3500 [1652]	1.02	1.06	1.01	0.14 [.03]	0.11 [.03]	0.15 [.04]	0.15 [.04]	0.40 [.10]
3600 [1699]	1.02	1.06	1.01	0.14 [.03]	0.11 [.03]	0.15 [.04]	0.15 [.04]	0.44 [.11]

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

[ ] Designates Metric Conversions

AIR-FLOW PERFORMANCE – 10 TON RLRL-C120 MODELS

AIRFLOW PERFORMANCE — 10 TON [35.1kW] — 60 Hz — SIDEFLOW

Air Flow CFM [L/s]	Model RLRL-C120 Voltage 208/230, 460, 575 — 3 phase 60 Hz External Static Pressure — Inches of Water [kPa]																																					
	0.1 [.02]		0.2 [.05]		0.3 [.07]		0.4 [.10]		0.5 [.12]		0.6 [.15]		0.7 [.17]		0.8 [.20]		0.9 [.22]		1.0 [.25]		1.1 [.27]		1.2 [.30]		1.3 [.32]		1.4 [.35]		1.5 [.37]		1.6 [.40]		1.7 [.42]		1.8 [.45]		1.9 [.47]		2.0 [.50]	
	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W
3200 [1510]	—	—	—	—	691	1029	721	1101	752	1173	781	1246	810	1320	838	1394	866	1469	893	1544	920	1620	946	1697	971	1774	995	1852	1019	1930	1043	2009	1065	2089	1087	2169	1109	2250	1130	2332
3300 [1557]	—	—	672	1014	703	1087	734	1161	764	1236	793	1312	822	1388	850	1465	877	1542	904	1620	930	1698	955	1777	980	1857	1004	1937	1028	2018	1051	2100	1073	2182	1095	2264	1116	2348	1136	2431
3400 [1604]	—	—	686	1074	717	1150	747	1227	776	1304	805	1382	833	1461	861	1540	888	1620	914	1700	940	1781	965	1862	990	1945	1013	2027	1037	2111	1059	2195	1081	2279	1103	2364	1123	2450	1143	2536
3500 [1652]	668	1061	699	1139	730	1218	759	1297	789	1377	817	1457	845	1538	872	1620	899	1702	925	1785	950	1869	975	1953	999	2037	1023	2122	1045	2208	1068	2295	1089	2382	1110	2469	1131	2557	1150	2646
3600 [1699]	682	1129	713	1210	743	1291	772	1373	801	1455	829	1538	857	1621	884	1705	910	1790	936	1875	961	1961	985	2048	1009	2135	1032	2222	1054	2311	1076	2400	1098	2489	1118	2579	1138	2670	1158	2761
3700 [1746]	696	1202	727	1285	756	1369	785	1453	814	1538	842	1623	869	1709	895	1796	921	1883	946	1971	971	2059	995	2148	1019	2237	1041	2328	1063	2418	1085	2510	1106	2602	1126	2694	1146	2787	1165	2881
3800 [1793]	711	1281	741	1366	770	1452	799	1539	827	1626	854	1714	881	1802	907	1891	933	1981	957	2071	982	2162	1005	2253	1028	2345	1051	2438	1073	2531	1094	2625	1114	2719	1134	2814	1154	2910	1172	3006
3900 [1840]	725	1364	755	1451	784	1540	812	1629	840	1719	867	1809	893	1900	919	1991	944	2083	969	2176	993	2269	1016	2363	1038	2458	1061	2553	1082	2648	1103	2745	1123	2842	1142	2939	1161	3037	—	—
4000 [1888]	740	1452	769	1542	797	1633	825	1724	853	1817	879	1909	905	2003	931	2097	956	2191	980	2286	1003	2382	1026	2478	1049	2575	1070	2673	1091	2771	1112	2870	1132	2969	1151	3069	1169	3170	—	—
4100 [1935]	754	1545	783	1637	811	1731	839	1825	866	1919	892	2015	918	2110	943	2207	967	2304	991	2402	1014	2500	1037	2599	1059	2698	1080	2798	1101	2899	1121	3000	1140	3102	1159	3204	—	—	—	—
4200 [1982]	769	1643	797	1738	825	1834	852	1930	879	2027	905	2125	930	2223	955	2322	979	2422	1003	2522	1025	2622	1048	2724	1069	2826	1090	2928	1111	3031	1130	3135	1149	3239	1168	3344	—	—	—	—
4300 [2029]	784	1746	812	1843	839	1942	866	2041	892	2140	918	2240	943	2341	967	2442	991	2544	1014	2647	1037	2750	1059	2854	1080	2958	1100	3063	1120	3169	1140	3275	1158	3382	—	—	—	—	—	—
4400 [2076]	799	1854	826	1954	854	2055	880	2156	906	2258	931	2361	956	2464	980	2568	1003	2672	1026	2777	1048	2883	1070	2989	1090	3096	1111	3203	1130	3311	1149	3420	1168	3529	—	—	—	—	—	—
4500 [2123]	814	1967	841	2069	868	2173	894	2277	920	2381	944	2486	969	2592	992	2698	1015	2805	1038	2912	1059	3021	1081	3129	1101	3239	1121	3348	1140	3459	1159	3570	—	—	—	—	—	—	—	—
4600 [2171]	829	2085	856	2190	882	2296	908	2402	933	2509	958	2616	982	2725	1005	2833	1028	2943	1050	3053	1071	3163	1092	3274	1112	3386	1131	3499	1150	3612	1169	3725	—	—	—	—	—	—	—	—
4700 [2218]	844	2208	871	2315	897	2424	922	2532	947	2642	971	2752	995	2862	1018	2974	1040	3086	1062	3198	1083	3311	1103	3425	1123	3539	1142	3654	1161	3769	—	—	—	—	—	—	—	—	—	—
4800 [2265]	860	2336	886	2446	912	2557	937	2668	961	2780	985	2892	1008	3005	1031	3119	1053	3233	1074	3348	1095	3464	1115	3580	1134	3697	1153	3814	1171	3932	—	—	—	—	—	—	—	—	—	—

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

Drive Package	L						M					
Motor H.P. [W]	2 [1491.4]						3 [2237.1]					
Blower Sheave	BK90H						BK65H					
Motor Sheave	1VP-44						1VP-44					
Turns Open	**1**	2	3	4	5	6	1	2	3	4	5	**6**
RPM	**857**	822	785	747	706	667	1160	1117	1068	1014	960	**902**

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 AHRI minimum External Static Pressure
4. Drive data shown is for horizontal airflow with dry coil. Add component resistance (below) to duct resistance to determine total External Static Pressure.

Airflow CFM [L/s]	AIRFLOW CORRECTION FACTORS *			COMPONENT AIRFLOW RESISTANCE						
	Total MBH	Sensible MBH	Power kW	Wet Coil	Downflow	Downflow Economizer RA Damper Open	Horizontal Economizer RA Damper Open	Concentric Grill RXRN-FA65 or RXRN-FA75 & Transition RXMC-CD04	Concentric Grill RXRN-AA61 or RXRN-AA71 & Transition RXMC-CE05	Concentric Grill RXRN-AA66 or RXRN-AA76 & Transition RXMC-CF06
				Resistance — Inches of Water [kPa]						
3200 [1510]	0.96	0.87	0.98	0.06 [.01]	0.05 [.01]	0.09 [.02]	0.05 [.01]	0.31 [.08]	—	—
3300 [1557]	0.97	0.88	0.99	0.07 [.02]	0.05 [.01]	0.10 [.02]	0.05 [.01]	0.34 [.08]	—	—
3400 [1604]	0.97	0.90	0.99	0.07 [.02]	0.05 [.01]	0.10 [.02]	0.06 [.01]	0.37 [.09]	—	—
3500 [1652]	0.98	0.92	0.99	0.07 [.02]	0.06 [.01]	0.11 [.03]	0.06 [.01]	—	—	—
3600 [1699]	0.98	0.93	0.99	0.08 [.02]	0.06 [.01]	0.11 [.03]	0.06 [.01]	—	0.16 [.04]	—
3700 [1746]	0.99	0.95	1.00	0.08 [.02]	0.06 [.01]	0.12 [.03]	0.06 [.01]	—	0.18 [.04]	—
3800 [1793]	0.99	0.97	1.00	0.08 [.02]	0.07 [.02]	0.12 [.03]	0.07 [.02]	—	0.19 [.05]	—
3900 [1840]	1.00	0.99	1.00	0.08 [.02]	0.07 [.02]	0.13 [.03]	0.07 [.02]	—	0.20 [.05]	—
4000 [1888]	1.00	1.00	1.01	0.09 [.02]	0.07 [.02]	0.13 [.03]	0.07 [.02]	—	0.21 [.05]	—
4100 [1935]	1.00	1.02	1.01	0.09 [.02]	0.08 [.02]	0.14 [.03]	0.07 [.02]	—	0.23 [.06]	—
4200 [1982]	1.01	1.04	1.01	0.09 [.02]	0.08 [.02]	0.14 [.03]	0.08 [.02]	—	0.24 [.06]	—
4300 [2029]	1.01	1.06	1.01	0.10 [.02]	0.08 [.02]	0.15 [.04]	0.08 [.02]	—	0.25 [.06]	—
4400 [2076]	1.02	1.07	1.02	0.10 [.02]	0.08 [.02]	0.15 [.04]	0.08 [.02]	—	0.27 [.07]	—
4500 [2123]	1.02	1.09	1.02	0.10 [.02]	0.09 [.02]	0.16 [.04]	0.09 [.02]	—	—	—
4600 [2171]	1.03	1.11	1.02	0.10 [.02]	0.09 [.02]	0.16 [.04]	0.09 [.02]	—	—	0.30 [.07]
4700 [2218]	1.03	1.12	1.03	0.11 [.03]	0.09 [.02]	0.17 [.04]	0.09 [.02]	—	—	0.31 [.08]
4800 [2265]	1.04	1.14	1.03	0.11 [.03]	0.10 [.02]	0.17 [.04]	0.10 [.02]	—	—	0.32 [.08]

* 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
	CC50C	1	36.1/48	123.16/163.75	100.1/115.5	136/155	150/150	175/175	126/145	150/150	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
	CC50C	1	36.1/48	123.16/163.75	100.1/115.5	142/161	150/150	175/175	126/145	150/150	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
	CC50C	1	36.1/48	123.16/163.75	100.1/115.5	136/155	150/150	175/175	126/145	150/150	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
	CC50C	1	36.1/48	123.16/163.75	100.1/115.5	142/161	150/150	175/175	126/145	150/150	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
	CC50D	1	48	163.75	57.7	78	80/80	—	73	80	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
	CC50D	1	48	163.75	57.7	81	90/90	—	73	80	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
	CC50D	1	48	163.75	57.7	78	80/80	—	73	80	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
	CC50D	1	48	163.75	57.7	81	90/90	—	73	80	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
	CC50Y	1	48	163.75	46.2	63	70/70	—	58	60	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
	CC50Y	1	48	163.75	46.2	68	70/70	—	58	60	23/0	30/30	0/0
RLRL-C090YN	No Heat	—	—	—	—	21	2525	—	—	—	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

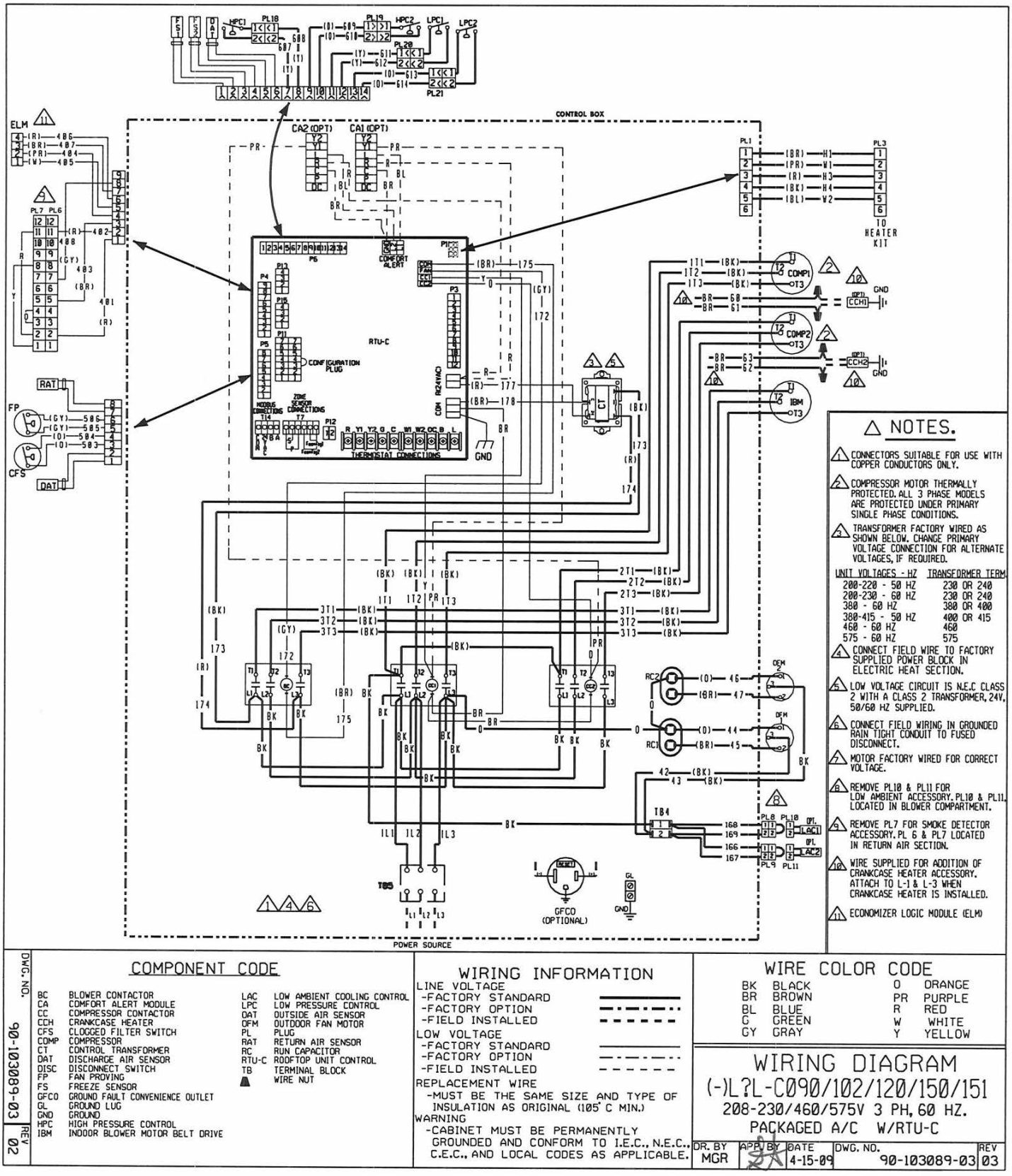
XXI. TROUBLE SHOOTING CHART

⚠ 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	• 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	• 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	• Run capacitor defective (single phase only) • Loose connection • Compressor stuck, grounded or open motor winding open internal overload. • Low voltage condition	• 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	• Improperly sized unit • Improper airflow • Incorrect refrigerant charge • Air, non-condensibles or moisture in system • Incorrect voltage	• 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	• Incorrect voltage • Defective overload protector • Refrigerant undercharge	• At compressor terminals, voltage must be ± 10% of nameplate marking when unit is operating. • Replace - check for correct voltage • Add refrigerant
Registers sweat	• Low evaporator airflow	• Increase speed of blower or reduce restriction - replace air filter
High head-low vapor pressures	• Restriction in liquid line, expansion device or filter drier • Flow check piston size too small • Incorrect capillary tubes • TXV does not open	• Remove or replace defective component • Change to correct size piston • Change coil assembly • Replace TXV
High head-high or normal vapor pressure - Cooling mode	• Dirty condenser coil • Refrigerant overcharge • Condenser fan not running • Air or non-condensibles in system	• Clean coil • Correct system charge • Repair or replace • Recover refrigerant, evacuate & recharge
High head-high or normal vapor pressure - Heating mode	• Low air flow - condenser coil • Refrigerant overcharge • Air or non-condensibles in system • Dirty condenser coil	• Check filters - correct to speed • Correct system charge • Recover refrigerant, evacuate & recharge • Check filter - clean coil
Low head-high vapor pressures	• Defective Compressor valves	• Replace compressor
Low vapor - cool compressor - iced evaporator coil	• Low evaporator airflow • Operating below 65°F outdoors • Moisture in system • TXV limiting refrigerant flow	• 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	• Excessive load • Defective compressor	• Recheck load calculation • Replace
Fluctuating head & vapor pressures	• TXV hunting • Air or non-condensibles in system	• 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	• Air or non-condensibles in system	• Recover refrigerant, evacuate & recharge

XXII. WIRING DIAGRAMS



NOTES.

1. CONNECTORS SUITABLE FOR USE WITH COPPER CONDUCTORS ONLY.
2. COMPRESSOR MOTOR THERMALLY PROTECTED. ALL 3 PHASE MODELS ARE PROTECTED UNDER PRIMARY SINGLE PHASE CONDITIONS.
3. TRANSFORMER FACTORY WIRED 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

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

COMPONENT CODE

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

WIRING INFORMATION

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

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

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

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

WIRE COLOR CODE

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

WIRING DIAGRAM

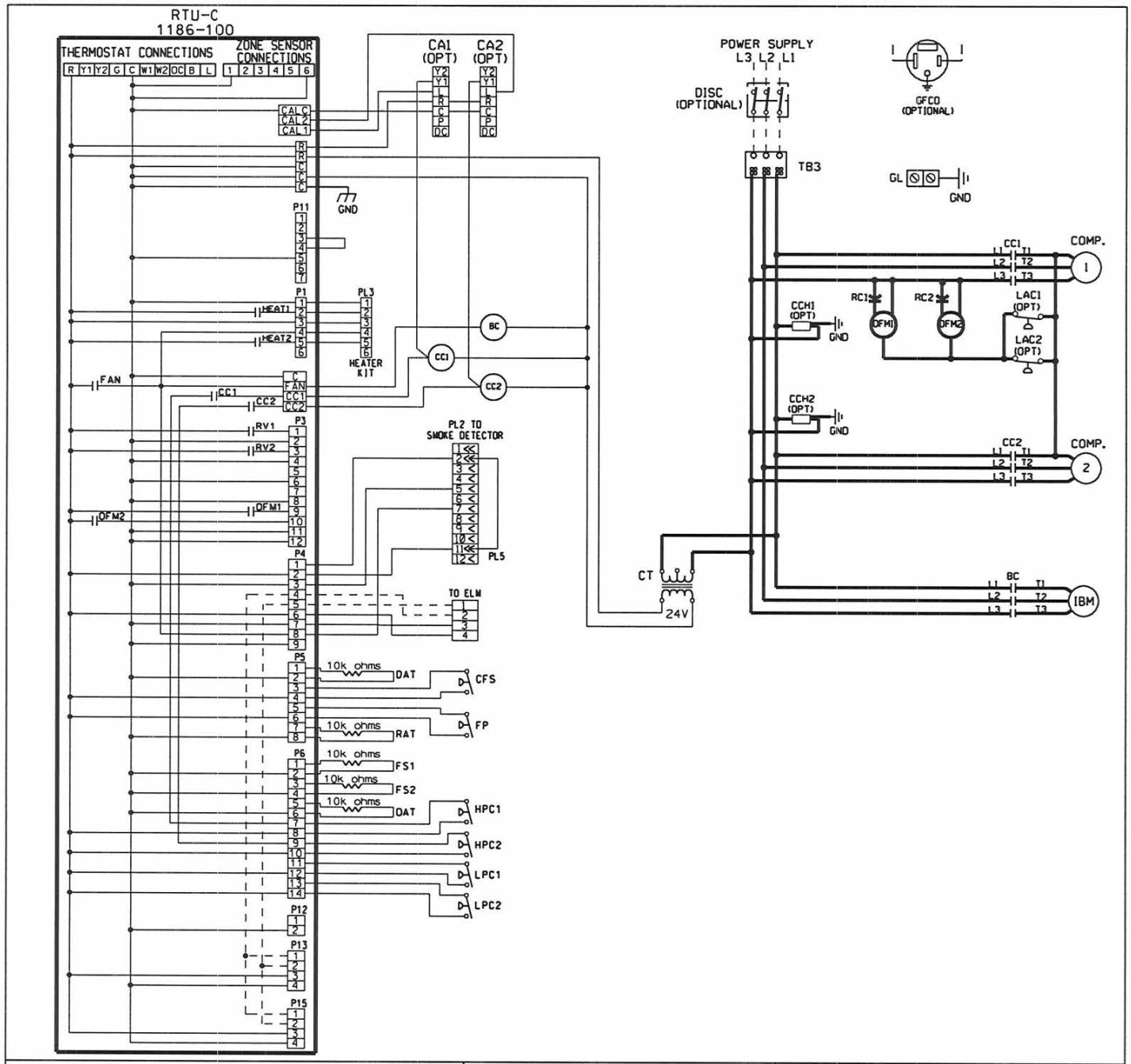
(-)L?L-C090/102/120/150/151

208-230/460/575V 3 PH, 60 HZ.

PACKAGED A/C W/RTU-C

DR. BY	APP'D BY	DATE	DWG. NO.	REV
MGR		4-15-09	90-103089-03	03

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
GY	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	APP'D BY	DATE	DWG. NO.	REV
MGR		7-16-09	90-103246-03	01

XXIII. CHARGING CHARTS

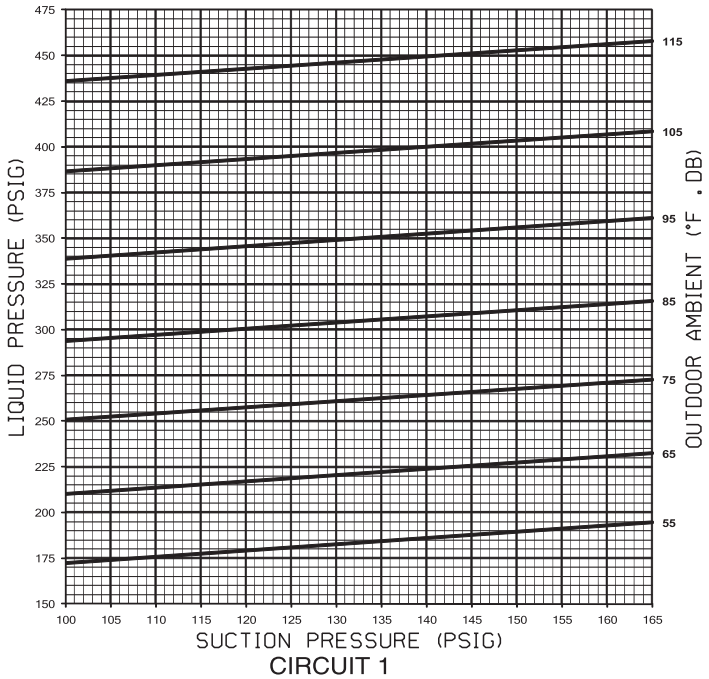
RLRL SYSTEM CHARGE CHARTS

FIGURE 16

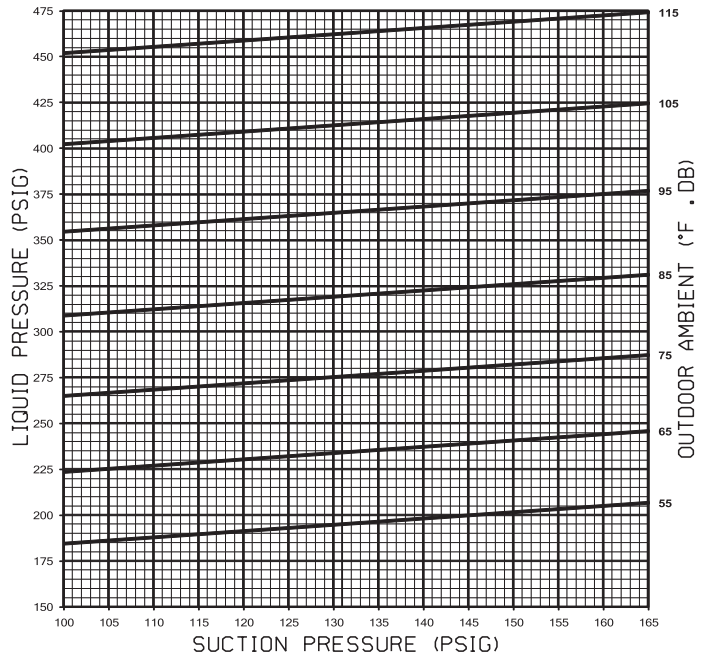
SYSTEM CHARGE CHART - REFRIGERANT 410A
7-1/2 TON, CIRCUITS 1 & 2

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.



CIRCUIT 1



CIRCUIT 2

92-102259-30-00

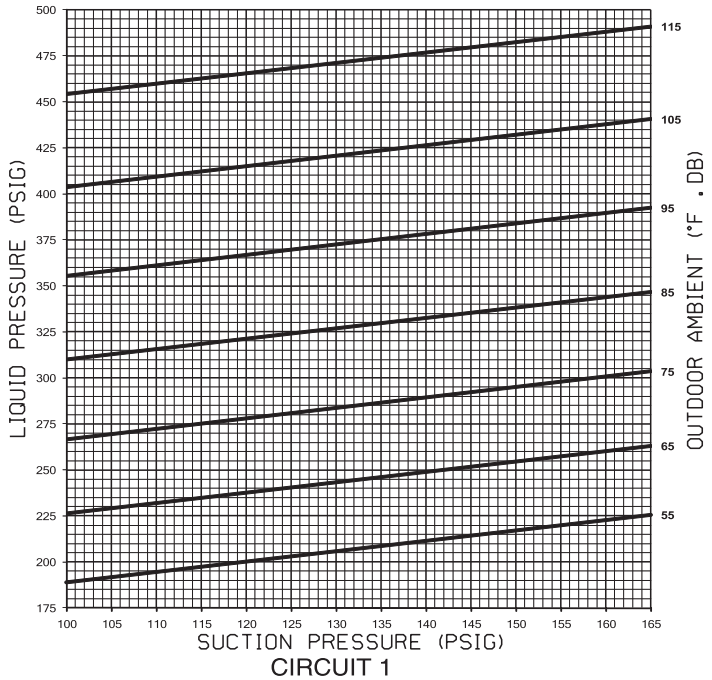
RLRL SYSTEM CHARGE CHARTS

FIGURE 17

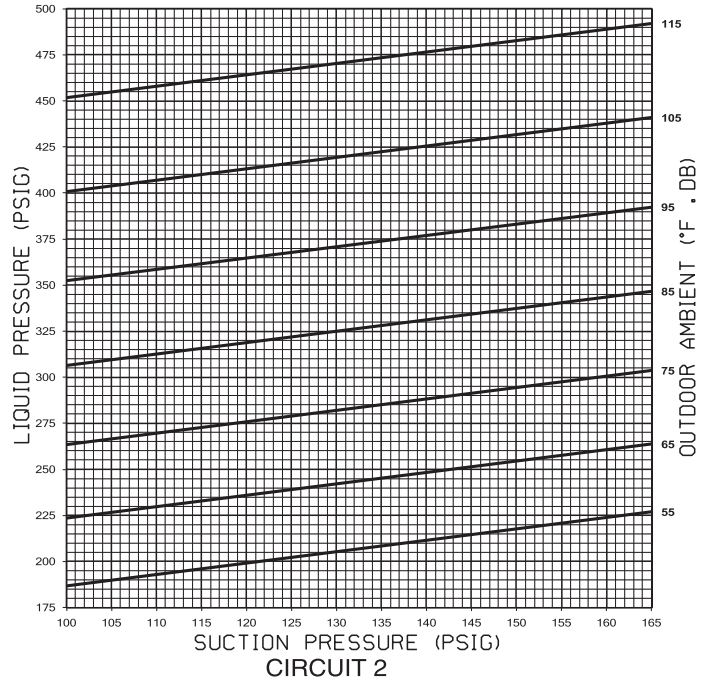
SYSTEM CHARGE CHART - REFRIGERANT 410A
10 TON, CIRCUITS 1 & 2

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.



CIRCUIT 1



CIRCUIT 2

92-102259-31-00