INSTALLATION INSTRUCTIONS

PACKAGE AIR CONDITIONERS FEATURING NEW INDUSTRY STANDARD R410A REFRIGERANT *R-410A*
RLRL-C SERIES 7.5 & 10 TON [26.4 & 35.2 kW]
60 HZ MODELS

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.

92-23577-118-00

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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

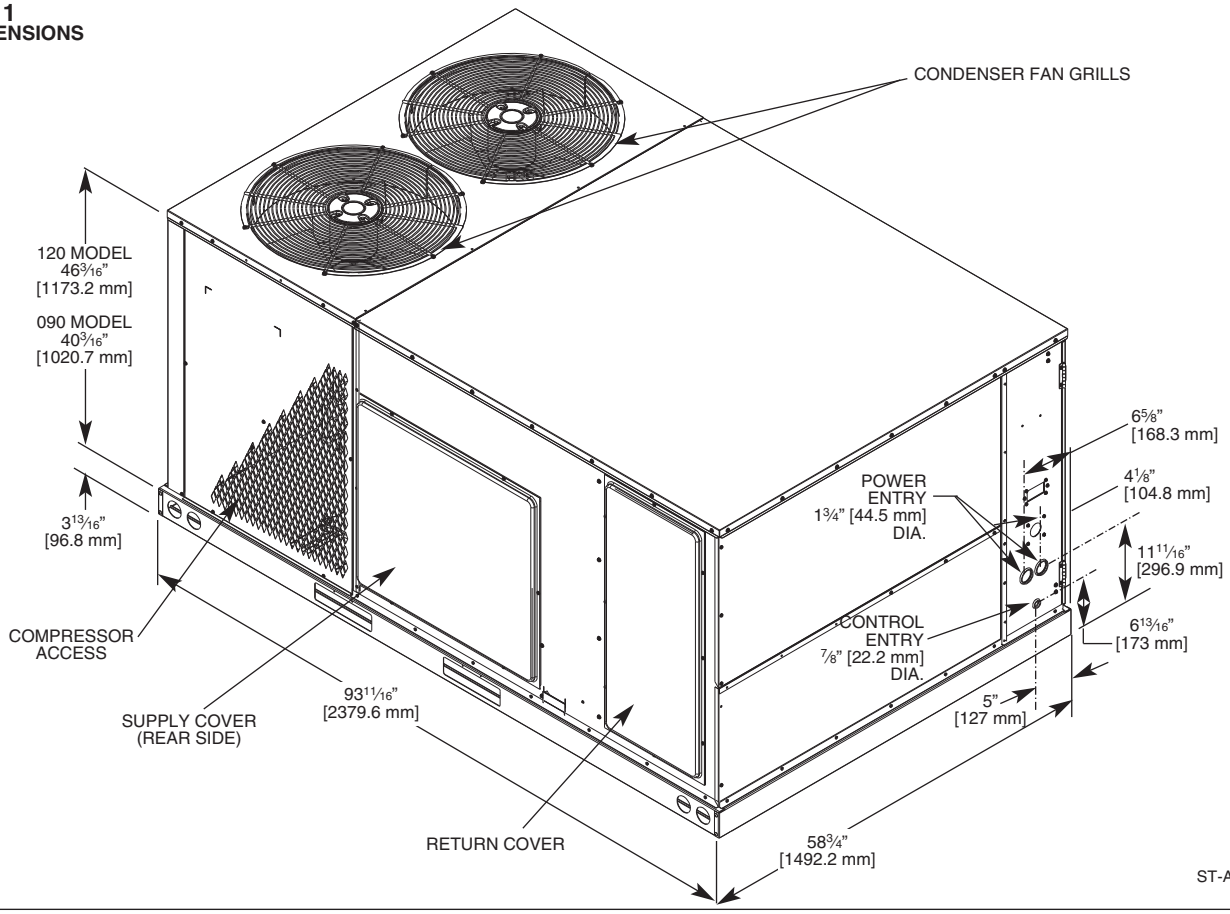

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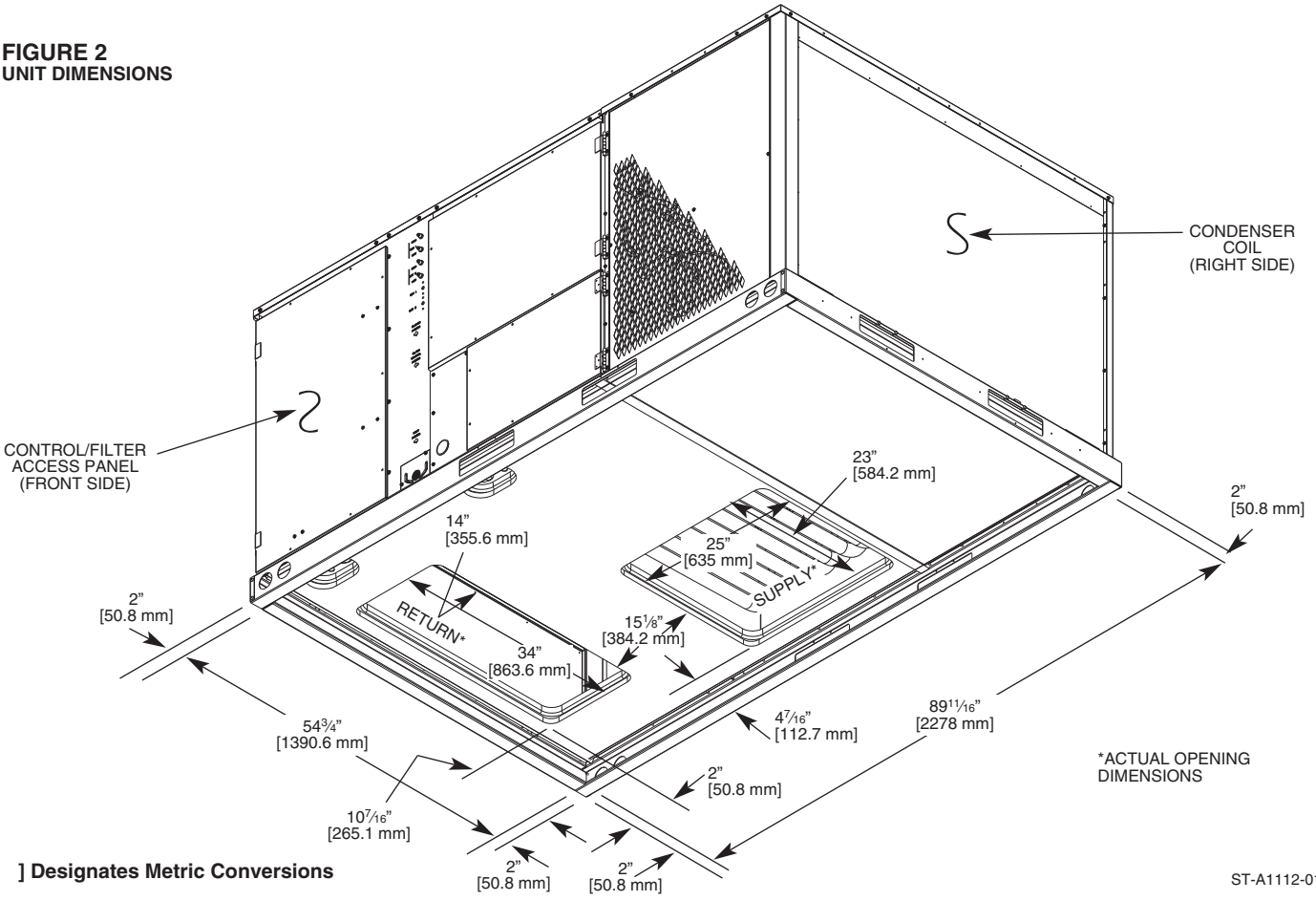
FIGURE 2
UNIT DIMENSIONS



[ ] Designates Metric Conversions

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FIGURE 3
UNIT DIMENSIONS

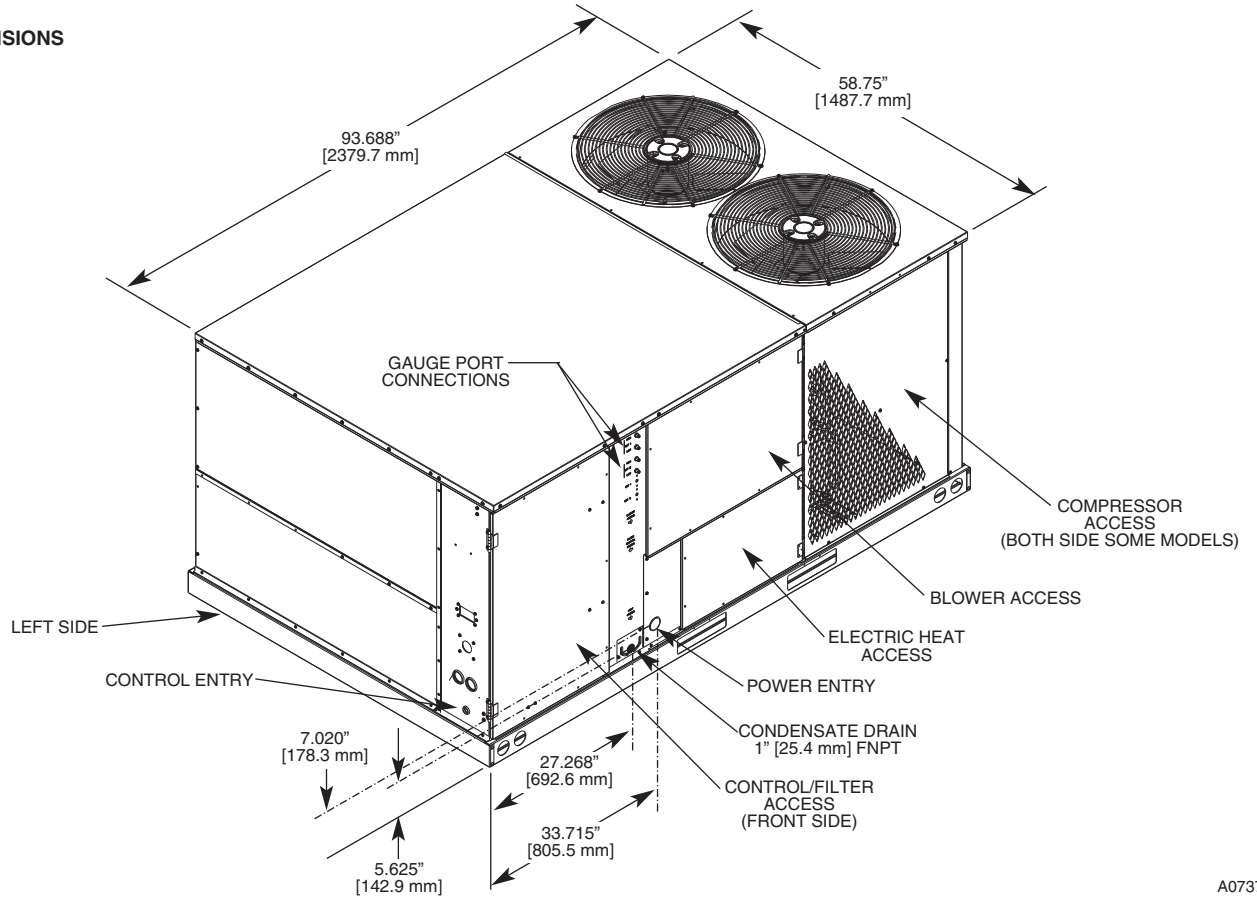


FIGURE 4
BOTTOM VIEW

SUPPLY RETURN DIMENSIONS FOR DOWNFLOW APPLICATIONS

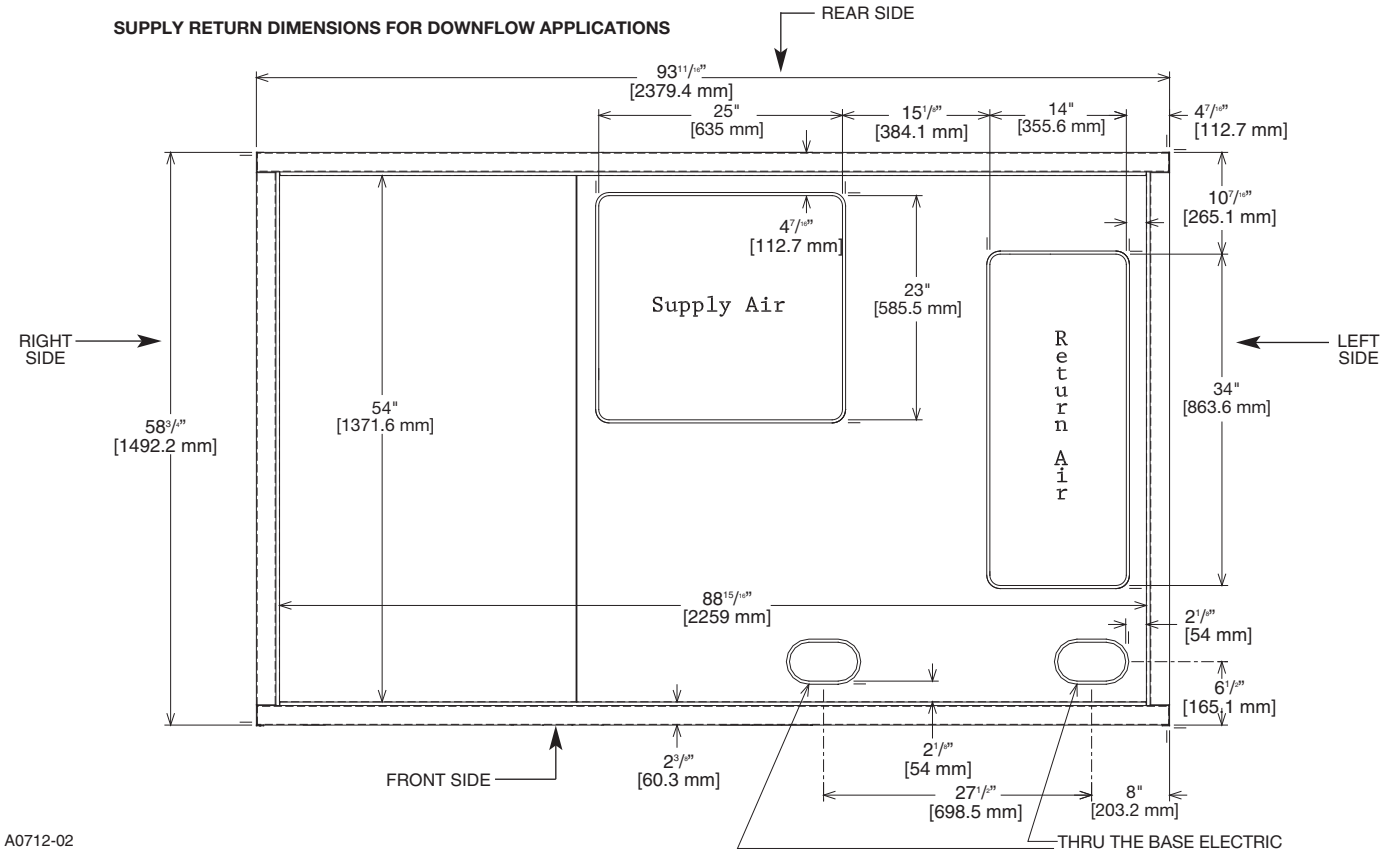
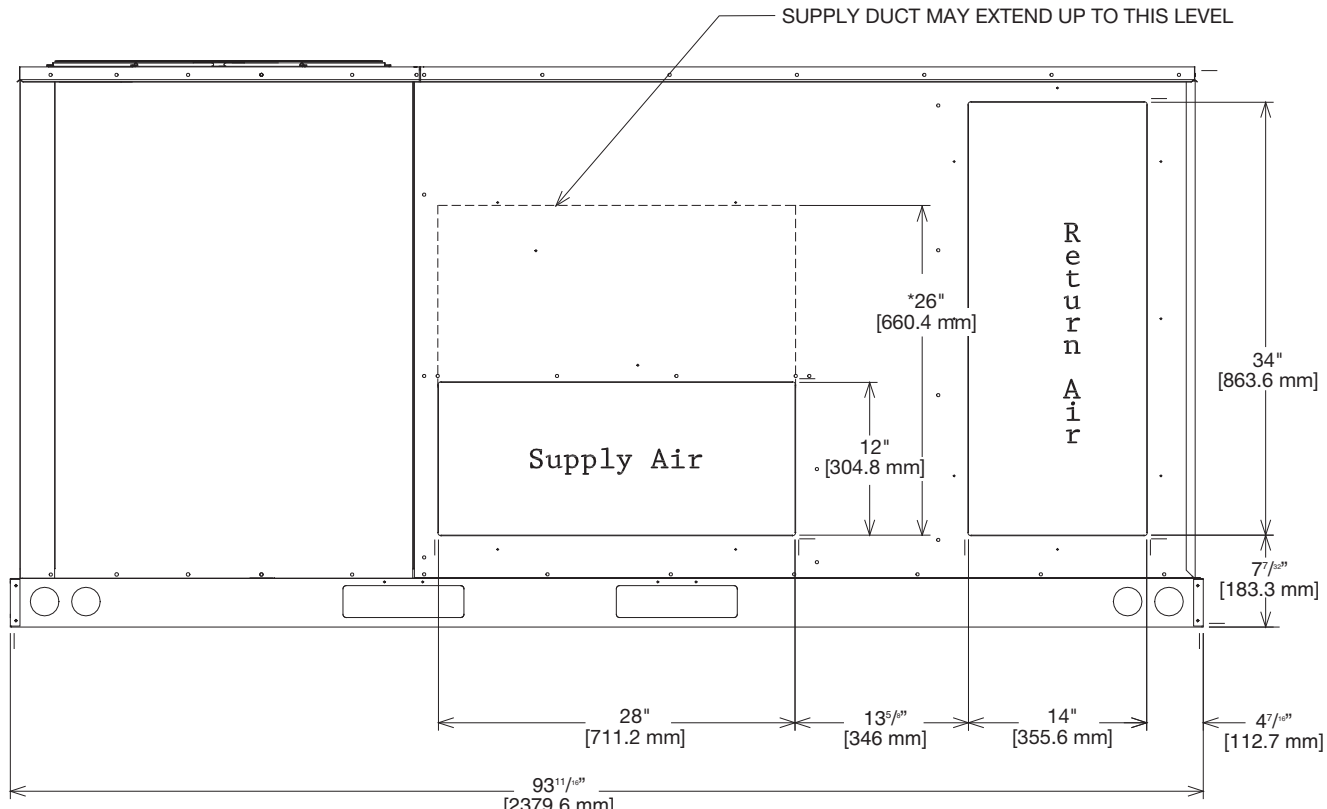


FIGURE 5
REAR VIEW

SUPPLY AND RETURN DIMENSIONS FOR HORIZONTAL APPLICATION



***RECOMMENDED DUCT DIMENSIONS ARE 26"**

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GENERAL DATA - RLRL

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

Model RLRL-Series	C090CL	C090CM	C090CN	C090DL
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	14	14	14
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/No. Speeds	Belt/Variable	Belt/Variable	Belt/Variable	Belt/Variable
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]	1056 [479]	1056 [479]	1064 [483]	1056 [479]
Ship Weights lbs. [kg]	1093 [496]	1093 [496]	1101 [499]	1093 [496]

GENERAL DATA - RLRL

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

Model RLRL-Series	C090DM	C090DN	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	14	14	14
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/No. Speeds	Belt/Variable	Belt/Variable	Belt/Variable	Belt/Variable
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]	1056 [479]	1064 [483]	1056 [479]	1056 [479]
Ship Weights lbs. [kg]	1093 [496]	1101 [499]	1093 [496]	1093 [496]

GENERAL DATA - RLRL

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

Model RLRL-Series	C090YN	C120CL	C120CM	C120DL
Cooling Performance[1]				CONTINUED →
Gross Cooling Capacity Btu [kW]	95,000 [27.83]	124,000 [36.33]	124,000 [36.33]	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	13.8	13.8
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]	15.75 [1.46]	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/No. Speeds	Belt/Variable	Belt/Variable	Belt/Variable	Belt/Variable
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
(No.) Size Recommended in. [mm x mm x mm]	(6)2x18x18 [51x457x457]	(3)2x18x18 [51x457x457] (3)2x18x24 [51x457x610]	(6)2x18x18 [51x457x457] (3)2x18x24 [51x457x610]	(6)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]	1064 [483]	1205 [547]	1213 [550]	1205 [547]
Ship Weights lbs. [kg]	1101 [499]	1242 [563]	1250 [567]	1242 [563]

GENERAL DATA - RLRL

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

Model RLRL-Series	C120DM	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	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]	15.75 [1.46]	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/No. Speeds	Belt/Variable	Belt/Variable	Belt/Variable
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
(No.) Size Recommended in. [mm x mm x mm]	(3)2x18x18 [51x457x457] (3)2x18x24 [51x457x610]	(6)2x18x18 [51x457x457] (3)2x18x24 [51x457x610]	(6)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]	1213 [550]	1205 [547]	1213 [550]
Ship Weights lbs. [kg]	1250 [567]	1242 [563]	1250 [567]

ELECTRICAL DATA - RLRL-B

ELECTRICAL DATA - RLRL SERIES										
		C090CL	C090CM	C090CN	C090DL	C090DM	C090DN	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	C120CM	C120DL	C120DM	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

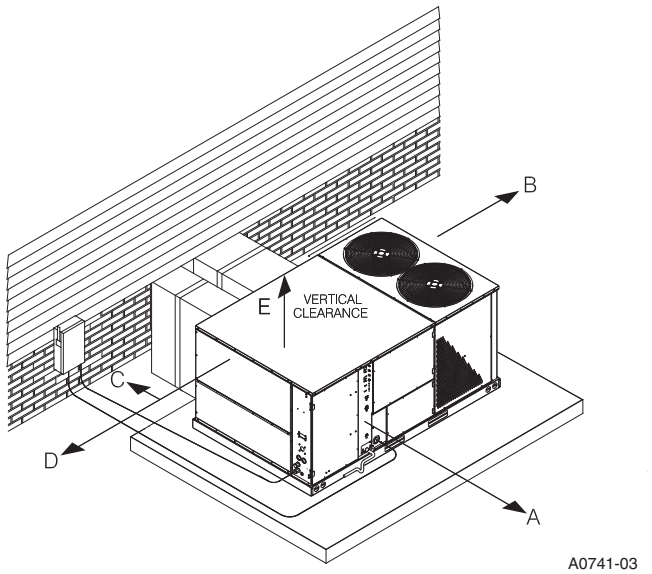

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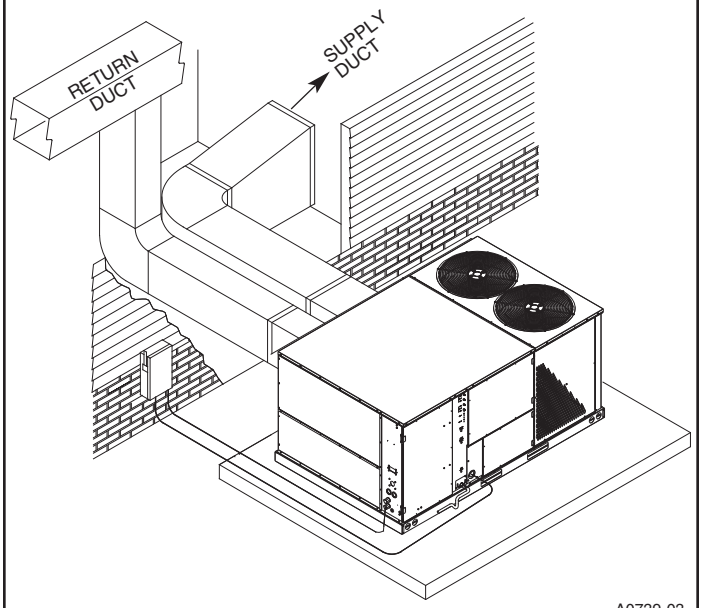
FIGURE 7
OUTSIDE SLAB INSTALLATION, CLOSET DISTRIBUTION SYSTEM. SLAB FLOOR CONSTRUCTION



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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%

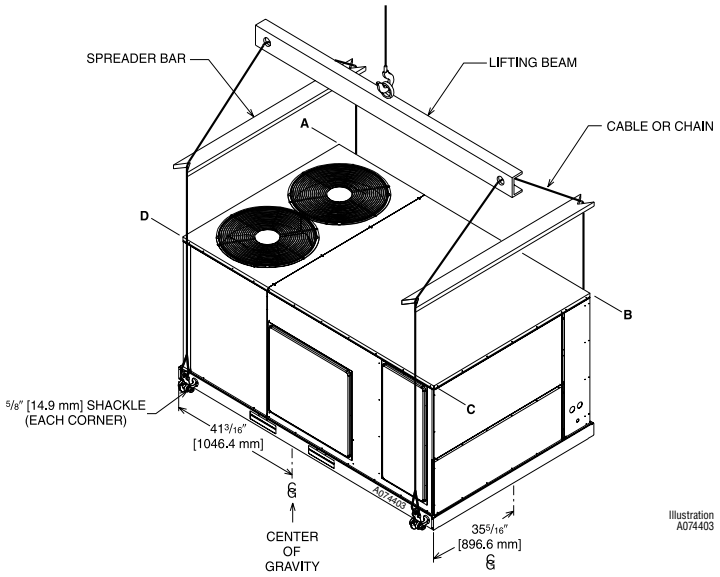

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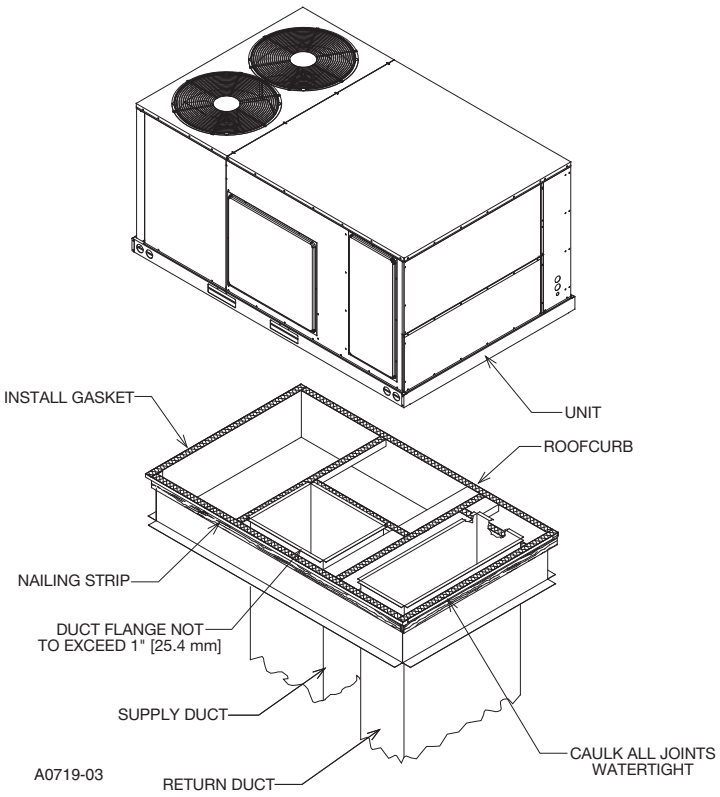
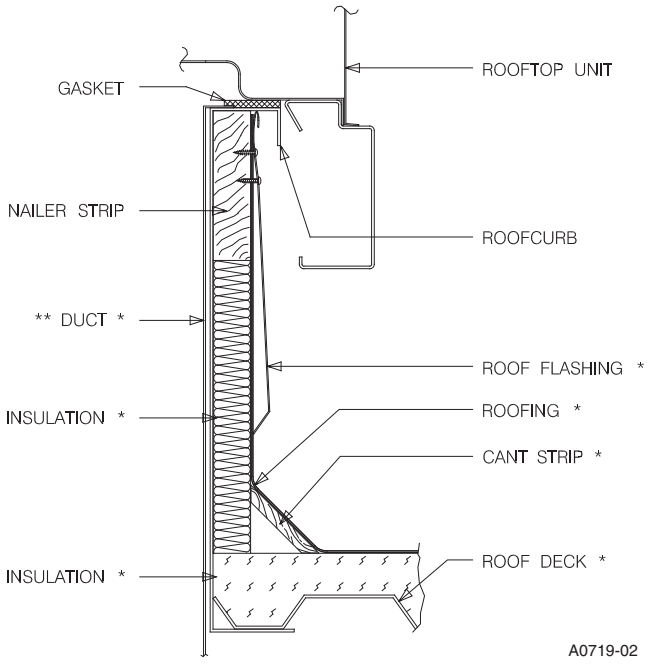
FIGURE 9
ROOFCURB INSTALLATION

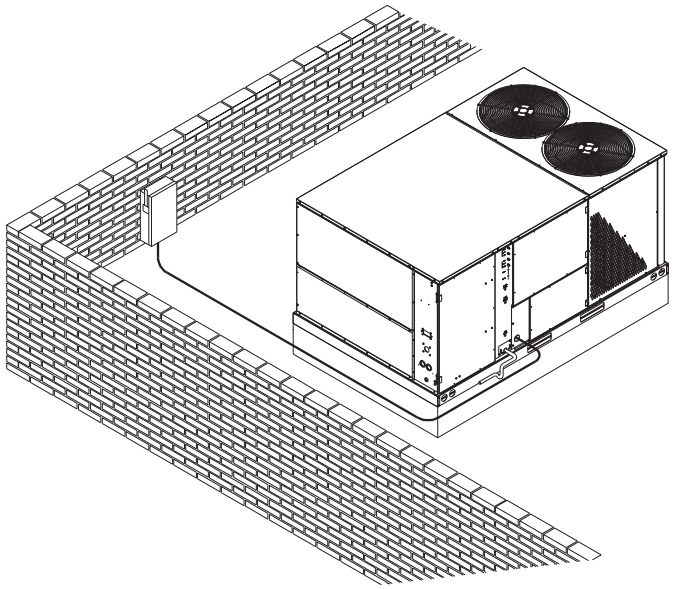




* BY CONTRACTOR

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

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



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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

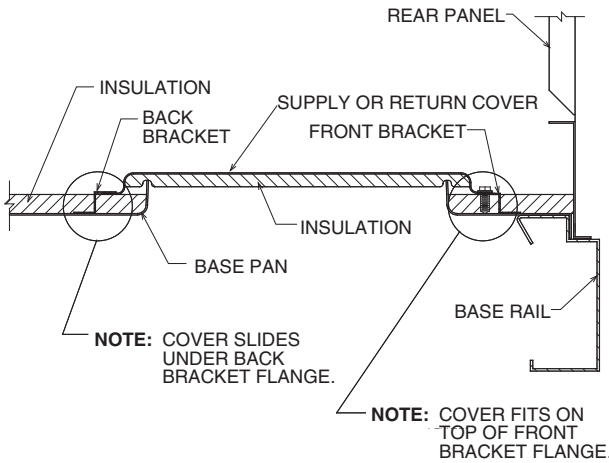
This unit is provided with 6 - 2" x 18" x 18" [51mm x 457 mm x 457 mm] disposable filters. When replacing filters, ensure they are inserted fully to the back to prevent bypass.

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



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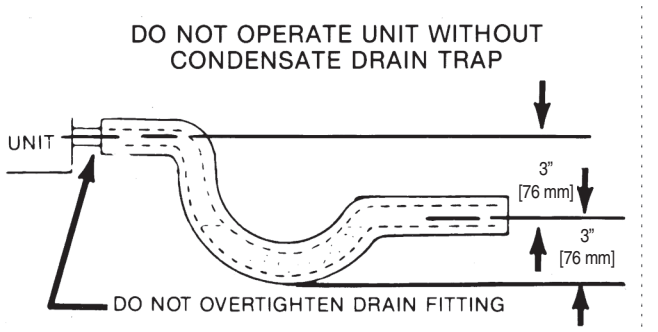
X. CONDENSATE DRAIN

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

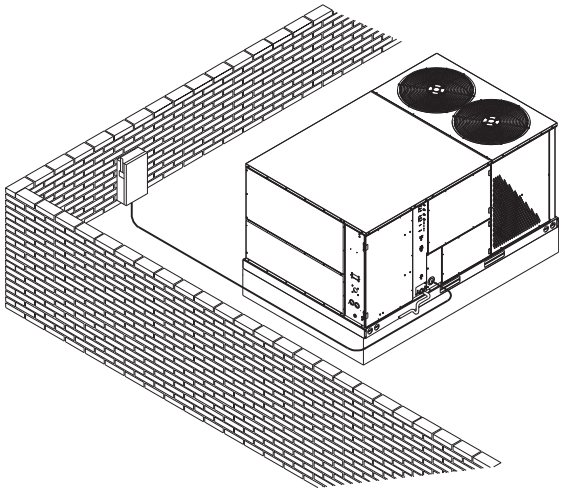
Field wiring must comply with the National Electrical Code (CEC in Canada) and local ordinances that may apply.

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



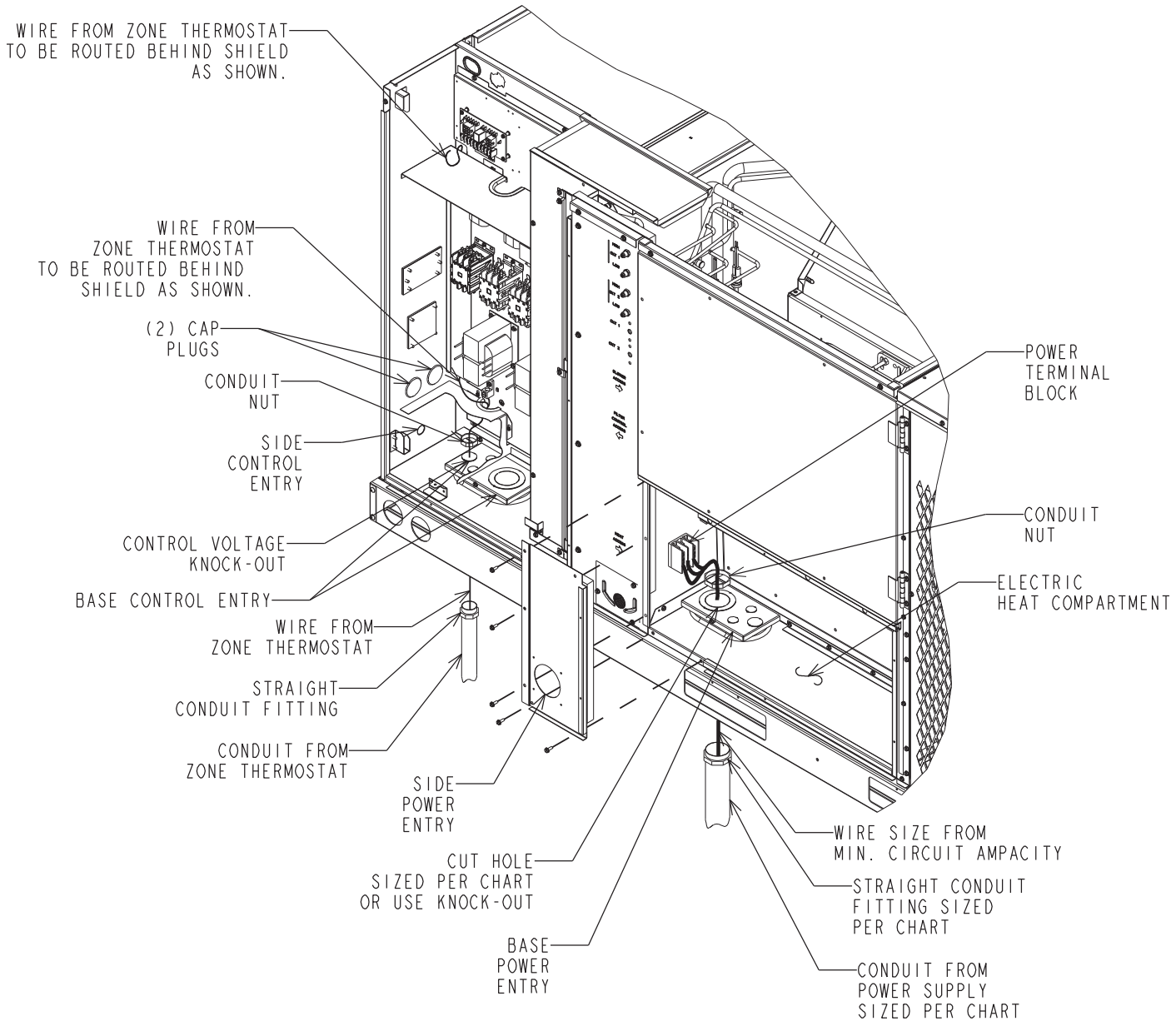
   UNITS WITH FACTORY INSTALLED ELECTRIC HEAT - Connect power wiring to the power terminal block located on the electric heater kit. Connect the ground wire to the adjacent ground lug. DO NOT connect aluminum wiring directly to the electric heater terminal block. Wiring to the unit contactors is factory-connected.

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.

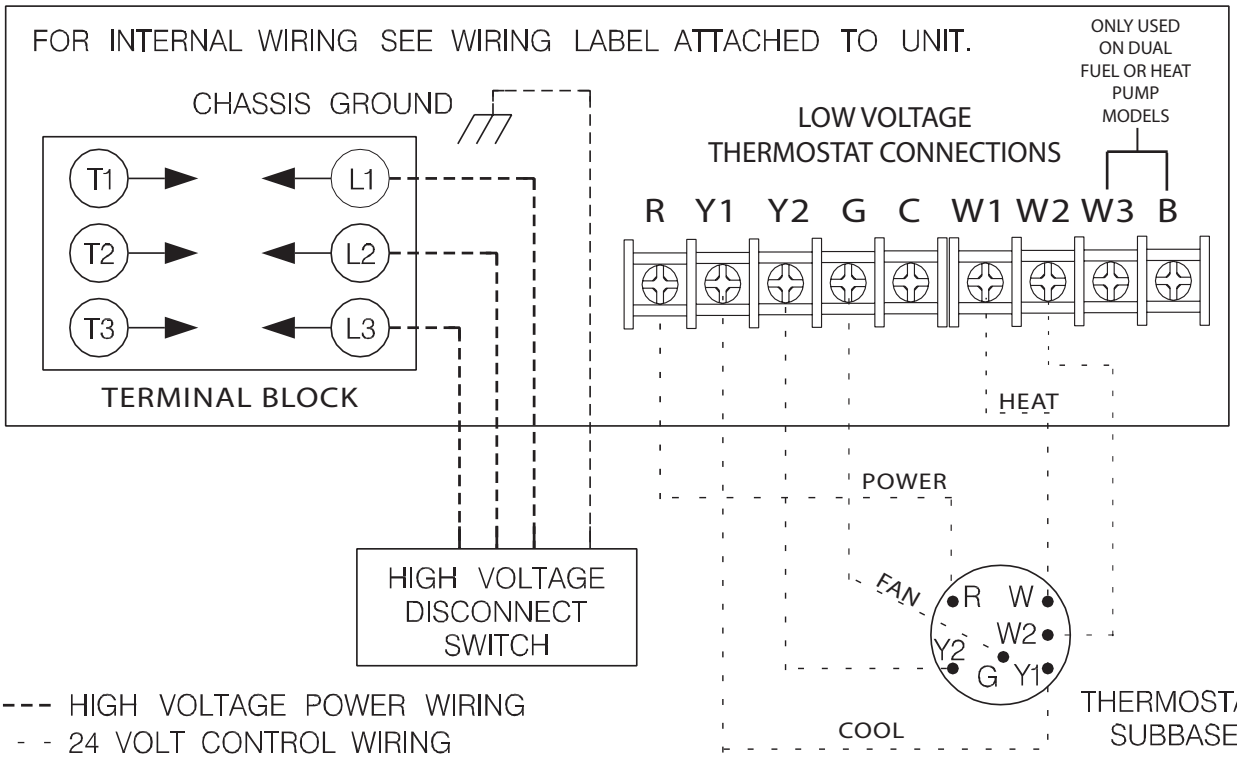
XII. INDOOR AIR FLOW DATA

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).

⚠ 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.

XVII. MISCELLANEOUS

REPLACEMENT PARTS

Contact your local distributor for a complete parts list.

.

AIR-FLOW PERFORMANCE – 7.5 TON RLRL-C090 MODELS

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

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

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

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

AIRFLOW CORRECTION FACTORS-C090 7.5 TON [26.4 kW]

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

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

[ ] Designates Metric Conversions

COMPONENT AIR RESISTANCE, IWCC090 7.5 TON [26.4 kW]

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

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

AIR-FLOW PERFORMANCE – 10 TON RLRL-C120 MODELS

Air Flow CFM [L/s]	Capacity 10 Ton [35.2 kW]																																							
	External Static Pressure—Inches of Water [kPa]																																							
	0.1 [.02]		0.2 [.05]		0.3 [.07]		0.4 [.10]		0.5 [.12]		0.6 [.15]		0.7 [.17]		0.8 [.20]		0.9 [.22]		1.0 [.25]		1.1 [.27]		1.2 [.30]		1.3 [.32]		1.4 [.35]		1.5 [.37]		1.6 [.40]		1.7 [.42]		1.8 [.45]		1.9 [.47]		2.0 [.50]		2.1 [.52]		2.2 [.55]		2.3 [.57]	
	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W
3200 [1510]	—	—	—	—	—	—	657	1170	715	1245	742	1319	770	1394	797	1468	825	1543	852	1617	880	1692	956	1698	976	1703	996	1817	1017	1930	1037	2044	1057	2157	1077	2271	1098	2384	1118	2498	1138	2611	1159	2725	1179	2838
3300 [1557]	—	—	—	—	673	1179	701	1253	728	1328	756	1402	783	1477	811	1551	838	1626	866	1700	943	1705	963	1708	948	1822	976	1935	1024	2049	1044	2162	1065	2276	1085	2390	1105	2503	1125	2617	1146	2730	1166	2844	1186	2957
3400 [1605]	—	—	—	—	687	1261	714	1336	742	1410	769	1485	797	1559	824	1634	852	1708	879	1763	950	1811	971	1827	962	1941	989	2054	1032	2168	1052	2281	1072	2395	1092	2508	1113	2622	1133	2735	1153	2849	1174	2962	1194	3076
3500 [1652]	—	—	673	1270	700	1344	728	1419	755	1493	783	1588	810	1642	838	1717	865	1791	938	1813	958	1832	978	1946	975	2059	1003	2173	1039	2286	1059	2400	1080	2513	1100	2627	1120	2740	1141	2854	1161	2968	1181	3081	—	—
3600 [1699]	—	—	686	1352	714	1427	741	1501	769	1576	796	1650	824	1725	851	1799	879	1874	945	1892	966	1951	986	2065	989	2178	1016	2292	1047	2405	1067	2519	1087	2632	1108	2746	1128	2859	1148	2973	1168	3086	1189	3200	—	—
3700 [1746]	672	1361	700	1435	727	1510	755	1584	782	1659	810	1733	837	1808	865	1882	933	1896	953	1956	973	2070	993	2183	1002	2297	1030	2410	1054	2524	1075	2637	1095	2751	1115	2864	1135	2978	1156	3091	1176	3205	1196	3318	—	—
3800 [1793]	686	1443	713	1518	741	1592	768	1667	796	1741	823	1818	861	1890	878	1965	940	2003	960	2075	981	2189	1001	2302	1016	2416	1043	2529	1062	2643	1082	2756	1102	2870	1123	2983	1143	3097	1163	3210	1183	3324	—	—	—	—
3900 [1841]	699	1526	727	1601	754	1675	782	1750	809	1824	837	1899	864	1973	927	2015	948	2080	968	2194	988	2307	1008	2421	1029	2534	1057	2648	1069	2761	1090	2875	1110	2988	1130	3102	1150	3215	1171	3329	1191	3442	—	—	—	—
4000 [1888]	713	1609	740	1683	768	1758	795	1832	823	1907	850	1961	878	2056	935	2085	955	2199	975	2312	996	2426	1016	2539	1043	2653	1070	2767	1077	2880	1097	2994	1117	3107	1138	3221	1158	3334	1178	3448	1199	3561	—	—	—	—
4100 [1935]	726	1692	754	1766	781	1841	809	1915	836	1990	864	2064	922	2091	942	2204	963	2318	983	2431	1003	2545	1024	2658	1056	2772	1084	2885	1084	2999	1105	3112	1125	3226	1145	3339	1166	3453	1186	3566	—	—	—	—	—	—
4200 [1982]	740	1774	767	1849	795	1923	822	1998	850	2072	877	2147	930	2209	950	2323	970	2438	990	2550	1011	2663	1031	2777	1070	2890	1097	3004	1092	3117	1112	3231	1133	3345	1153	3458	1173	3572	1193	3685	—	—	—	—	—	—
4300 [2029]	753	1857	781	1932	808	2006	836	2081	853	2155	917	2215	937	2328	957	2442	978	2555	998	2669	1018	2782	1039	2896	1083	3009	1111	3123	1099	3236	1120	3350	1140	3453	1160	3577	1181	3690	—	—	—	—	—	—	—	—
4400 [2077]	767	1940	794	2014	822	2089	849	2163	877	2238	924	2333	945	2447	965	2560	985	2674	1006	2787	1026	2901	1046	3014	1097	3128	1124	3241	1107	3355	1127	3468	1148	3582	1168	3695	1188	3809	—	—	—	—	—	—	—	—
4500 [2124]	780	2023	808	2097	835	2172	863	2248	912	2338	932	2452	952	2585	973	2679	993	2793	1013	2906	1033	3020	1054	3133	1110	3247	1138	3360	1115	3474	1135	3587	1155	3701	1175	3814	1196	3928	—	—	—	—	—	—	—	—
4600 [2171]	794	2105	821	2180	840	2254	876	2329	919	2457	940	2571	960	2684	980	2798	1000	2911	1021	3025	1041	3138	1061	3252	1124	3365	1151	3479	1122	3592	1142	3706	1163	3819	1183	3933	—	—	—	—	—	—	—	—	—	—
4700 [2218]	807	2188	835	2263	862	2337	906	2462	927	2576	947	2689	967	2803	988	2916	1008	3030	1028	3143	1048	3257	1069	3371	1137	3484	1165	3598	1130	3711	1150	3825	1170	3938	1190	4052	—	—	—	—	—	—	—	—	—	—
4800 [2265]	821	2271	848	2345	876	2420	914	2581	934	2695	955	2808	975	2922	995	3035	1015	3149	1036	3262	1056	3376	1076	3489	1151	3603	1178	3716	1137	3830	1157	3943	1178	4057	1198	4170	—	—	—	—	—	—	—	—	—	—

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

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

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

AIRFLOW CORRECTION FACTORS-C120 10 TON [35.2 kW]

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

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

[ ] Designates Metric Conversions

COMPONENT AIR RESISTANCE, IWC-C120 10 TON [35.2 kW]

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

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

XIX. 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

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)

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

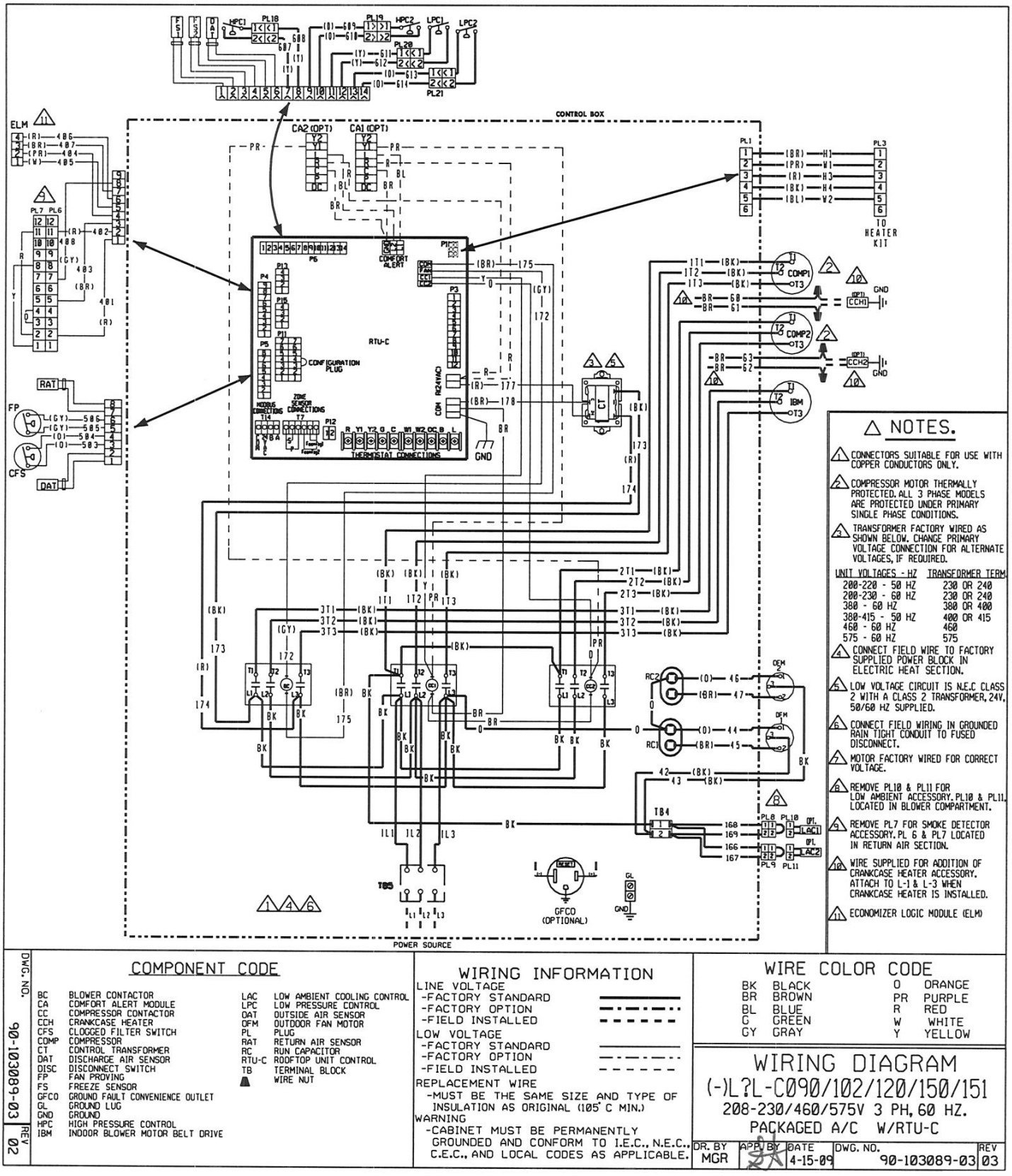
XX. TROUBLE SHOOTING CHART

⚠ 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

XXI. 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
CA	COMFORT ALERT MODULE
CC	COMPRESSOR CONTACTOR
CCH	CRANKCASE HEATER
CFS	CLOGGED FILTER SWITCH
COMP	COMPRESSOR
CT	CONTROL TRANSFORMER
DAT	DISCHARGE AIR SENSOR
DISC	DISCONNECT SWITCH
FP	FAN PROVING
FS	FREEZE SENSOR
GFCO	GROUND FAULT CONVENIENCE OUTLET
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 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

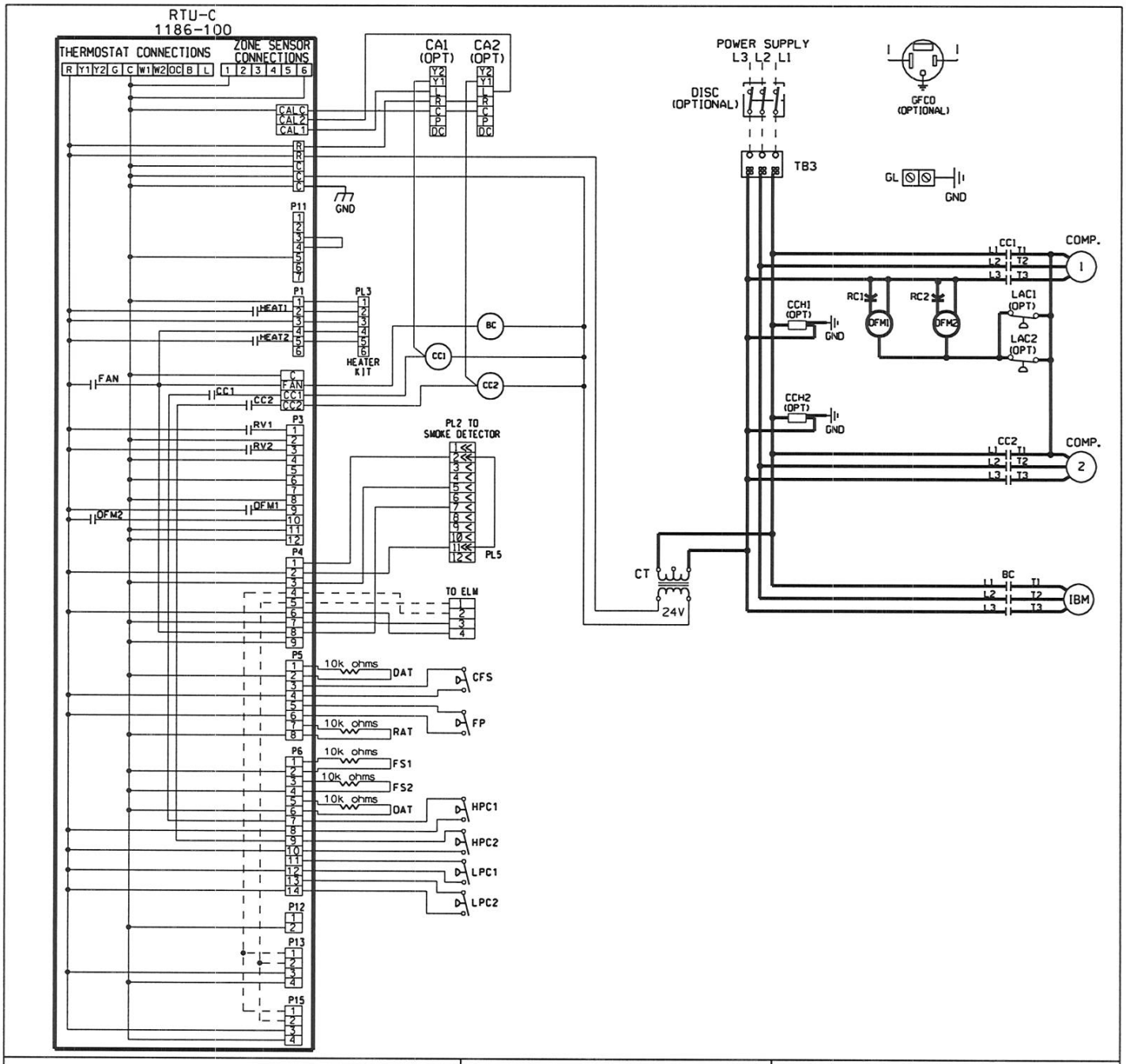
(-)L?L-C090/102/120/150/151

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 03



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

XXII. CHARGING CHARTS

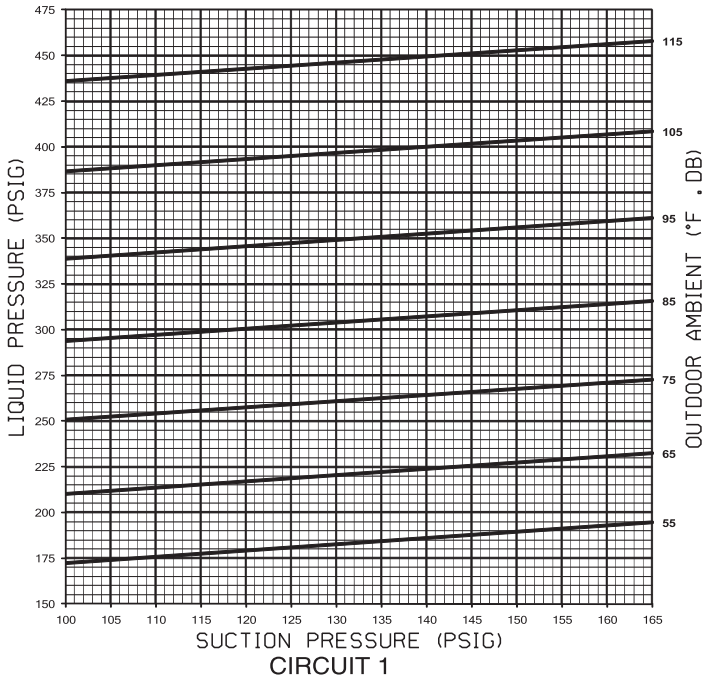
RLRL SYSTEM CHARGE CHARTS

FIGURE 16

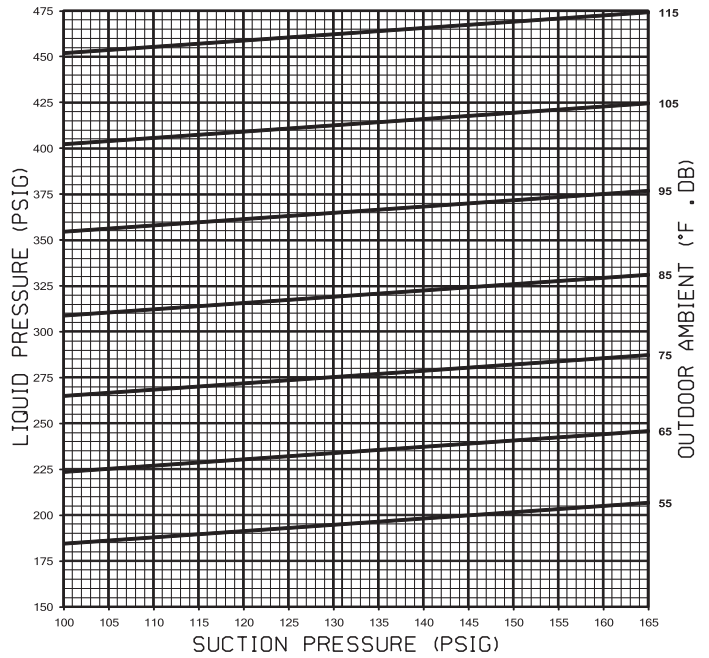
SYSTEM CHARGE CHART - REFRIGERANT 410A
7-1/2 TON, CIRCUITS 1 & 2

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

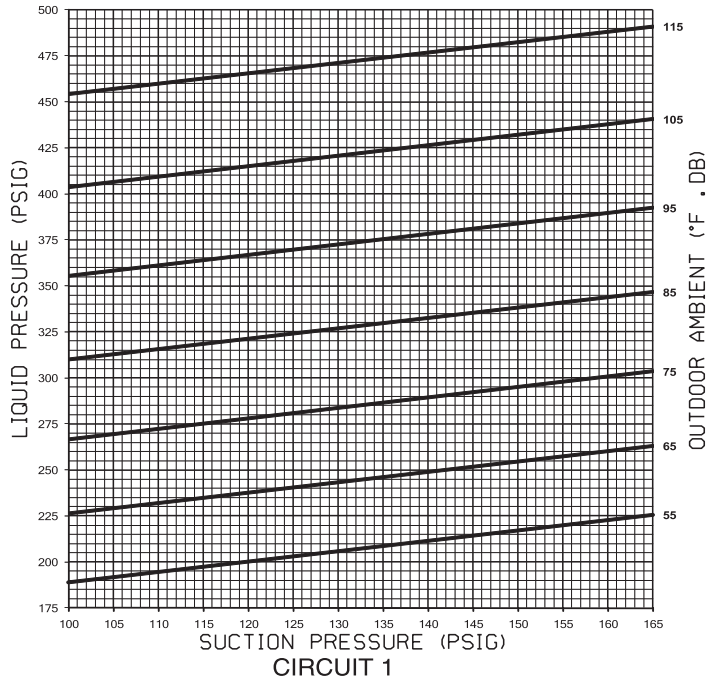
RLRL SYSTEM CHARGE CHARTS

FIGURE 17

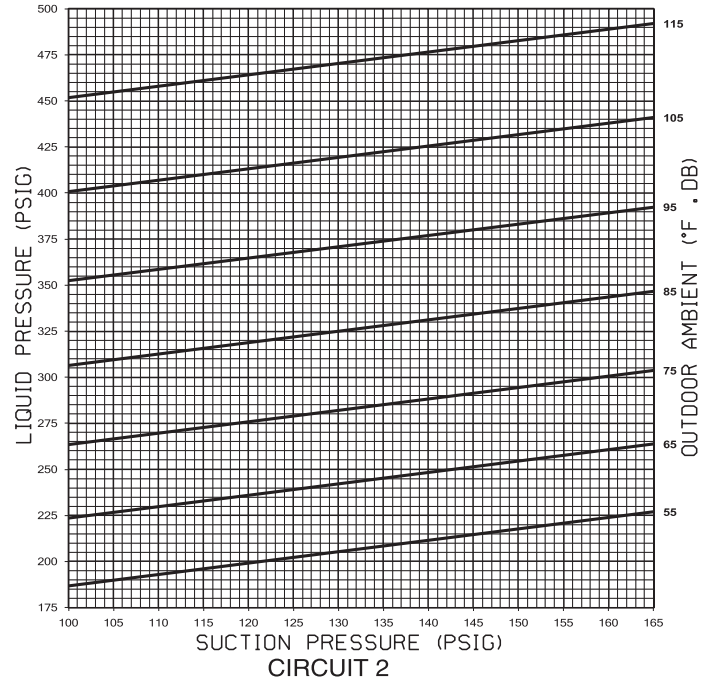
SYSTEM CHARGE CHART - REFRIGERANT 410A
10 TON, CIRCUITS 1 & 2

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