

INSTALLATION INSTRUCTIONS

PACKAGE AIR CONDITIONERS FEATURING INDUSTRY STANDARD
R410A REFRIGERANT ~~R-410A~~
RLKL-B SERIES 7.5, 10 AND 12.5 TON [26.4, 35.2 AND 44.0 kW]
60 HZ MODELS



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.

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I. SAFETY INFORMATION

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.

WARNING

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

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.

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.

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.

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.

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.

II. INTRODUCTION

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 Conditioners are available without heat or with 10, 15, 20, 30, 40 or 50 kW electric heat. Cooling capacities of 7.5, 10 or 12.5 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 typical 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 are 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 / Expansion Device

The expansion device is specifically designed to operate with R-410A. **DO NOT use an R-22 device. The existing evaporator must be replaced with the factory specified 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 AND ACCESS LOCATIONS

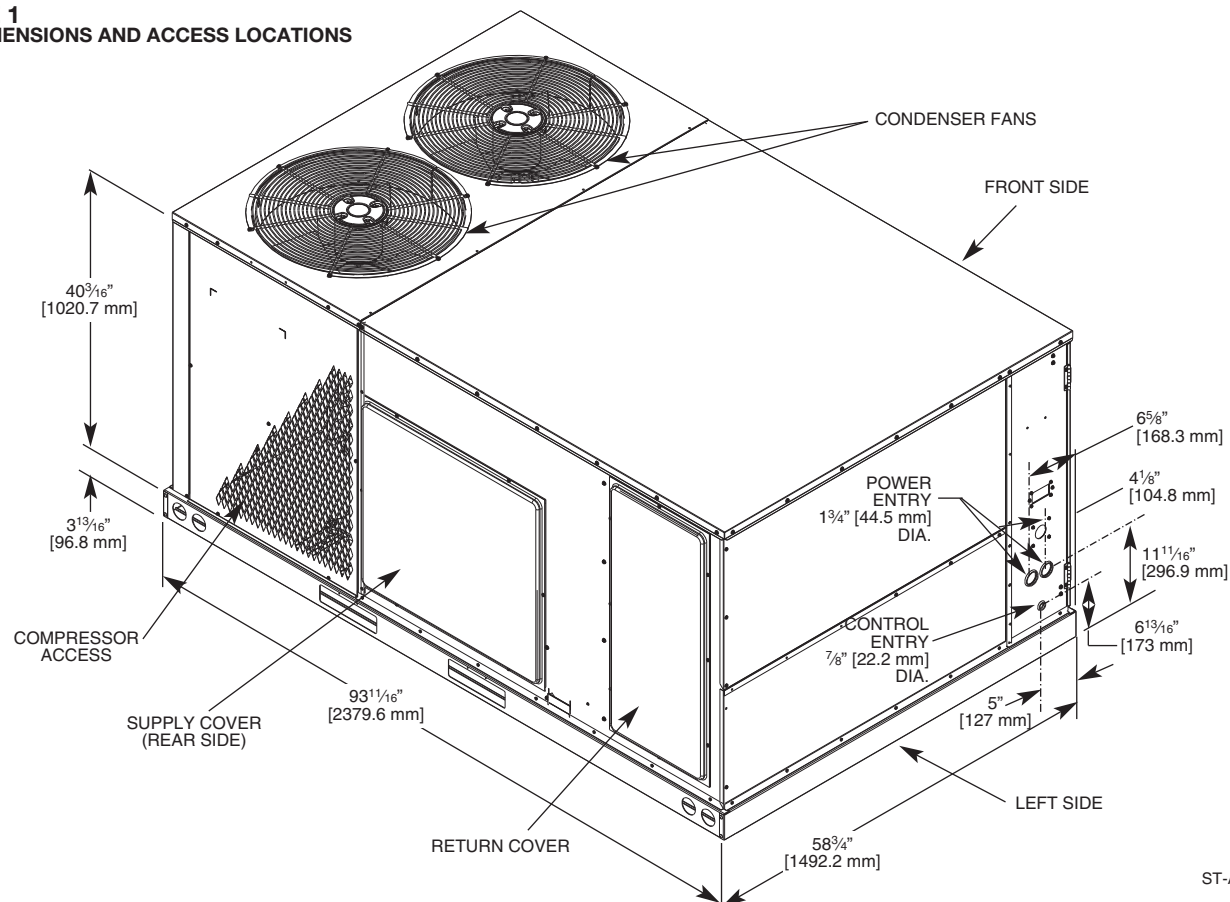
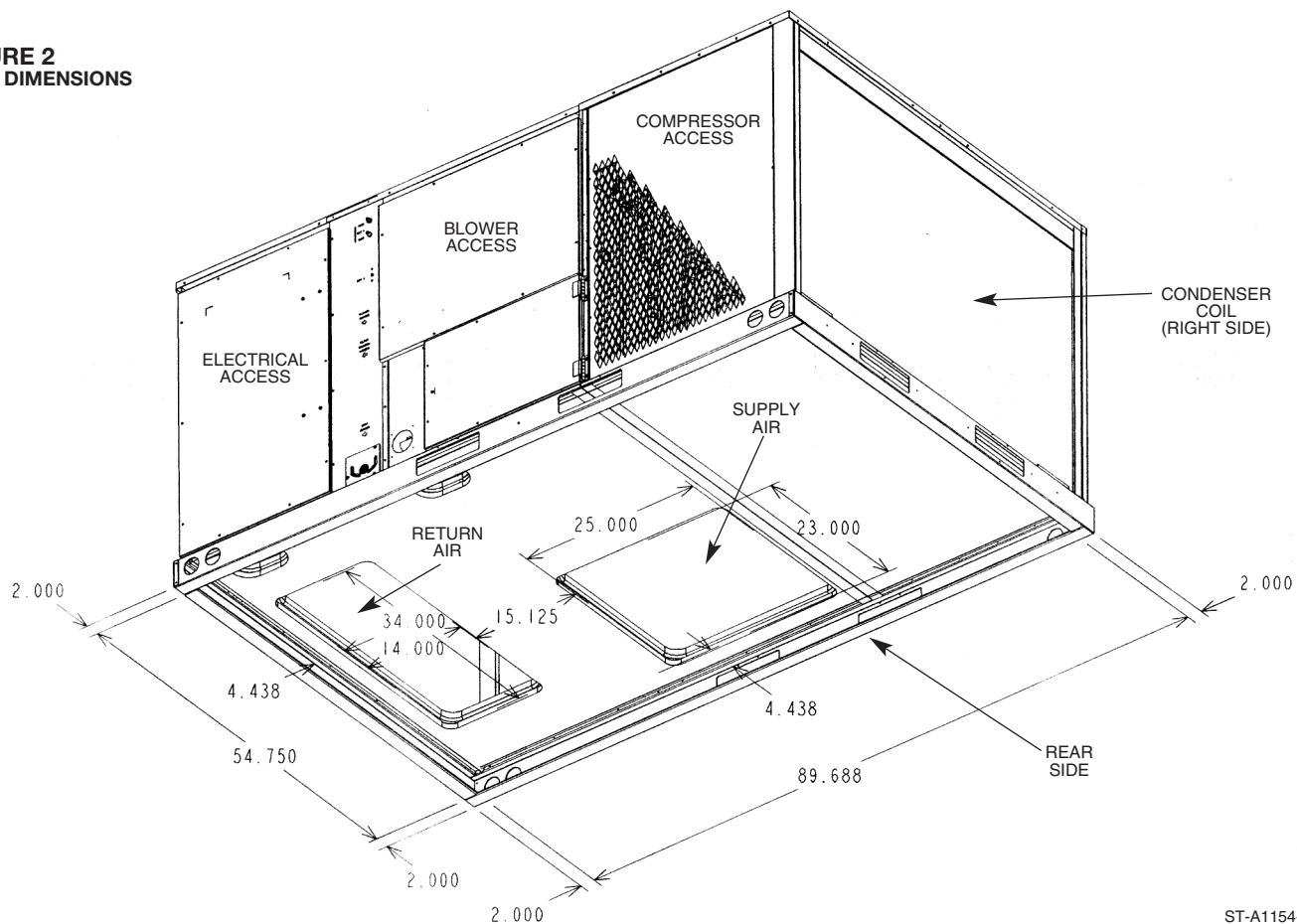
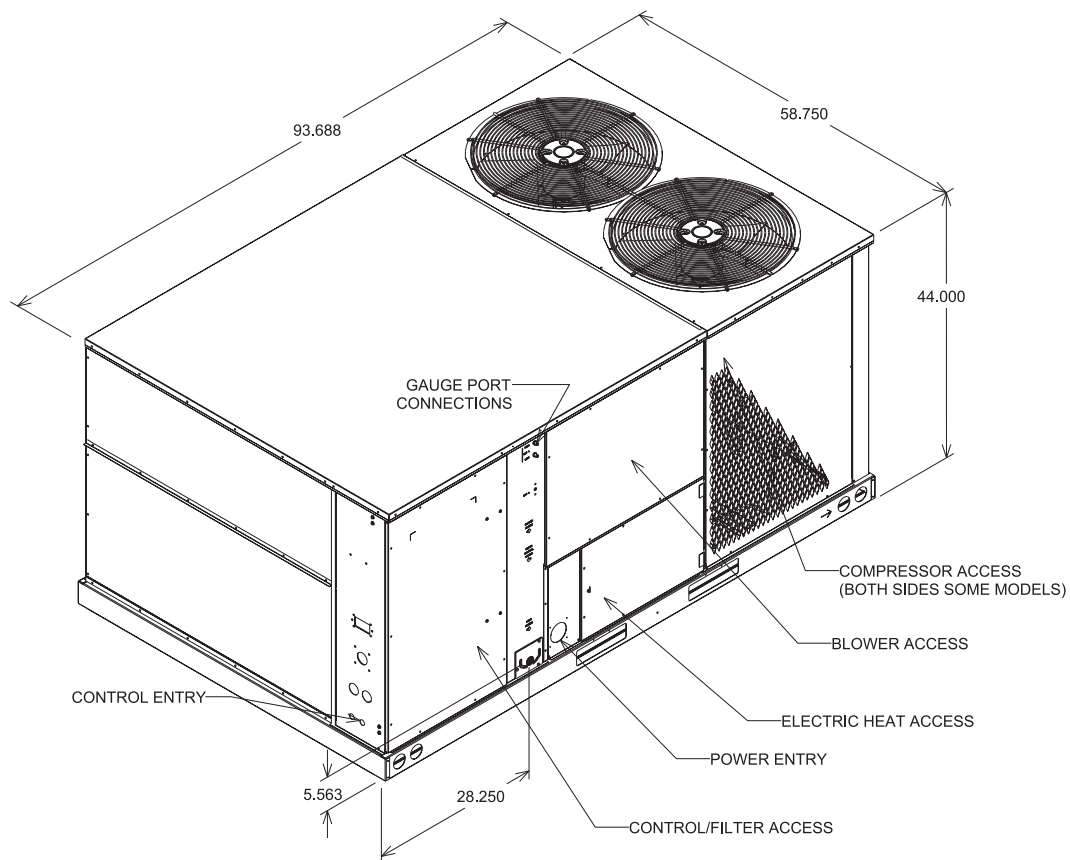


FIGURE 2
BASE DIMENSIONS



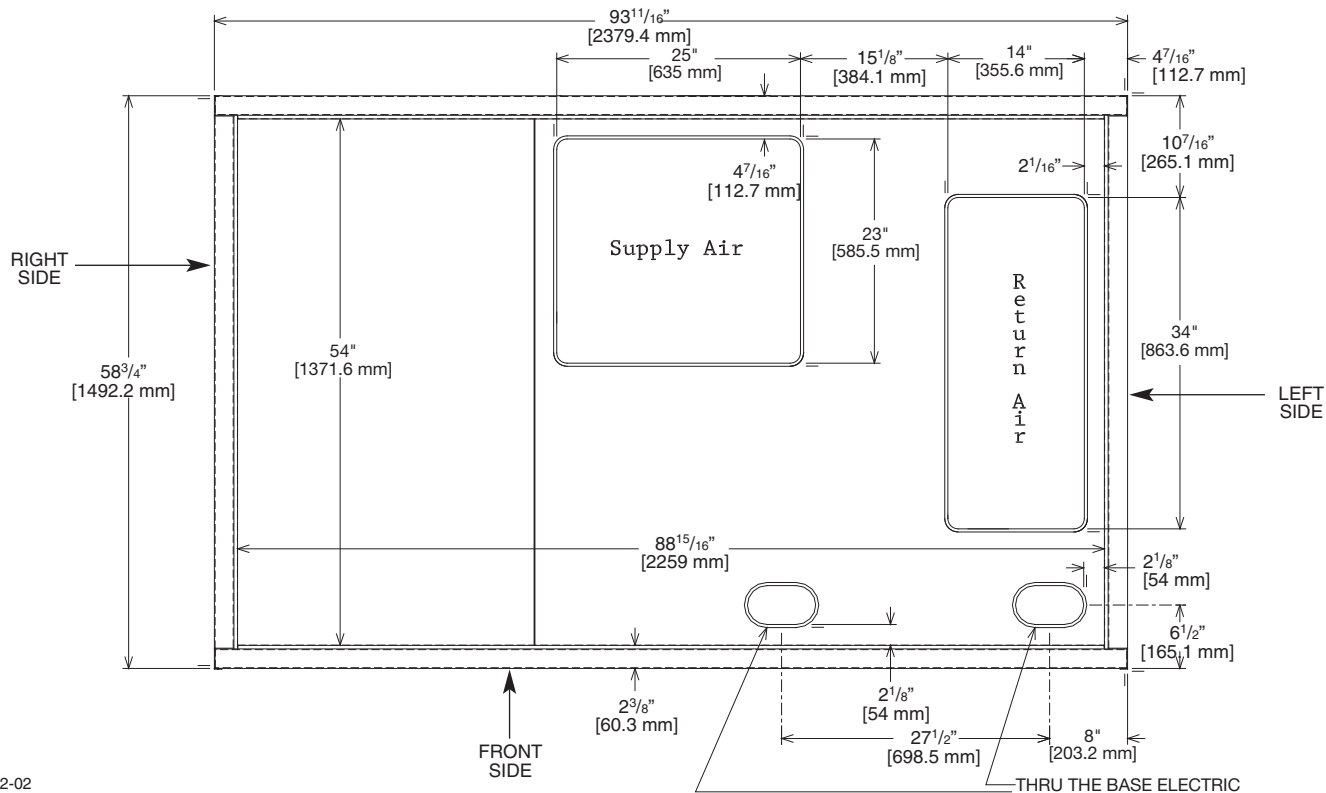
**FIGURE 3
UNIT DIMENSIONS**



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**FIGURE 4
BOTTOM VIEW**

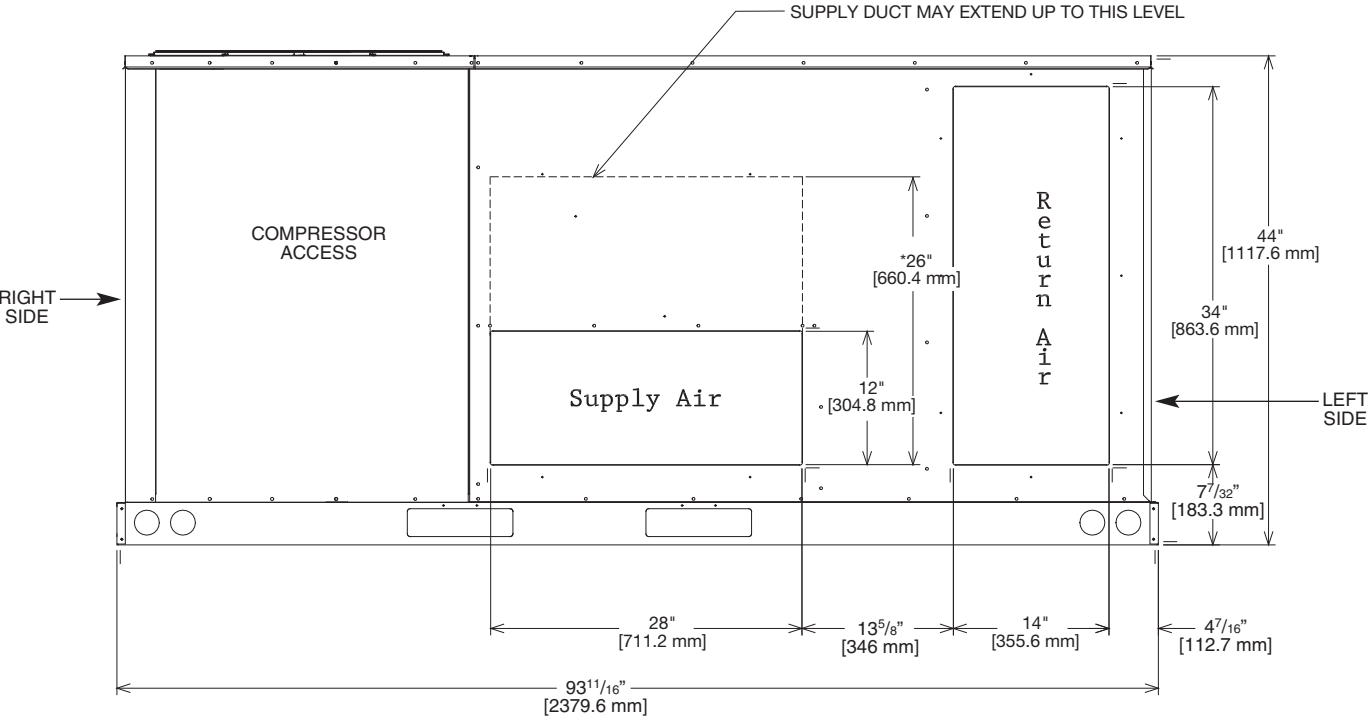
SUPPLY AND RETURN DIMENSIONS FOR DOWNFLOW APPLICATIONS



A0712-02

FIGURE 5
REAR VIEW

SUPPLY AND RETURN DIMENSIONS FOR HORIZONTAL APPLICATION



***RECOMMENDED DUCT DIMENSIONS ARE 26"**

A0714-03

GENERAL DATA - RLKL

NOM. SIZE 7.5, 10 AND 12.5 TON [26.4, 35.2 AND 44.0 kW]

Model RLKL - Series	B090CL	B090CM	B090CN	B090DL
Cooling performance¹				Continued ->
Gross Cooling Capacity Btu [kW]	87,000 [25.49]	87,000 [25.49]	87,000 [25.49]	87,000 [25.49]
EER/SEER ²	11.2/NA	11.2/NA	11.2/NA	11.2/NA
Nominal CFM/AHRI Rated CFM [L/s]	2800/2925 [1321/1380]	2800/2925 [1321/1380]	2800/2925 [1321/1380]	2800/2925 [1321/1380]
AHRI Net Cooling Capacity Btu [kW]	84,000 [24.61]	84,000 [24.61]	84,000 [24.61]	84,000 [24.61]
Net Sensible Capacity Btu [kW]	64,800 [18.99]	64,800 [18.99]	64,800 [18.99]	64,800 [18.99]
Net Latent Capacity Btu [kW]	19,200 [5.63]	19,200 [5.63]	19,200 [5.63]	19,200 [5.63]
IEER ³	12.1	12.1	12.1	12.1
Net System Power kW	7.5	7.5	7.5	7.5
Compressor				
No./Type	1/Scroll	1/Scroll	1/Scroll	1/Scroll
Outdoor Sound Rating (dB)⁵	88	88	88	88
Outdoor Coil - Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	MicroChannel	MicroChannel	MicroChannel	MicroChannel
MicroChannel Depth in. [mm]	1 [25.4]	1 [25.4]	1 [25.4]	1 [25.4]
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]	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]	2 / 18 [7]	2 / 18 [7]	2 / 18 [7]	2 / 18 [7]
Refrigerant Control	Orifices	Orifices	Orifices	Orifices
Drain Connection No./Size in. [mm]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]
Outdoor Fan - Type	Propeller	Propeller	Propeller	Propeller
No. Used/Diameter in. [mm]	1/24 [609.6]	1/24 [609.6]	1/24 [609.6]	1/24 [609.6]
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1	Direct/1
CFM [L/s]	4500 [2124]	4500 [2124]	4500 [2124]	4500 [2124]
No. Motors/HP	1 at 1/2 HP	1 at 1/2 HP	1 at 1/2 HP	1 at 1/2 HP
Motor RPM	1075	1075	1075	1075
Indoor Fan - Type	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
No. Used/Diameter in. [mm]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]
Drive Type/No. Speeds	Belt/Variable	Belt/Variable	Belt/Variable	Belt/Variable
No. Motors	1	1	1	1
Motor HP	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. [g]	117.6 [3334]	117.6 [3334]	117.6 [3334]	117.6 [3334]
Weights				
Net Weight lbs. [kg]	882 [401]	882 [401]	890 [404]	882 [401]
Ship Weight lbs. [kg]	919 [417]	919 [417]	927 [420]	919 [417]

GENERAL DATA - RLKL

NOM. SIZE 7.5, 10 AND 12.5 TON [26.4, 35.2 AND 44.0 kW]

Model RLKL - Series	B090DM	B090DN	B090YL	B090YM
Cooling performance¹				Continued ->
Gross Cooling Capacity Btu [kW]	87,000 [25.49]	87,000 [25.49]	87,000 [25.49]	87,000 [25.49]
EER/SEER ²	11.2/NA	11.2/NA	11.2/NA	11.2/NA
Nominal CFM/AHRI Rated CFM [L/s]	2800/2925 [1321/1380]	2800/2925 [1321/1380]	2800/2925 [1321/1380]	2800/2925 [1321/1380]
AHRI Net Cooling Capacity Btu [kW]	84,000 [24.61]	84,000 [24.61]	84,000 [24.61]	84,000 [24.61]
Net Sensible Capacity Btu [kW]	64,800 [18.99]	64,800 [18.99]	64,800 [18.99]	64,800 [18.99]
Net Latent Capacity Btu [kW]	19,200 [5.63]	19,200 [5.63]	19,200 [5.63]	19,200 [5.63]
IEER ³	12.1	12.1	12.1	12.1
Net System Power kW	7.5	7.5	7.5	7.5
Compressor				
No./Type	1/Scroll	1/Scroll	1/Scroll	1/Scroll
Outdoor Sound Rating (dB)⁵	88	88	88	88
Outdoor Coil - Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	MicroChannel	MicroChannel	MicroChannel	MicroChannel
MicroChannel Depth in. [mm]	1 [25.4]	1 [25.4]	1 [25.4]	1 [25.4]
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]	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]	2 / 18 [7]	2 / 18 [7]	2 / 18 [7]	2 / 18 [7]
Refrigerant Control	Orifices	Orifices	Orifices	Orifices
Drain Connection No./Size in. [mm]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]
Outdoor Fan - Type	Propeller	Propeller	Propeller	Propeller
No. Used/Diameter in. [mm]	1/24 [609.6]	1/24 [609.6]	1/24 [609.6]	1/24 [609.6]
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1	Direct/1
CFM [L/s]	4500 [2124]	4500 [2124]	4500 [2124]	4500 [2124]
No. Motors/HP	1 at 1/2 HP	1 at 1/2 HP	1 at 1/2 HP	1 at 1/2 HP
Motor RPM	1075	1075	1075	1075
Indoor Fan - Type	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
No. Used/Diameter in. [mm]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]
Drive Type/No. Speeds	Belt/Variable	Belt/Variable	Belt/Variable	Belt/Variable
No. Motors	1	1	1	1
Motor HP	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. [g]	117.6 [3334]	117.6 [3334]	117.6 [3334]	117.6 [3334]
Weights				
Net Weight lbs. [kg]	882 [401]	890 [404]	882 [401]	882 [401]
Ship Weight lbs. [kg]	919 [417]	927 [420]	919 [417]	919 [417]

GENERAL DATA - RLKL

NOM. SIZE 7.5, 10 AND 12.5 TON [26.4, 35.2 AND 44.0 kW]

Model RLKL - Series	B090YN	B120CL	B120CM	B120DL
Cooling performance¹				Continued ->
Gross Cooling Capacity Btu [kW]	87,000 [25.49]	123,000 [36.04]	123,000 [36.04]	123,000 [36.04]
EER/SEER ²	11.2/NA	11.2/NA	11.2/NA	11.2/NA
Nominal CFM/AHRI Rated CFM [L/s]	2800/2925 [1321/1380]	4000/3600 [1888/1699]	4000/3600 [1888/1699]	4000/3600 [1888/1699]
AHRI Net Cooling Capacity Btu [kW]	84,000 [24.61]	119,000 [34.87]	119,000 [34.87]	119,000 [34.87]
Net Sensible Capacity Btu [kW]	64,800 [18.99]	87,200 [25.55]	87,200 [25.55]	87,200 [25.55]
Net Latent Capacity Btu [kW]	19,200 [5.63]	31,800 [9.32]	31,800 [9.32]	31,800 [9.32]
IEER ³	12.1	12.2	12.2	12.2
Net System Power kW	7.5	10.62	10.62	10.62
Compressor				
No./Type	1/Scroll	1/Scroll	1/Scroll	1/Scroll
Outdoor Sound Rating (dB)⁵	88	88	88	88
Outdoor Coil - Fin Type	Louvered	Louvered	Louvered	Louvered
Tube Type	MicroChannel	MicroChannel	MicroChannel	MicroChannel
MicroChannel Depth in. [mm]	1 [25.4]	1 [25.4]	1 [25.4]	1 [25.4]
Face Area sq. ft. [sq. m]	13.5 [1.25]	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]	2 / 18 [7]	2 / 22 [9]	2 / 22 [9]	2 / 22 [9]
Refrigerant Control	Orifices	Orifices	Orifices	Orifices
Drain Connection No./Size in. [mm]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]
Outdoor Fan - Type	Propeller	Propeller	Propeller	Propeller
No. Used/Diameter in. [mm]	1/24 [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]	4500 [2124]	8400 [3964]	8400 [3964]	8400 [3964]
No. Motors/HP	1 at 1/2 HP	1 at 1/3 HP	1 at 1/3 HP	1 at 1/3 HP
Motor RPM	1075	1075	1075	1075
Indoor Fan - Type	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
No. Used/Diameter in. [mm]	1/15x15 [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]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]
Refrigerant Charge Oz. [g]	117.6 [3334]	203.2 [5761]	203.2 [5761]	203.2 [5761]
Weights				
Net Weight lbs. [kg]	890 [404]	984 [446]	992 [450]	984 [446]
Ship Weight lbs. [kg]	927 [420]	1021 [463]	1029 [467]	1021 [463]

GENERAL DATA - RLKL

NOM. SIZE 7.5, 10 AND 12.5 TON [26.4, 35.2 AND 44.0 kW]

Model RLKL - Series	B120DM	B120YL	B120YM	B151CL
Cooling performance¹				Continued ->
Gross Cooling Capacity Btu [kW]	123,000 [36.04]	123,000 [36.04]	123,000 [36.04]	156,000 [45.71]
EER/SEER ²	11.2/NA	11.2/NA	11.2/NA	11.1/NA
Nominal CFM/AHRI Rated CFM [L/s]	4000/3600 [1888/1699]	4000/3600 [1888/1699]	4000/3600 [1888/1699]	5000/4225 [2360/1994]
AHRI Net Cooling Capacity Btu [kW]	119,000 [34.87]	119,000 [34.87]	119,000 [34.87]	150,000 [43.95]
Net Sensible Capacity Btu [kW]	87,200 [25.55]	87,200 [25.55]	87,200 [25.55]	106,000 [31.23]
Net Latent Capacity Btu [kW]	31,800 [9.32]	31,800 [9.32]	31,800 [9.32]	43,400 [12.72]
IEER ³	12.2	12.2	12.2	10.8
Net System Power kW	10.62	10.62	10.62	13.54
Compressor				
No./Type	1/Scroll	1/Scroll	1/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
MicroChannel Depth in. [mm]	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]	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]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]
Rows / FPI [FPcm]	2 / 22 [9]	2 / 22 [9]	2 / 22 [9]	4 / 15 [6]
Refrigerant Control	Orifices	Orifices	Orifices	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]	8400 [3964]	8400 [3964]	8400 [3964]	8000 [3775]
No. Motors/HP	1 at 1/3 HP	1 at 1/3 HP	1 at 1/3 HP	2 at 1/2 HP
Motor RPM	1075	1075	1075	1075
Indoor Fan - Type	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
No. Used/Diameter in. [mm]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]
Drive Type/No. Speeds	Belt/Variable	Belt/Variable	Belt/Variable	Belt/Variable
No. Motors	1	1	1	1
Motor HP	3	2	3	3
Motor RPM	1725	1725	1725	1725
Motor Frame Size	56	56	56	56
Filter - Type	Disposable	Disposable	Disposable	Disposable
Furnished	Yes	Yes	Yes	Yes
(NO.) Size Recommended in. [mm x mm x mm]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]	(6)2x18x18 [51x457x457]
Refrigerant Charge Oz. [g]	203.2 [5761]	203.2 [5761]	203.2 [5761]	147.2/152 [4173/4309]
Weights				
Net Weight lbs. [kg]	992 [450]	984 [446]	992 [450]	1230 [558]
Ship Weight lbs. [kg]	1029 [467]	1021 [463]	1029 [467]	1267 [575]

GENERAL DATA - RLKL

NOM. SIZE 7.5, 10 AND 12.5 TON [26.4, 35.2 AND 44.0 kW]

Model RLKL - Series	B151CM	B151DL	B151DM	B151YL
Cooling performance¹				Continued ->
Gross Cooling Capacity Btu [kW]	156,000 [45.71]	156,000 [45.71]	156,000 [45.71]	156,000 [45.71]
EER/SEER ²	11.1/NA	11.1/NA	11.1/NA	11.1/NA
Nominal CFM/AHRI Rated CFM [L/s]	5000/4225 [2360/1994]	5000/4225 [2360/1994]	5000/4225 [2360/1994]	5000/4225 [2360/1994]
AHRI Net Cooling Capacity Btu [kW]	150,000 [43.95]	150,000 [43.95]	150,000 [43.95]	150,000 [43.95]
Net Sensible Capacity Btu [kW]	106,600 [31.23]	106,600 [31.23]	106,600 [31.23]	106,600 [31.23]
Net Latent Capacity Btu [kW]	43,400 [12.72]	43,400 [12.72]	43,400 [12.72]	43,400 [12.72]
IEER ³	10.8	N/A	N/A	N/A
Net System Power kW	13.54	13.54	13.54	13.54
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
MicroChannel Depth in. [mm]	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]	2 / 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]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]
Rows / FPI [FPcm]	4 / 15 [6]	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 1/2 HP	2 at 1/2 HP	2 at 1/2 HP	2 at 1/2 HP
Motor RPM	1075	1075	1075	1075
Indoor Fan - Type	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
No. Used/Diameter in. [mm]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]	1/15x15 [381x381]
Drive Type/No. Speeds	Belt/Variable	Belt/Variable	Belt/Variable	Belt/Variable
No. Motors	1	1	1	1
Motor HP	5	3	5	3
Motor RPM	1725	1725	1725	1725
Motor Frame Size	184	56	184	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. [g]	147.2/152 [4173/4309]	147.2/152 [4173/4309]	147.2/152 [4173/4309]	147.2/152 [4173/4309]
Weights				
Net Weight lbs. [kg]	1238 [562]	1230 [558]	1238 [562]	1230 [558]
Ship Weight lbs. [kg]	1275 [578]	1267 [575]	1275 [578]	1267 [575]

GENERAL DATA - RLKL

NOM. SIZE 7.5, 10 AND 12.5 TON [26.4, 35.2 AND 44.0 kW]

Model RLKL - Series	B151YM
Cooling performance¹	
Gross Cooling Capacity Btu [kW]	156,000 [45.71]
EER/SEER ²	11.1/NA
Nominal CFM/AHRI Rated CFM [L/s]	5000/4225 [2360/1994]
AHRI Net Cooling Capacity Btu [kW]	150,000 [43.95]
Net Sensible Capacity Btu [kW]	106,600 [31.23]
Net Latent Capacity Btu [kW]	43,400 [12.72]
IEER ³	N/A
Net System Power kW	13.54
Compressor	
No./Type	2/Scroll
Outdoor Sound Rating (dB)⁵	
88	
Outdoor Coil - Fin Type	
Tube Type	Louvered
MicroChannel Depth in. [mm]	MicroChannel
Face Area sq. ft. [sq. m]	1 [25.4]
Rows / FPI [FPcm]	27 [2.51]
	2 / 23 [9]
Indoor Coil - Fin Type	
Tube Type	Louvered
Tube Size in. [mm]	Rifled
Face Area sq. ft. [sq. m]	0.375 [9.5]
Rows / FPI [FPcm]	13.5 [1.25]
	4 / 15 [6]
Refrigerant Control	TX Valves
Drain Connection No./Size in. [mm]	1/1 [25.4]
Outdoor Fan - Type	
No. Used/Diameter in. [mm]	Propeller
Drive Type/No. Speeds	2/24 [609.6]
CFM [L/s]	Direct/1
No. Motors/HP	8000 [3775]
Motor RPM	2 at 1/2 HP
	1075
Indoor Fan - Type	
No. Used/Diameter in. [mm]	FC Centrifugal
Drive Type/No. Speeds	1/15x15 [381x381]
No. Motors	Belt/Variable
Motor HP	1
Motor RPM	5
Motor Frame Size	1725
	184
Filter - Type	
Furnished	Disposable
(NO.) Size Recommended in. [mm x mm x mm]	Yes
	(6)2x18x18 [51x457x457]
Refrigerant Charge Oz. [g]	
147.2/152 [4173/4309]	
Weights	
Net Weight lbs. [kg]	
	1238 [562]
Ship Weight lbs. [kg]	
	1275 [578]

ELECTRICAL DATA - RLKL-B

ELECTRICAL DATA – RLKL SERIES										
		B090CL	B090CM	B090CN	B090DL	B090DM	B090DN	B090YL	B090YM	B090YN
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	40/40	40/40	45/45	20	20	23	15	15	19
	Minimum Overcurrent Protection Device Size	50/50	50/50	60/60	25	25	30	20	20	25
	Maximum Overcurrent Protection Device Size	60/60	60/60	60/60	30	30	30	20	20	25
Compressor Motor	No.	1	1	1	1	1	1	1	1	1
	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	6	6	6	6	6	6	6	6	6
	Amps (RLA), Comp. 1	23.2/23.2	23.2/23.2	23.2/23.2	11.2	11.2	11.2	7.9	7.9	7.9
	Amps (LRA), Comp. 1	164/164	164/164	164/164	75	75	75	54	54	54
Condenser Motor	No.	1	1	1	1	1	1	1	1	1
	Volts	208/230	208/230	208/230	460	460	460	575	575	575
	Phase	1	1	1	1	1	1	1	1	1
	HP	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
	Amps (FLA, each)	2.3/2.3	2.3/2.3	2.3/2.3	1.5	1.5	1.5	1	1	1
	Amps (LRA, each)	5.6/5.6	5.6/5.6	5.6/5.6	3.1	3.1	3.1	2.2	2.2	2.2
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 - RLKL-B

ELECTRICAL DATA – RLKL SERIES							
		B120CL	B120CM	B120DL	B120DM	B120YL	B120YM
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	51/51	56/56	28	31	22	26
	Minimum Overcurrent Protection Device Size	60/60	70/70	35	35	25	30
	Maximum Overcurrent Protection Device Size	80/80	80/80	40	45	30	35
Compressor Motor	No.	1	1	1	1	1	1
	Volts	208/230	208/230	480	480	600	600
	Phase	3	3	3	3	3	3
	RPM	3450	3450	3450	3450	3450	3450
	HP, Compressor 1	10	10	10	10	10	10
	Amps (RLA), Comp. 1	30.1/30.1	30.1/30.1	16.7	16.7	12.2	12.2
	Amps (LRA), Comp. 1	225/225	225/225	114	114	80	80
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	56/56	28	38.1	19	20

ELECTRICAL DATA - RLKL-B

ELECTRICAL DATA – RLKL SERIES							
		B151CL	B151CM	B151DL	B151DM	B151YL	B151YM
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	67/67	71/71	33	36	28	28
	Minimum Overcurrent Protection Device Size	70/70	75/75	35	40	30	30
	Maximum Overcurrent Protection Device Size	80/80	90/90	40	45	35	35
Compressor Motor	No.	2	2	2	2	2	2
	Volts	208/230	208/230	460	460	575	575
	Phase	3	3	3	3	3	3
	RPM	3450	3450	3450	3450	3450	3450
	HP, Compressor 1	5 3/4	5 3/4	5 3/4	5 3/4	5 3/4	5 3/4
	Amps (RLA), Comp. 1	22.4/22.4	22.4/22.4	10.6	10.6	7.7	7.7
	Amps (LRA), Comp. 1	149/149	149/149	75	75	54	54
	HP, Compressor 2	5 1/4	5 1/4	5 1/4	5 1/4	5 1/4	5 1/4
	Amps (RLA), Comp. 2	19/19	19/19	9.7	9.7	7.4	7.4
	Amps (LRA), Comp. 2	123/123	123/123	62	62	50	50
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	1/2	1/2	1/2	1/2	1/2	1/2
	Amps (FLA, each)	2.3/2.3	2.3/2.3	1.5	1.5	1	1
	Amps (LRA, each)	5.6/5.6	5.6/5.6	3.1	3.1	2.2	2.2
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	3	5	3	5	3	5
	Amps (FLA, each)	15/15	18.8/18.8	7	10	8	8
	Amps (LRA, each)	74.5/74.5	82.6/82.6	38.1	41.3	20	33

VI. INSTALLATION

A. GENERAL

1. PRE-INSTALLATION CHECK-POINTS

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

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

2. LOCATION

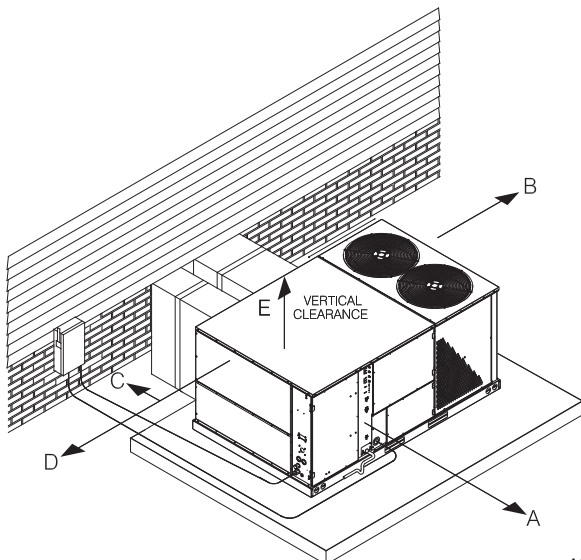
These units are designed for outdoor installations. They can be mounted on a slab or rooftop. They are not to be installed within any part of a structure such as an attic, crawl space, closet, or any other place where condenser air flow is restricted or other than outdoor ambient conditions prevail.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

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

- Select a location where external water drainage cannot collect around the unit.
- Provide a level concrete slab extending 3" [76.2 mm] beyond all four sides of the unit. The slab should be sufficient above grade to prevent ground water from entering the unit. **IMPORTANT:** To prevent transmission of noise or vibration, slab should not be connected to building structure.

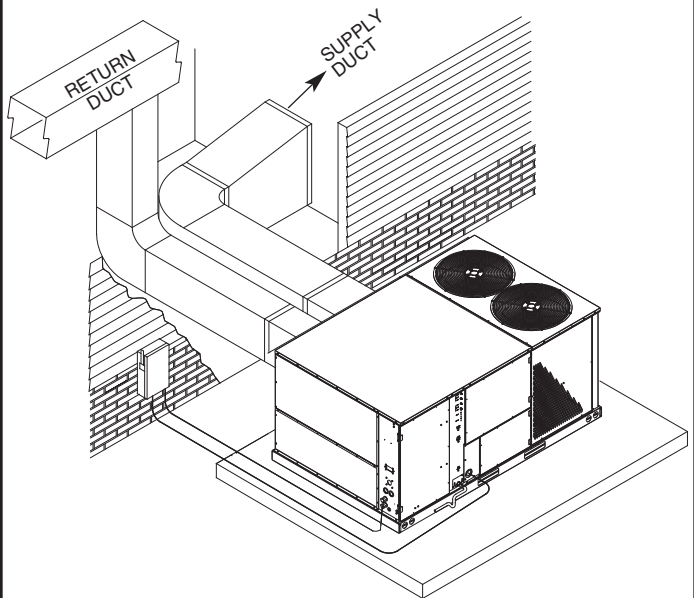
FIGURE 6
OUTSIDE SLAB INSTALLATION, BASEMENT OR
CRAWL SPACE DISTRIBUTION SYSTEM

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

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.

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

CAPACITY TONS [kW]	CORNER WEIGHTS BY PERCENTAGE			
	A	B	C	D
10 [35.2]	33%	27%	17%	23%
7.5 [26.4]	30%	35%	14%	21%
12.5 [44.0]	44%	30%	12%	14%

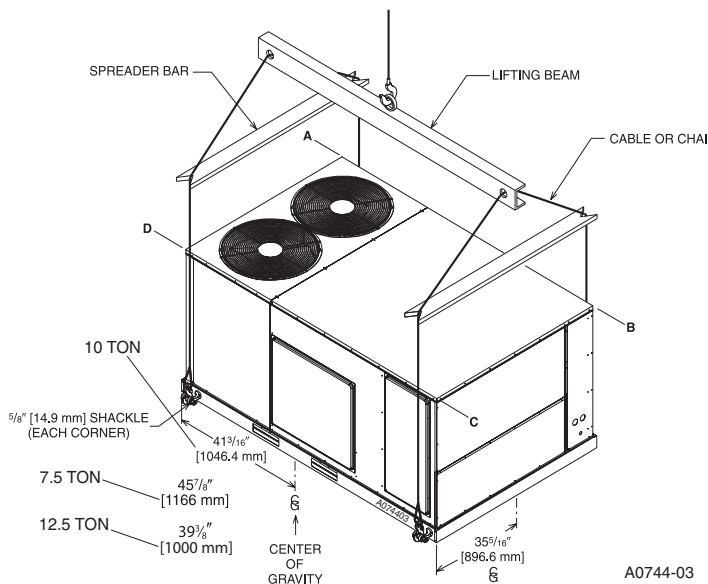
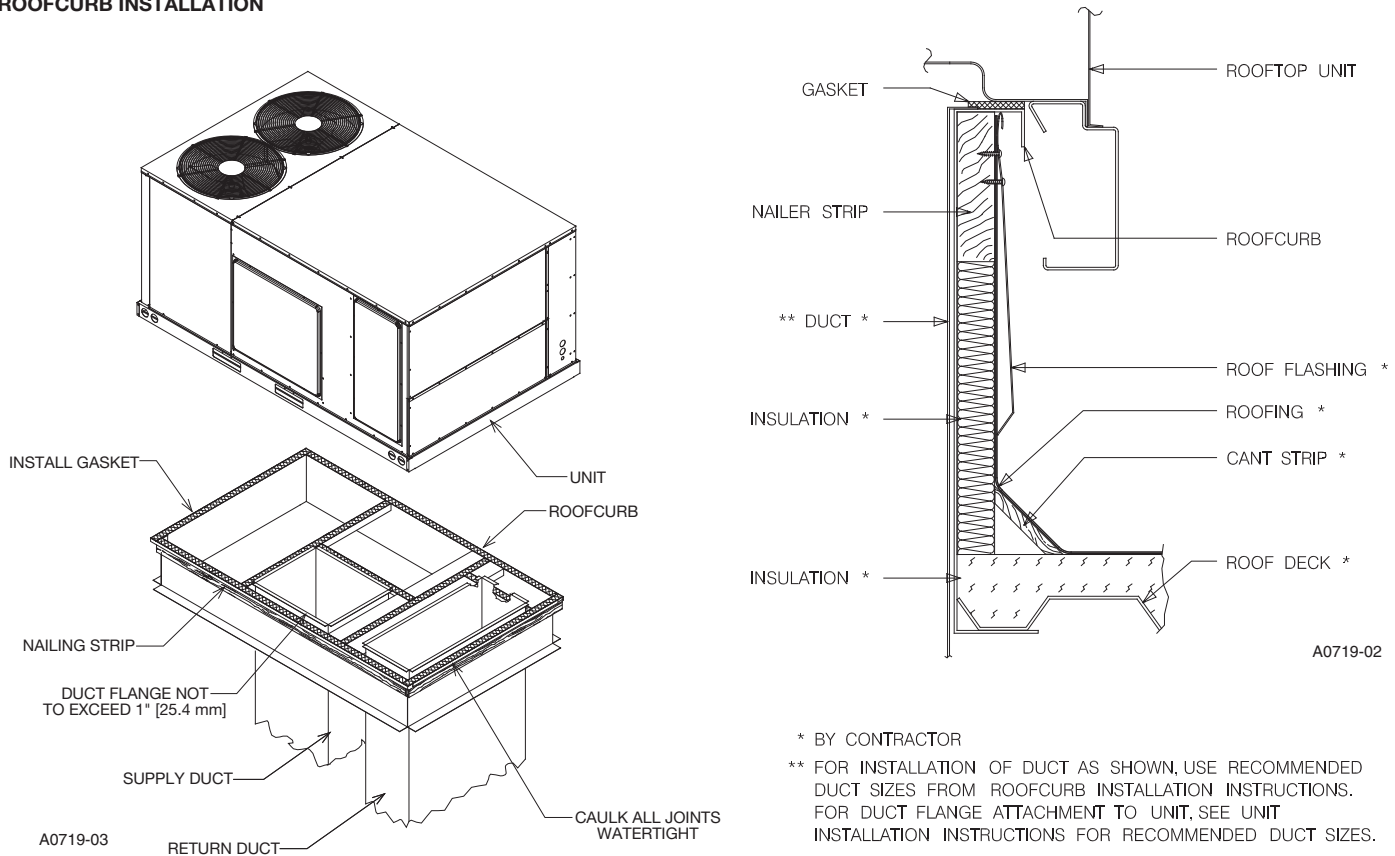


FIGURE 9
ROOFCURB INSTALLATION



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.

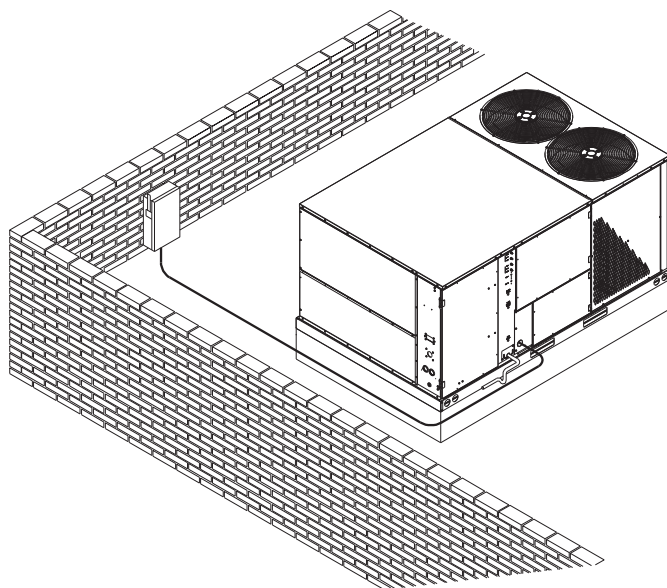
It is preferable to install the unit on the roof of the structure if the registers or diffusers are located on the wall or in the ceiling. A slab installation could be considered when the registers are low on a wall or in the floor.

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.

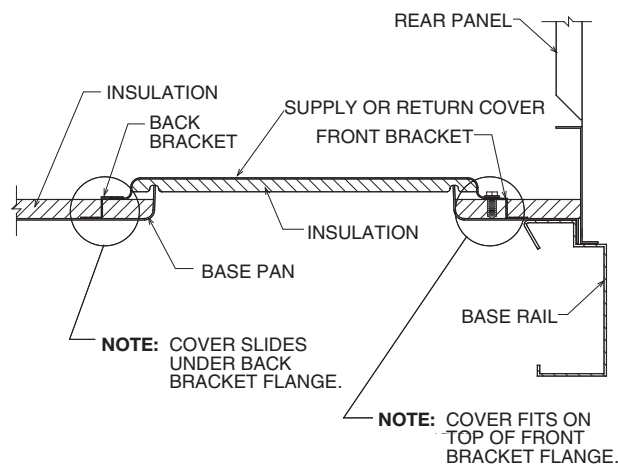
When installing ductwork, consider the following items:

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



A1112-03

FIGURE 11
COVER GASKET DETAIL



A0725-01

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.

IX. 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.

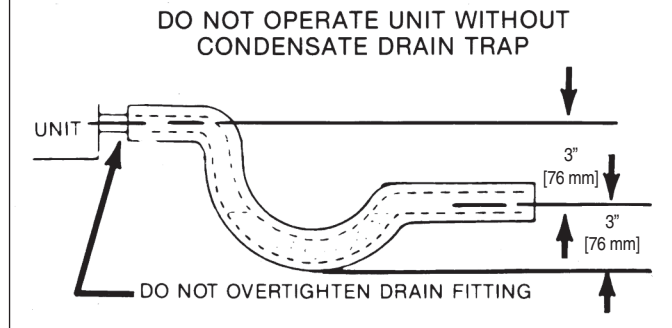
X. CONDENSATE DRAIN

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

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

- To use the removable drain pan feature of this unit, some of the condensate line joints should be assembled for easy removal and cleaning.
- Use a thin layer of Teflon tape or paste on drain pan connections and install only hand tight.
- Do not over tighten drain pan connections as damage to the drain pan may occur.

FIGURE 12
CONDENSATE DRAIN



- Drain line **MUST NOT** block service access panels.
- Drain line must be no smaller than drain pan outlet and adequately sized to accommodate the condensate discharge from the unit.
- Drain line should slope away from unit a minimum of 1/8" per foot to ensure proper drainage.
- Drain line must be routed to an acceptable drain or outdoors in accordance with local codes.
- Do not connect condensate drain line to a closed sewer pipe.
- Drain line may need insulation or freeze protection in certain applications.

XI. ELECTRICAL WIRING

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

A. POWER WIRING

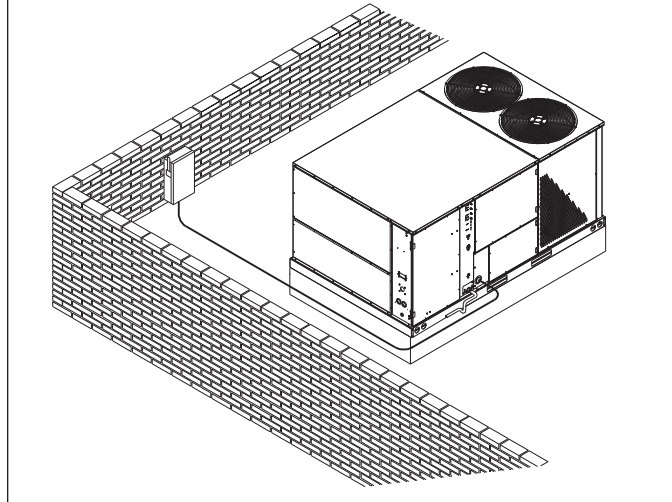
1. This unit incorporates single-point electrical connections for the unit and electric heat accessory.
2. It is important that proper electrical power is available to the unit. Voltage should not vary more than 10% from the values marked on the unit rating plate. Phase voltages must be balanced within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

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

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.

FIGURE 13
BRANCH CIRCUIT DISCONNECT LOCATION



- 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.
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

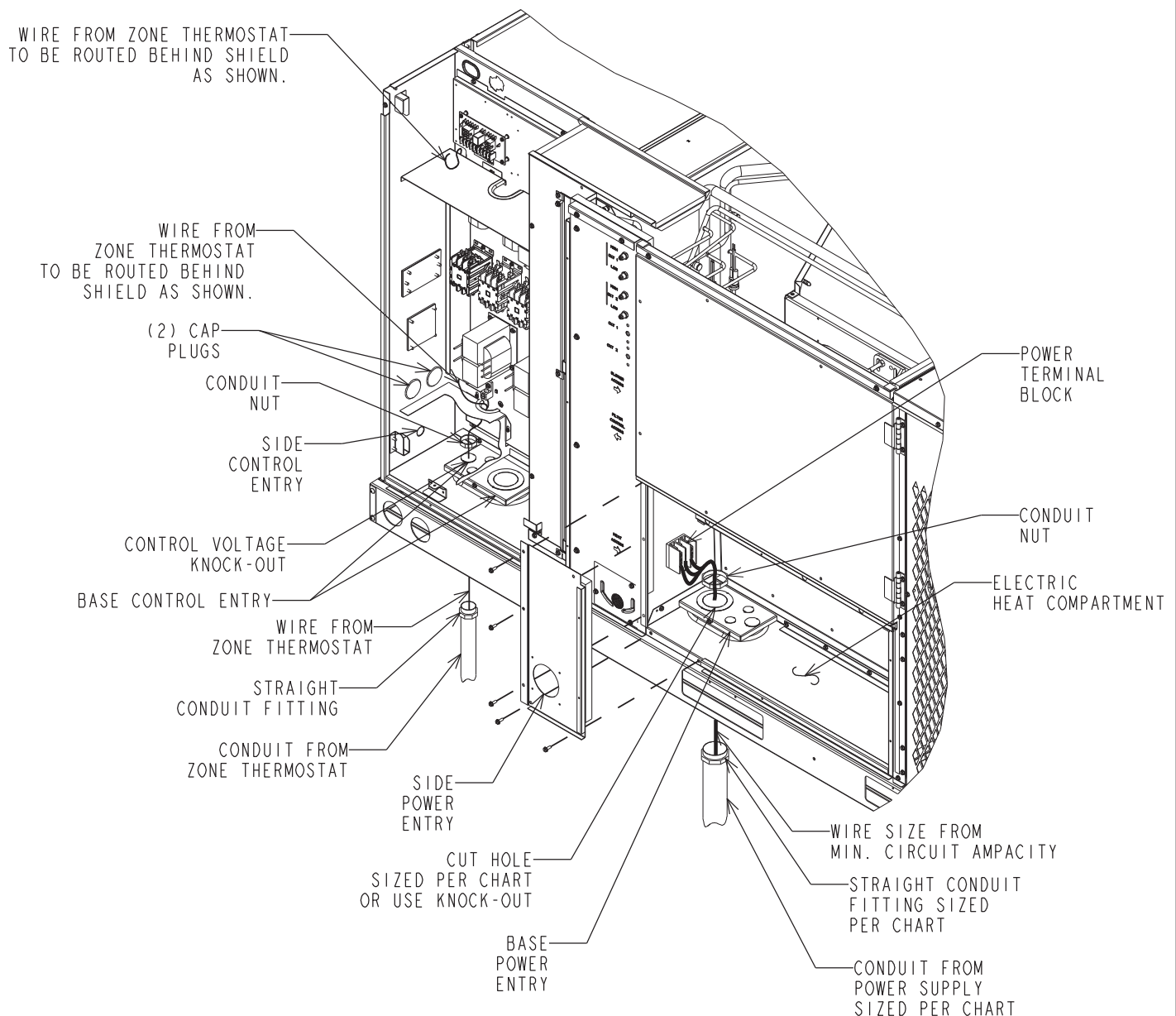
⚠ WARNING

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.

FIGURE 14



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 other models, but may be desirable under certain conditions.

XIV. PRE-START CHECK

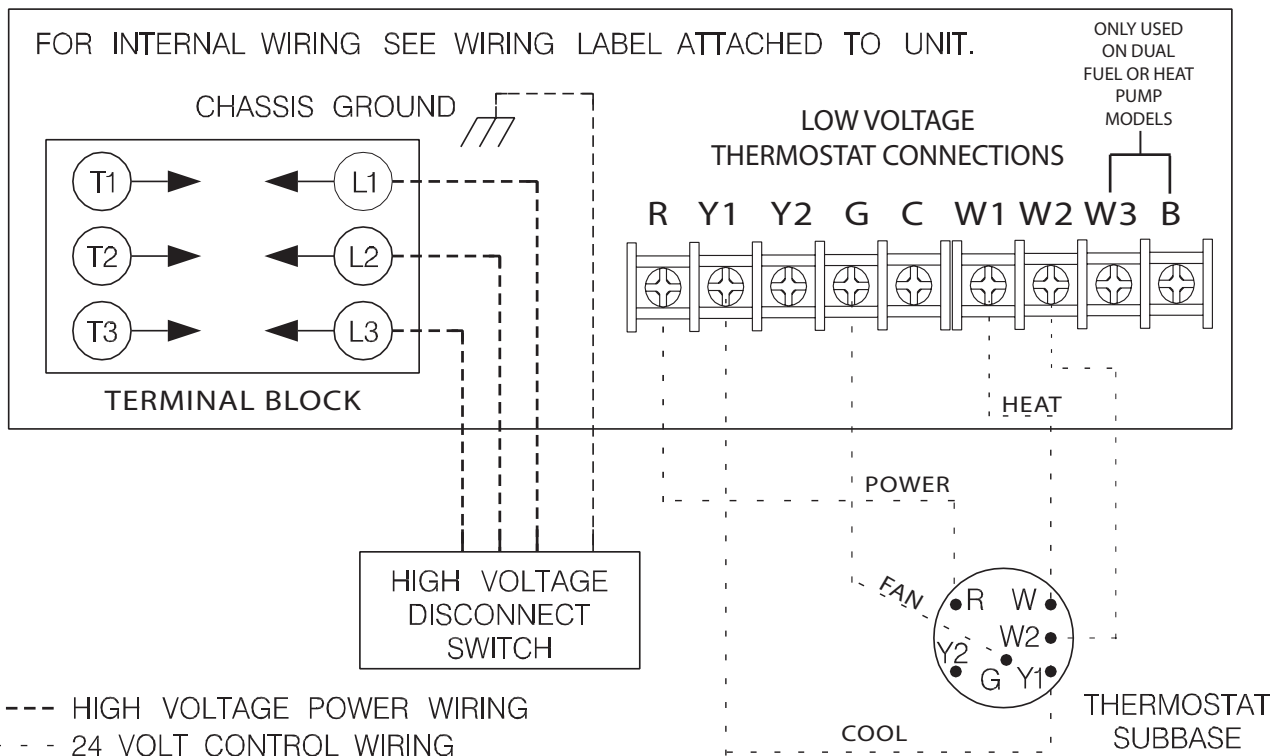
1. Is unit properly located and slightly slanted toward indoor condensate drain?
2. Is ductwork insulated, weatherproofed, with proper spacing to combustible materials?
3. Is air free to travel to and from outdoor coil? (See Figure 4.)
4. Is the wiring correct, tight, and according to unit wiring diagram?

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

FIGURE 15
THERMOSTAT
CONNECTIONS
DIAGRAM



ST-A1125-12-00

- 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 contactor is energized through thermostat contacts (Y1) and safety controls.
- C. Economizer enthalpy control (if installed) controls operation of first-stage cooling and positions fresh air damper to maintain mixed air temperature. Compressor operates 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 RLKL- B090 MODELS

Air Flow CFM [L/s]	Capacity 7.5 Ton [26.4 kW]																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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	0.1 [0.02] RPM	0.2 [0.05] RPM	0.3 [0.07] RPM	0.4 [0.10] RPM	0.5 [0.12] RPM	0.6 [0.15] RPM	0.7 [0.17] RPM	0.8 [0.20] RPM	0.9 [0.22] RPM	1.0 [0.25] RPM	1.1 [0.27] RPM	1.2 [0.30] RPM	1.3 [0.32] RPM	1.4 [0.35] RPM	1.5 [0.37] RPM	1.6 [0.40] RPM	1.7 [0.42] RPM	1.8 [0.45] RPM	1.9 [0.47] RPM	2.0 [0.50] RPM	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W

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-B090
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, IWC-B090
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	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]					
100% R.A. Damper Open												
Horizontal Economizer	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]					
100% R.A. Damper Open												
Horizontal Economizer	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]					
100% O.A. Damper Open												

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

AIR-FLOW PERFORMANCE – 10 TON RLKL B120 MODELS

Air Flow CFM [L/s]	Capacity		10 Ton (35.2 kW)																																											
	External Static Pressure—Inches of Water [kPa]																																													
	0.1 [0.02]	0.2 [0.05]	0.3 [0.07]	0.4 [0.10]	0.5 [0.12]	0.6 [0.15]	0.7 [0.17]	0.8 [0.20]	0.9 [0.22]	1.0 [0.25]	1.1 [0.27]	1.2 [0.30]	1.3 [0.32]	1.4 [0.35]	1.5 [0.37]	1.6 [0.40]	1.7 [0.42]	1.8 [0.45]	1.9 [0.47]	2.0 [0.50]	2.1 [0.52]	2.2 [0.55]	2.3 [0.57]																							
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																					
3200 [1510]	—	—	—	—	—	657	1170	715	1245	742	1319	770	1394	797	1468	825	1543	852	1617	880	1632	956	1698	976	1703	996	1817	1017	1930	1037	2044	1057	2127	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	1042	2162	1065	2276	1085	2390	1105	2503	1125	2617	1146	2749	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	1115	2622	1133	2733	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	2517	1108	2632	1120	2747	1120	2859	1148	2973	1168	3080		
3600 [1699]	—	—	686	1352	714	1427	741	1501	769	1576	796	1650	824	1725	851	1799	879	1874	945	1882	966	1951	986	2065	989	2178	1016	2282	1047	2405	1067	2519	1087	2632	1108	2746	1128	2859	1148	2973	1168	3080				
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	2242	1016	2416	1043	2529	1062	2643	1082	2756	1102	2870	1123	2988	1130	3102	1150	3215	1171	3329	1191	3442		
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	1102	2988	1130	3102	1150	3215	1171	3329	1191	3442				
4000 [1888]	713	1609	740	1683	768	1758	795	1832	823	1907	850	1961	878	2036	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	2204	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	1122	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	1063	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	2565	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	1171	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	704	669	613	569
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.

COMPONENT AIR RESISTANCE, IWC-B120
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-CF05	DNA	DNA	DNA	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 [0.036]	0.16 [0.040]	0.18 [0.044]	0.19 [0.047]	0.20 [0.050]	0.21 [0.052]	

NOTE: Add component resistance to duct resistance to determine total external static pressure.

DNA = Data not Available.

AIRFLOW CORRECTION FACTORS-B120
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

AIRFLOW PERFORMANCE — 12.5 TON [43.9kW] — 60 Hz

[illegible]

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

	L	M
Drive Package	3 [237.1]	5 [37.285]
Motor HP [W]	BK2H	BK5H
Blower Speed	1VP-44	1VP-65
Motor Strave		
Turns Open	0	0
RPM	1051	1294
	1009	1256
	2	2
	3	3
	4	4
	5	5
	6	6
	824	1177
	824	1136
	1094	1094

- NOTES : 1. Factory sheave settings are shown in bold type.
2. Do not set motor sheaves below minimum or maximum turns open shown.
3. Readjustment of sheave required to achieve rated airflow at AHR 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.

COMPONENT AIRFLOW RESISTANCE-B151- 12.5 TON [43.9kW]

CFM	3800	4000	4200	4400	4600	4800	5000	5200	5400	5600	5800
	[1793]	[1888]	[1982]	[2076]	[2170]	[2265]	[2359]	[2454]	[2548]	[2643]	[2737]
Net Coil	0.65	0.69	0.69	0.70	0.72	0.72	0.73	0.74	0.75	0.76	0.77
Downflow Economizer RA Damper Open	0.12	0.13	0.14	0.15	0.16	0.17	0.18	0.19	0.20	0.21	0.22
Horizontal Economizer RA Damper Open	0.10	0.10	0.11	0.11	0.12	0.12	0.13	0.13	0.14	0.14	0.15
Concentric Grill EXRN-AA61 or EXRN-AA71 & Transition RMC-CE05	0.19	0.21	0.24	0.27	0.30	0.33	0.36	0.40	0.44	0.48	0.52
Concentric Grill EXRN-AA66 or EXRN-AA76 & Transition RMC-CF06	0.91	0.95	0.98	0.97	0.97	0.98	0.99	1.00	1.01	1.02	1.03
Concentric Grill EXRN-AA66 or EXRN-AA76 & Transition RMC-CF06	0.60	0.66	0.67	0.67	0.67	0.68	0.69	0.70	0.71	0.72	0.73

AIRFLOW CORRECTION FACTORS-B151- 12.5 TON [43.9kW]

CFM	3800	4000	4200	4400	4600	5000	5200	5400	5600
[L/s]	[179]	[188]	[198]	[207]	[217]	[239]	[254]	[264]	[273]
Total MBH	0.98	1.00	1.01	1.02	1.03	1.06	1.08	1.09	1.10
Power, kW	0.99	1.00	1.00	1.01	1.01	1.02	1.02	1.03	1.03

XVIII. HEATER KIT CHARACTERISTICS

TABLE A

AUXILIARY HEATER KITS CHARACTERISTICS AND APPLICATION (RLKL MODELS)

208/240 VOLT, THREE PHASE, 60 HZ. AUXILIARY ELECTRIC HEATER KITS CHARACTERISTICS AND APPLICATION													
Single Power Supply for Both Unit and Heater Kit													
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 @ 208/240 V	Over Current Protection Device Size		Min. Ckt. Ampacity 208/240V	Over Current Protection Device Size			
							Min. Max. @ 208 V	Min. Max. @ 240 V		Min. Ckt. Ampacity 208/240 V	Min. Max. @ 208 V	Min. Max. @ 240 V	
RLKL-B090CL	No Heat	—	—	—	—	40/40	50/60	50/60	—	40/40	50/60	50/60	
	CC10C	1	7 2/9.6	24 56/32.75	20/23.1	40/40	50/60	50/60	25/29	—	—	—	
	CC15C	1	10 8/14.4	36 84/49.13	30/34.6	48/54	60/60	40/45	38/44	—	—		
	CC20C	1	14 4/19.2	49 13/65.5	40/46.2	60/68	70/70	50/60	50/58	—	—		
	CC30C	1	21 6/28.8	73 69/98.25	60/69.3	85/97	100/100	80/90	75/87	—	—		
	CC31C	1	21 6/28.8	73 69/98.25	60/69.3	85/97	100/100	80/90	75/87	—	—		
RLKL-B090CM	No Heat	—	—	—	—	111/126	125/125	150/150	101/116	—	—	—	
	CC10C	1	7 2/9.6	24 56/32.75	20/23.1	40/40	50/60	50/60	25/29	40/40	50/60	50/60	
	CC15C	1	10 8/14.4	36 84/49.13	30/34.6	48/54	60/60	40/45	38/44	—	—		
	CC20C	1	14 4/19.2	49 13/65.5	40/46.2	60/68	70/70	50/60	50/58	—	—		
	CC30C	1	21 6/28.8	73 69/98.25	60/69.3	85/97	100/100	80/90	75/87	—	—		
	CC31C	1	21 6/28.8	73 69/98.25	60/69.3	85/97	100/100	80/90	75/87	—	—		
RLKL-B090CN	No Heat	—	—	—	—	111/126	125/125	150/150	101/116	—	—	—	
	CC10C	1	7 2/9.6	24 56/32.75	20/23.1	45/45	60/60	60/60	25/29	45/45	60/60	60/60	
	CC15C	1	10 8/14.4	36 84/49.13	30/34.6	54/60	60/60	40/45	38/44	—	—		
	CC20C	1	14 4/19.2	49 13/65.5	40/46.2	67/75	80/80	50/60	50/58	—	—		
	CC30C	1	21 6/28.8	73 69/98.25	60/69.3	92/103	100/100	80/90	75/87	—	—		
	CC31C	1	21 6/28.8	73 69/98.25	60/69.3	92/103	100/100	80/90	75/87	—	—		
RLKL-B090CN	CC40C	1	28 8/38.4	98 25/131	80.1/92.4	117/132	125/125	150/150	101/116	—	—	—	
	CC41C	1	28 8/38.4	98 25/131	80.1/92.4	117/132	125/125	150/150	101/116	—	—	—	

480 VOLT, THREE PHASE, 60 HZ, AUXILIARY ELECTRIC HEATER KITS CHARACTERISTICS AND APPLICATION													
Separate Power Supply for Both Unit and Heater Kit													
Model Number	Single Power Supply for Both Unit and Heater Kit					Air Conditioner				Heater Kit			
	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 @ 208/240 V	Over Current Protection Device Size		Min. Ckt. Ampacity 208/240V	Heater Kit		Air Conditioner	
							Min. Max. @ 208 V	Min. Max. @ 240 V		Min. Ckt. Ampacity 208/240 V	Max. Fuse Size 208/240 V	Min./Max @ 208 V	Over Current Protection Device Size Min./Max @ 240 V
RLKL-B090DL	No Heat	—	—	—	—	20	25/30	—	20	—	25/30	—	—
	CC100	1	9.6	32.75	11.5	20	25/30	15	—	—	—	—	—
	CC150	1	14.4	49.13	17.3	27	30/30	22	—	—	—	—	—
	CC200	1	19.2	65.5	23.1	34	35/35	29	—	—	—	—	—
	CC300	1	28.8	98.25	34.6	49	50/50	44	—	—	—	—	—
	CC31D	1	28.8	98.25	34.6	49	50/50	44	—	—	—	—	—
	CC40D	1	38.4	131	46.2	63	70/70	58	—	—	—	—	—
RLKL-B090DM	No Heat	—	—	—	—	20	25/30	—	20	—	25/30	—	—
	CC100	1	9.6	32.75	11.5	20	25/30	15	—	—	—	—	—
	CC150	1	14.4	49.13	17.3	27	30/30	22	—	—	—	—	—
	CC200	1	19.2	65.5	23.1	34	35/35	29	—	—	—	—	—
	CC300	1	28.8	98.25	34.6	49	50/50	44	—	—	—	—	—
	CC31D	1	28.8	98.25	34.6	49	50/50	44	—	—	—	—	—
	CC40D	1	38.4	131	46.2	63	70/70	58	—	—	—	—	—
RLKL-B090DN	No Heat	—	—	—	—	23	30/30	—	23	—	30/30	—	—
	CC100	1	9.6	32.75	11.5	24	30/30	15	—	—	—	—	—
	CC150	1	14.4	49.13	17.3	31	35/35	22	—	—	—	—	—
	CC200	1	19.2	65.5	23.1	38	40/40	29	—	—	—	—	—
	CC300	1	28.8	98.25	34.6	52	60/60	44	—	—	—	—	—
	CC31D	1	28.8	98.25	34.6	52	60/60	44	—	—	—	—	—
	CC40D	1	38.4	131	46.2	67	70/70	58	—	—	—	—	—

600 VOLT, THREE PHASE, 60 HZ, AUXILIARY ELECTRIC HEATER KITS CHARACTERISTICS AND APPLICATION														
Separate Power Supply for Both Unit and Heater Kit														
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 @ 208/240 V	Over Current Protection Device Size		Min. Ckt. Ampacity 208/240V	Max. Fuse Size 208/240 V	Min. Circuit Ampacity 208/240V	Over Current Protection Device Size		
							Min.	Max. @ 240 V				Min.	Max. @ 240 V	
RLKL-B090YL	No Heat	—	—	—	—	15	20/20	—	—	15	20/20	—	—	
	CC10Y	1	9.6	32.75	9.2	17	20/20	—	12	15	—	—	—	
	CC15Y	1	14.4	49.13	13.9	23	25/25	—	18	20	—	—	—	
	CC20Y	1	19.2	65.5	18.5	29	30/30	—	24	25	—	—	—	
	CC30Y	1	28.8	98.25	27.7	40	40/40	—	35	35	—	—	—	
	CC40Y	1	38.4	131	37	52	60/60	—	47	50	—	—	—	
RLKL-B090YM	No Heat	—	—	—	—	15	20/20	—	—	15	20/20	—	—	
	CC10Y	1	9.6	32.75	9.2	17	20/20	—	12	15	—	—	—	
	CC15Y	1	14.4	49.13	13.9	23	25/25	—	18	20	—	—	—	
	CC20Y	1	19.2	65.5	18.5	29	30/30	—	24	25	—	—	—	
	CC30Y	1	28.8	98.25	27.7	40	40/40	—	35	35	—	—	—	
	CC40Y	1	38.4	131	37	52	60/60	—	47	50	—	—	—	
RLKL-B090YN	No Heat	—	—	—	—	19	25/25	—	—	19	25/25	—	—	
	CC10Y	1	9.6	32.75	9.2	22	25/25	—	12	15	—	—	—	
	CC15Y	1	14.4	49.13	13.9	28	30/30	—	18	20	—	—	—	
	CC20Y	1	19.2	65.5	18.5	34	35/35	—	24	25	—	—	—	
	CC30Y	1	28.8	98.25	27.7	45	45/45	—	35	35	—	—	—	
	CC40Y	1	38.4	131	37	57	60/60	—	47	50	—	—	—	

208/240 VOLT, THREE PHASE, 60 HZ, AUXILIARY ELECTRIC HEATER KITS CHARACTERISTICS AND APPLICATION														
Single Power Supply for Both Unit and Heater Kit														
Model Number	Heater Kit				Air Conditioner				Separate Power Supply for Both Unit and Heater Kit					
	RXJL- 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 @ 208/240 V	Over Current Protection Device Size		Min. Ckt. Ampacity 208/240 V	Max. Fuse Size 208/240 V	Min. Circuit Ampacity 208/240V	Over Current Protection Device Size		
							Min.	Max. @ 240 V				Min./Max @ 208 V	Min./Max @ 240 V	
RLKL-B120CL	No Heat	—	—	—	—	51/51	60/80	60/80	—	—	51/51	60/80	60/80	—
	CC10C	1	7.2/9.6	24.56/32.75	20/23.1	51/51	60/80	60/80	—	25/30	—	—	—	—
	CC15C	1	10.8/14.4	36.84/49.13	30/34.6	51/54	60/80	60/80	—	40/45	—	—	—	—
	CC20C	1	14.4/19.2	49.13/65.5	40/46.2	60/68	60/80	70/80	—	50/60	—	—	—	—
	CC30C	1	21.6/28.8	73.69/98.25	60/69.3	85/97	90/90	100/100	—	80/90	—	—	—	—
	CC40C	1	28.8/38.4	98.25/131	80.1/92.4	111/126	125/125	150/150	—	110/125	—	—	—	—
	CC50C	1	36.1/48	123.16/163.75	100.1/115.5	136/155	150/150	175/175	—	150/150	—	—	—	—
208/240 VOLT, THREE PHASE, 60 HZ, AUXILIARY ELECTRIC HEATER KITS CHARACTERISTICS AND APPLICATION														
Single Power Supply for Both Unit and Heater Kit														
Model Number	Heater Kit				Air Conditioner				Separate Power Supply for Both Unit and Heater Kit					
	RXJL- 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 @ 208/240 V	Over Current Protection Device Size		Min. Ckt. Ampacity 208/240 V	Max. Fuse Size 208/240 V	Min. Circuit Ampacity 208/240V	Over Current Protection Device Size		
							Min.	Max. @ 208 V				Min./Max @ 208 V	Min./Max @ 240 V	
RLKL-B120CM	No Heat	—	—	—	—	56/56	70/80	70/80	—	—	56/56	70/80	70/80	—
	CC10C	1	7.2/9.6	24.56/32.75	20/23.1	56/56	70/80	70/80	—	25/30	—	—	—	—
	CC15C	1	10.8/14.4	36.84/49.13	30/34.6	56/56	70/80	70/80	—	40/45	—	—	—	—
	CC20C	1	14.4/19.2	49.13/65.5	40/46.2	67/75	70/80	80/80	—	50/60	—	—	—	—
	CC30C	1	21.6/28.8	73.69/98.25	60/69.3	92/103	100/100	110/110	—	80/90	—	—	—	—
	CC40C	1	28.8/38.4	98.25/131	80.1/92.4	117/132	125/125	150/150	—	110/125	—	—	—	—
	CC50C	1	36.1/48	123.16/163.75	100.1/115.5	142/161	150/150	175/175	—	150/150	—	—	—	—

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						
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 @ 480 V	Over Current Protection Device Size		Min. Ckt. Ampacity 480 V	Max. Fuse Size 480 V	Min. Circuit Ampacity 480V	Over Current Protection Device Size	
							Min. Max. @ 480 V	Min. Max. @ 480 V				Min./Max @ 480 V	Min./Max @ 480 V
RLKL-B120DL	No Heat	—	—	—	—	28	35/40	—	—	—	35/40	—	—
	CC10D	1	9.6	32.75	11.5	28	35/40	15	28	15	—	—	—
	CC15D	1	14.4	49.13	17.3	28	35/40	22	—	25	—	—	—
	CC20D	1	19.2	65.5	23.1	34	35/40	29	—	30	—	—	—
	CC30D	1	28.8	98.25	34.6	48	50/50	44	—	45	—	—	—
	CC40D	1	38.4	131	46.2	63	70/70	58	—	60	—	—	—
	CC50D	1	48	163.75	57.7	77	80/80	73	—	80	—	—	—
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						
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 @ 480 V	Over Current Protection Device Size		Min. Ckt. Ampacity 480 V	Max. Fuse Size 480 V	Min. Circuit Ampacity 480V	Over Current Protection Device Size	
							Min. Max. @ 480 V	Min. Max. @ 480 V				Min./Max @ 480 V	Min./Max @ 480 V
RLKL-B120DM	No Heat	—	—	—	—	28	35/40	—	—	—	35/40	—	—
	CC10D	1	9.6	32.75	11.5	28	35/40	15	28	15	—	—	—
	CC15D	1	14.4	49.13	17.3	28	35/40	22	—	25	—	—	—
	CC20D	1	19.2	65.5	23.1	34	35/40	29	—	30	—	—	—
	CC30D	1	28.8	98.25	34.6	48	50/50	44	—	45	—	—	—
	CC40D	1	38.4	131	46.2	63	70/70	58	—	60	—	—	—
	CC50D	1	48	163.75	57.7	77	80/80	73	—	80	—	—	—

600 VOLT, THREE PHASE, 60 HZ, AUXILIARY ELECTRIC HEATER KITS CHARACTERISTICS AND APPLICATION													
Single Power Supply for Both Unit and Heater Kit													
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 @ 600 V	Over Current Protection Device Size		Min. Ckt. Ampacity 600 V	Max. Fuse Size 600 V	Min. Circuit Ampacity 600V	Over Current Protection Device Size	
							Min. Max. @ 600 V	Min. Max. @ 600 V				Min. /Max @ 600 V	Min. /Max @ 600 V
RLKL-B120YL	No Heat	—	—	—	—	22	25/30	—	—	—	22	25/30	—
	CC10Y	1	9.6	32.75	9.2	22	25/30	—	12	15	—	—	—
	CC15Y	1	14.4	49.13	13.9	22	25/30	—	18	20	—	—	—
	CC20Y	1	19.2	65.5	18.5	27	30/30	—	24	25	—	—	—
	CC30Y	1	28.8	98.25	27.7	38	40/40	—	35	35	—	—	—
	CC40Y	1	38.4	131	37	50	50/50	—	47	50	—	—	—
	CC50Y	1	48	163.75	46.2	61	70/70	—	58	60	—	—	—
600 VOLT, THREE PHASE, 60 HZ, AUXILIARY ELECTRIC HEATER KITS CHARACTERISTICS AND APPLICATION													
Single Power Supply for Both Unit and Heater Kit													
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 @ 600 V	Over Current Protection Device Size		Min. Ckt. Ampacity 600 V	Max. Fuse Size 600 V	Min. Circuit Ampacity 600V	Over Current Protection Device Size	
							Min. Max. @ 600 V	Min. Max. @ 600 V				Min. /Max @ 600 V	Min. /Max @ 600 V
RLKL-B120YM	No Heat	—	—	—	—	26	30/35	—	—	—	26	30/35	—
	CC10Y	1	9.6	32.75	9.2	26	30/35	—	12	15	—	—	—
	CC15Y	1	14.4	49.13	13.9	26	30/35	—	18	20	—	—	—
	CC20Y	1	19.2	65.5	18.5	27	30/30	—	24	25	—	—	—
	CC30Y	1	28.8	98.25	27.7	40	40/40	—	35	35	—	—	—
	CC40Y	1	38.4	131	37	51	60/60	—	47	50	—	—	—
	CC50Y	1	48	163.75	46.2	63	70/70	—	58	60	—	—	—

208/240 VOLT, THREE PHASE, 60 HZ, AUXILIARY ELECTRIC HEATER KITS CHARACTERISTICS AND APPLICATION												
Single Power Supply for Both Unit and Heater Kit												
Model Number	Heater Kit			Air Conditioner			Heater Kit			Air Conditioner		
	RXJ - 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 @ 208/240 V	Min. Max. @ 208/240 V	Over Current Protection Device Size Min. Max. @ 208/240 V	Min. Ckt. Ampacity 208/240V	Max. Fuse Size 208/240 V		Over Current Protection Device Size Min./Max. @ 240 V
										Min. /Max. @ 208 V	Min. /Max. @ 240 V	
RLKL-B151CL	No Heat	—	—	—	—	67/67	70/80	70/80	—	—	—	70/80
	CC10C	1	7.2/9.6	24.56/32.75	20/23.1	67/67	80/80	80/80	25/29	25/30	—	—
	CC15C	1	10.8/14.4	36.84/49.13	30/34.6	67/67	80/80	80/80	38/44	40/45	—	—
	CC20C	1	14.4/19.2	49.13/65.5	40/46.2	69/77	80/80	80/80	50/58	50/60	—	—
	CC30C	1	21.6/28.8	73.69/98.25	60/69.3	94/106	100/100	110/110	75/87	80/90	—	—
	CC40C	1	28.8/38.4	98.25/131	80.1/92.4	119/135	125/125	150/150	101/116	110/125	—	—
RLKL-B151CM	No Heat	—	—	123.16/163.75	100.1/115.5	144/164	150/150	175/175	126/145	150/150	—	—
	CC10C	1	7.2/9.6	24.56/32.75	20/23.1	71/71	75/90	75/90	—	—	75/90	75/90
	CC15C	1	10.8/14.4	36.84/49.13	30/34.6	71/71	80/90	80/90	25/29	25/30	—	—
	CC20C	1	14.4/19.2	49.13/65.5	40/46.2	74/82	80/90	80/90	38/44	40/45	—	—
	CC30C	1	21.6/28.8	73.69/98.25	60/69.3	99/111	100/100	125/125	50/58	50/60	—	—
	CC40C	1	28.8/38.4	98.25/131	80.1/92.4	124/140	125/125	150/150	75/87	80/90	—	—
RLKL-B151DL	No Heat	—	—	123.16/163.75	100.1/115.5	149/168	150/150	175/175	126/145	150/150	—	—
	CC10D	1	9.6	32.75	11.5	33	35/40	—	33	35/40	—	—
	CC15D	1	14.4	49.13	17.3	33	40/40	—	15	15	—	—
	CC20D	1	19.2	65.5	23.1	38	40/40	—	22	25	—	—
	CC30D	1	28.8	98.25	34.6	52	60/60	—	29	30	—	—
	CC40D	1	38.4	131	46.2	67	70/70	—	44	45	—	—
	CC50D	1	48	163.75	57.7	81	90/90	—	58	60	—	—
									73	80	—	—
480 VOLT, THREE PHASE, 60 HZ, AUXILIARY ELECTRIC HEATER KITS CHARACTERISTICS AND APPLICATION												
Single Power Supply for Both Unit and Heater Kit												
Model Number	Heater Kit			Air Conditioner			Heater Kit			Air Conditioner		
	RXJ - 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 @ 480 V	Min. Max. @ 480 V	Over Current Protection Device Size Min. Max. @ 480 V	Min. Ckt. Ampacity 480V	Max. Fuse Size 480 V		Over Current Protection Device Size Min./Max. @ 480 V
										Min. /Max. @ 480 V	Min. /Max. @ 480 V	
RLKL-B151DM	No Heat	—	—	—	—	36	40/45	—	—	—	—	—
	CC10D	1	9.6	32.75	11.5	36	40/45	—	15	15	—	—
	CC15D	1	14.4	49.13	17.3	36	40/45	—	22	25	—	—
	CC20D	1	19.2	65.5	23.1	42	45/45	—	29	30	—	—
	CC30D	1	28.8	98.25	34.6	56	60/60	—	44	45	—	—
	CC40D	1	38.4	131	46.2	71	80/80	—	58	60	—	—
	CC50D	1	48	163.75	57.7	85	90/90	—	73	80	—	—
600 VOLT, THREE PHASE, 60 HZ, AUXILIARY ELECTRIC HEATER KITS CHARACTERISTICS AND APPLICATION												
Single Power Supply for Both Unit and Heater Kit												
Model Number	Heater Kit			Air Conditioner			Heater Kit			Air Conditioner		
	RXJ - 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 @ 600 V	Min. Max. @ 600 V	Over Current Protection Device Size Min. Max. @ 600 V	Min. Ckt. Ampacity 600V	Max. Fuse Size 600 V		Over Current Protection Device Size Min./Max. @ 600 V
										Min. /Max. @ 600 V	Min. /Max. @ 600 V	
RLKL-B151YL	No Heat	—	—	—	—	28	30/35	—	—	—	—	—
	CC10Y	1	9.6	32.75	9.2	28	30/35	—	12	15	—	—
	CC15Y	1	14.4	49.13	13.9	28	30/35	—	18	20	—	—
	CC20Y	1	19.2	65.5	18.5	34	35/35	—	24	25	—	—
	CC30Y	1	28.8	98.25	27.7	45	45/45	—	35	35	—	—
	CC40Y	1	38.4	131	37	57	60/60	—	47	50	—	—
RLKL-B151YM	No Heat	—	—	163.75	46.2	68	70/70	—	58	60	—	—
	CC50Y	1	48	163.75	46.2	68	70/70	—	—	—	—	—
	No Heat	—	—	—	—	28	30/35	—	—	—	—	—
	CC10Y	1	9.6	32.75	9.2	28	30/35	—	12	15	—	—
	CC15Y	1	14.4	49.13	13.9	28	30/35	—	18	20	—	—
	CC20Y	1	19.2	65.5	18.5	34	35/35	—	24	25	—	—
	CC30Y	1	28.8	98.25	27.7	45	45/45	—	35	35	—	—
	CC40Y	1	38.4	131	37	57	60/60	—	47	50	—	—
	CC50Y	1	48	163.75	46.2	68	70/70	—	58	60	—	—

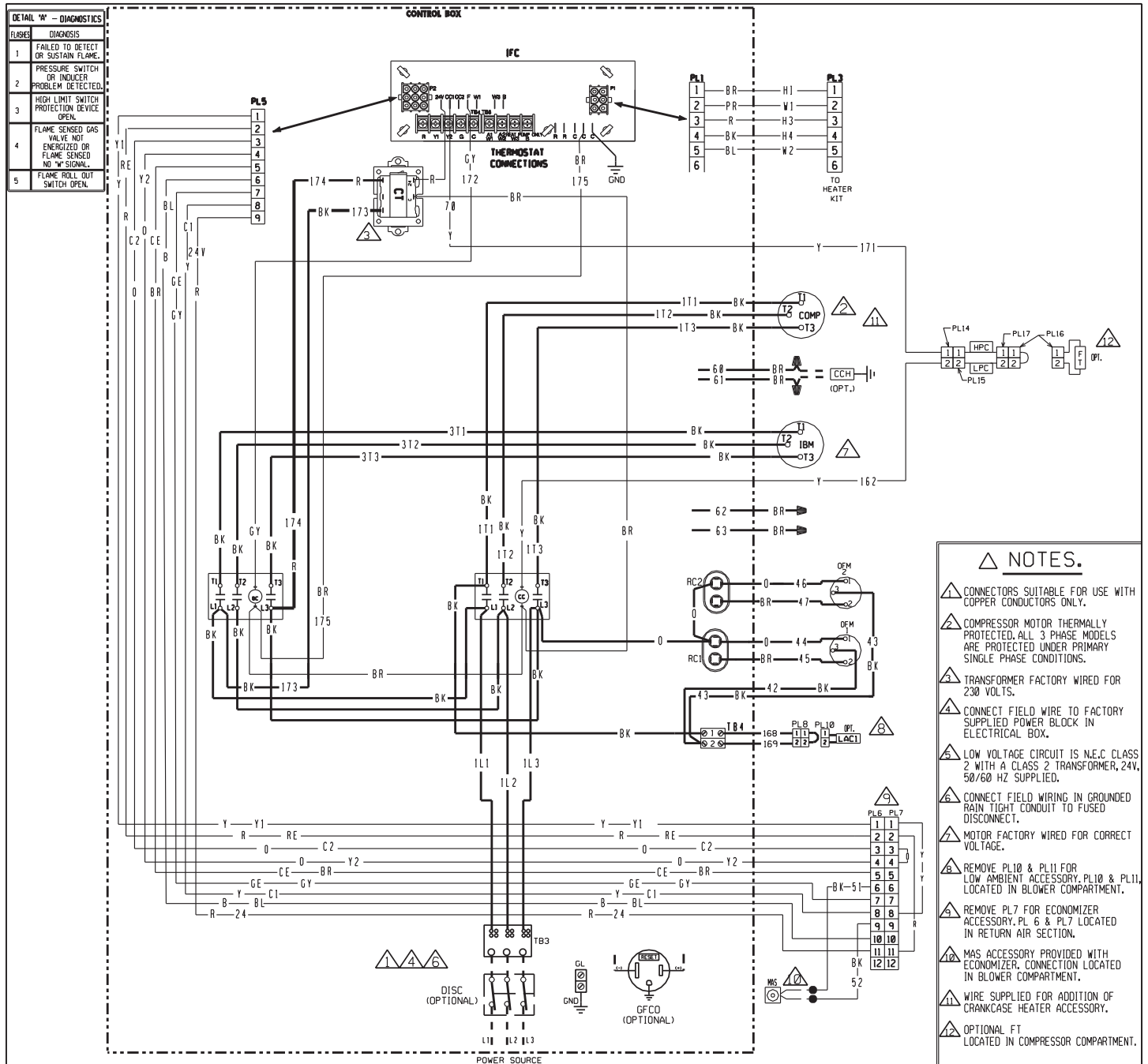
XIX. TROUBLE SHOOTING CHART

▲ 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 $\pm 10\%$ of nameplate marking when unit is operating. - Replace - check for correct voltage - Add refrigerant
Registers sweat	- Low evaporator airflow - Room thermostat set too low	- Increase speed of blower or reduce restriction - replace air filter - Raise thermostat set point
High head-low vapor pressures	- Restriction in liquid line, expansion device or filter drier - Flow check piston size too small - Incorrect capillary tubes	- Remove or replace defective component - Change to correct size piston - Change coil assembly
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 - Liquid line 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 drier
High vapor pressure	- Excessive load - Defective compressor	- Recheck load calculation - Replace
Fluctuating head & vapor pressures	- Severe overcharge - Air or non-condensibles in system	- Adjust refrigerant charge - Recover refrigerant, evacuate & recharge
Gurgle or pulsing noise at expansion device or liquid line	Air or non-condensibles in system	Recover refrigerant, evacuate & recharge

XX. WIRING DIAGRAMS



COMPONENT CODE

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

WIRING INFORMATION

LINE VOLTAGE
 -FACTORY STANDARD
 -FACTORY OPTION
 -FIELD INSTALLED

LOW VOLTAGE
 -FACTORY STANDARD
 -FACTORY OPTION
 -FIELD INSTALLED

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

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

WIRE COLOR CODE

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

WIRING DIAGRAM

(-)LKL-B090/120
 208-230/460/575V 3 PH, 60 HZ.
 200-220/380-415V, 3 PH, 50 HZ

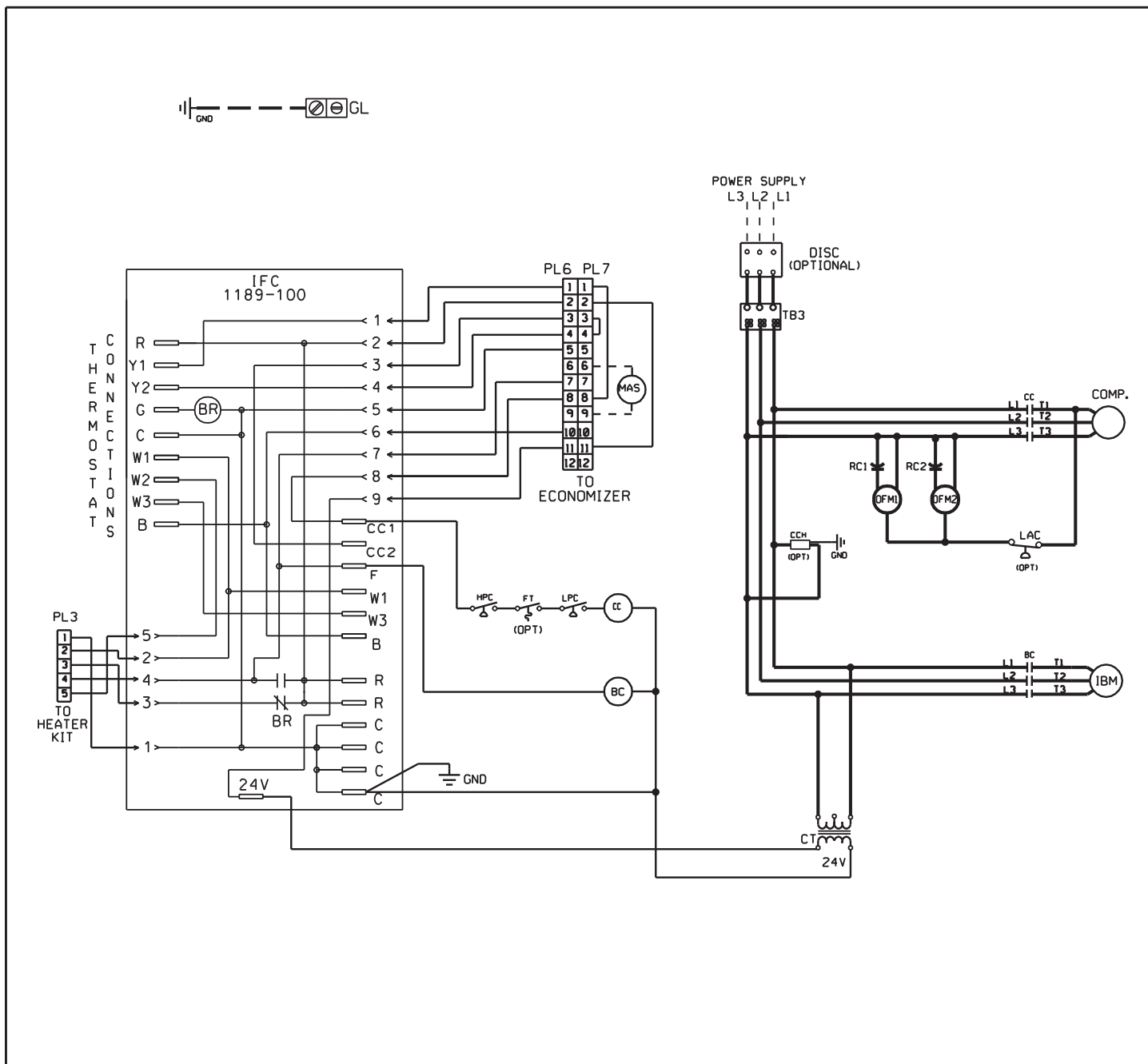
DR. BY APP. BY DATE DWG. NO. REV

JRJ

04-01-10

90-102892-04

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COMPONENT CODE

BC	BLOWER MOTOR CONTACTOR	MAS	MIXED AIR SENSOR
BR	BLOWER RELAY	OFM	OUTDOOR FAN MOTOR
CC	COMPRESSOR CONTACTOR	OPT	OPTIONAL
CCH	CRANKCASE HEATER	PL	PLUG
COMP	COMPRESSOR	RC	RUN CAPACITOR
CT	CONTROL TRANSFORMER	TB	TERMINAL BLOCK
FT	FREEZE STAT		
GL	GROUND LUG		
GND	GROUND		
HPC	HIGH PRESSURE CONTROL		
IBM	INDOOR BLOWER MOTOR		
IFC	INTEGRATED FURNACE CONTROL		
LAC	LOW AMBIENT CONTROL		
LPC	LOW PRESSURE CONTROL		

WIRING INFORMATION

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

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

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

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

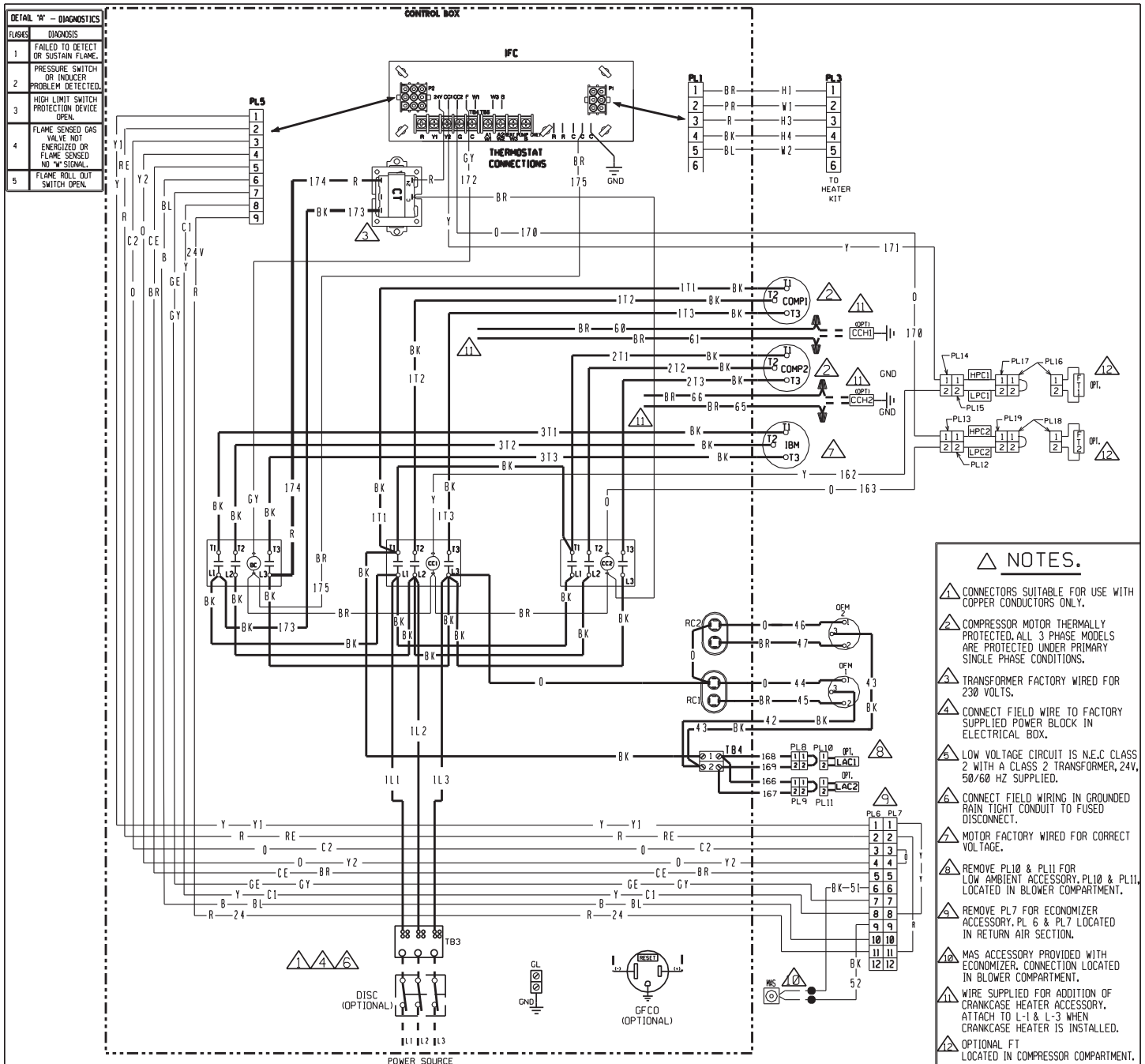
WIRE COLOR CODE

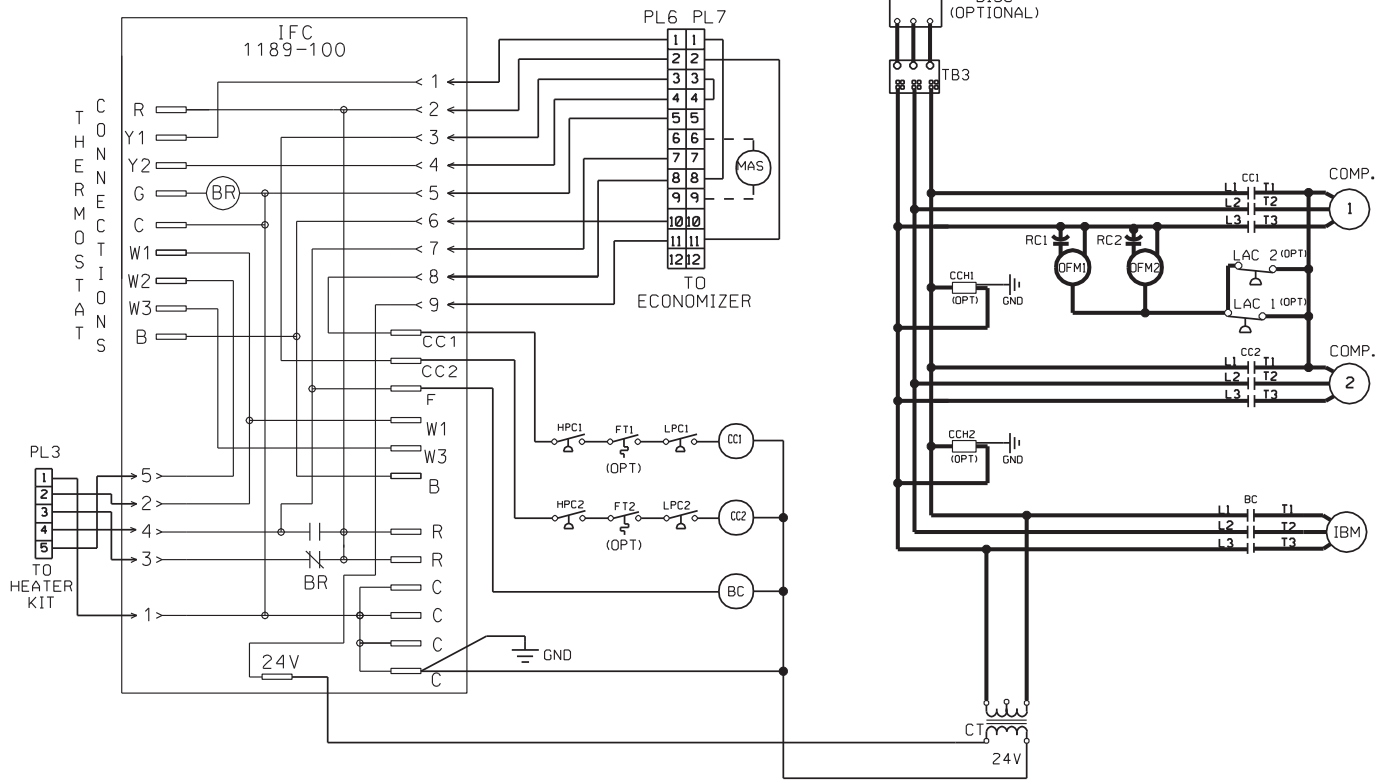
BK	BLACK	O	ORANGE
BR	BROWN	PR	PURPLE
BL	BLUE	R	RED
G	GREEN	W	WHITE
GY	GRAY	Y	YELLOW

WIRING SCHEMATIC (-)LKL-B090/120

208-230/460/575V, 3PH, 60HZ.
 200-220/380-415V, 3 PH 50 HZ

DR. BY	APP. BY	DATE	DWG. NO.	REV
JRJ		04-01-10	90-102893-04	00





COMPONENT CODE

BC	BLOWER MOTOR CONTACTOR	MAS	MIXED AIR SENSOR
BR	BLOWER RELAY	OFM	OUTDOOR FAN MOTOR
CC	COMPRESSOR CONTACTOR	OPT	OPTIONAL
CCH	CRANKCASE HEATER	PL	PLUG
COMP	COMPRESSOR	RC	RUN CAPACITOR
CT	CONTROL TRANSFORMER	TB	TERMINAL BLOCK
FT	FREEZE STAT		
GL	GROUND LUG		
GND	GROUND		
HPC	HIGH PRESSURE CONTROL		
IBM	INDOOR BLOWER MOTOR		
IFC	INTEGRATED FURNACE CONTROL		
LAC	LOW AMBIENT CONTROL		
LPC	LOW PRESSURE CONTROL		

WIRING INFORMATION

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

WIRE COLOR CODE

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

WIRING SCHEMATIC (-)LNL-B090/102/120/150/151

208-230, 3PH, 60HZ./460/575V, 3PH, 60HZ.
 200-220/380-415V 3PH, 50HZ

DR. BY	APP. BY	DATE	DWG. NO.	REV
MGR		5-22-08	90-102893-01	02

90-102893-01

REV
02

XXI. CHARGING CHARTS

RLKL SYSTEM CHARGE CHARTS

FIGURE 16

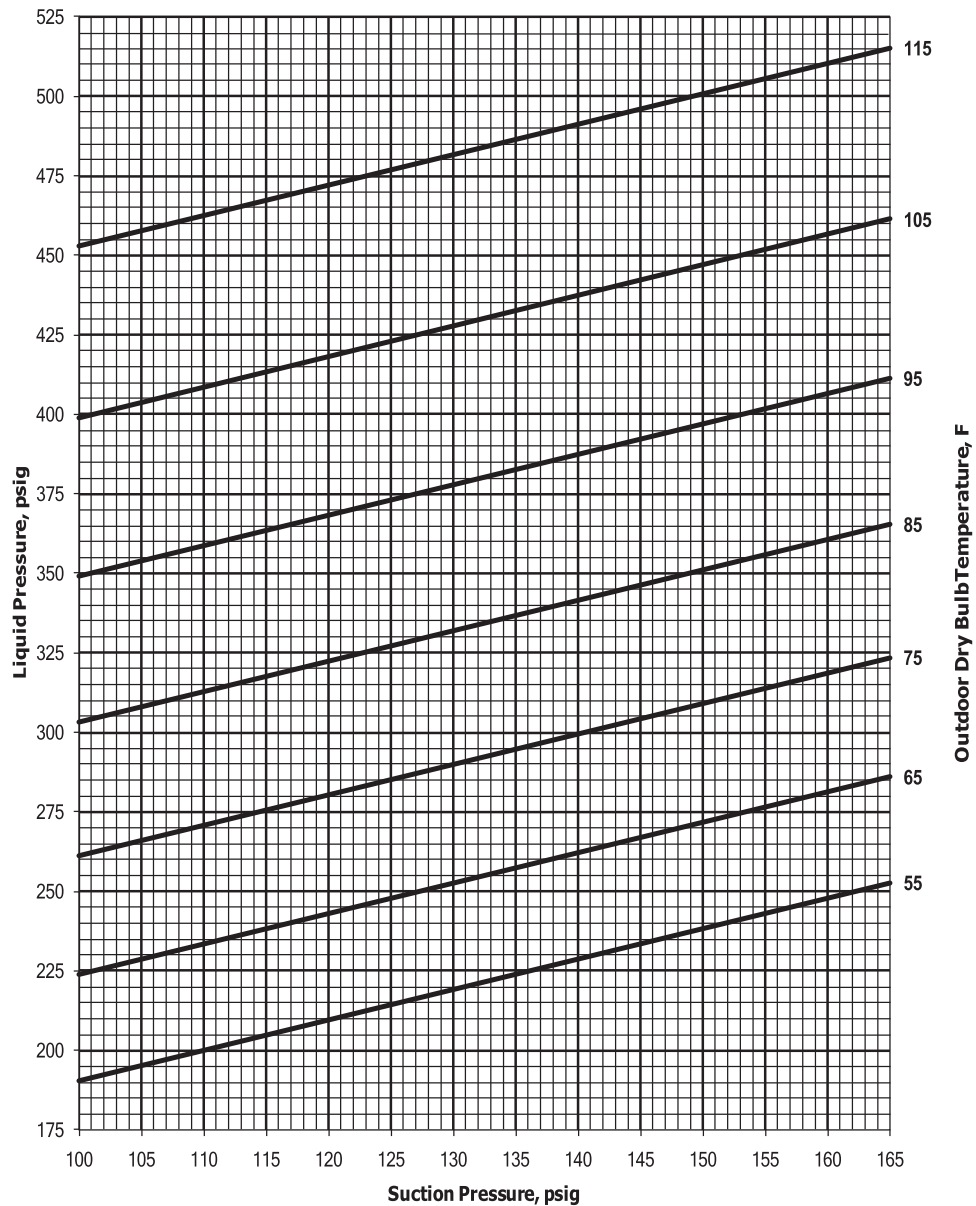
SYSTEM CHARGE CHART - REFRIGERANT 410A
7.5 TON, CIRCUIT 1

CAUTION:

1. RETURN AIR TEMPERATURE MUST BE WITHIN COMFORT CONDITIONS BEFORE FINAL REFRIGERANT CHECK!

INSTRUCTIONS:

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



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FIGURE 17

SYSTEM CHARGE CHART - REFRIGERANT 410A
10 TON, CIRCUIT 1

CAUTION: 1. 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.

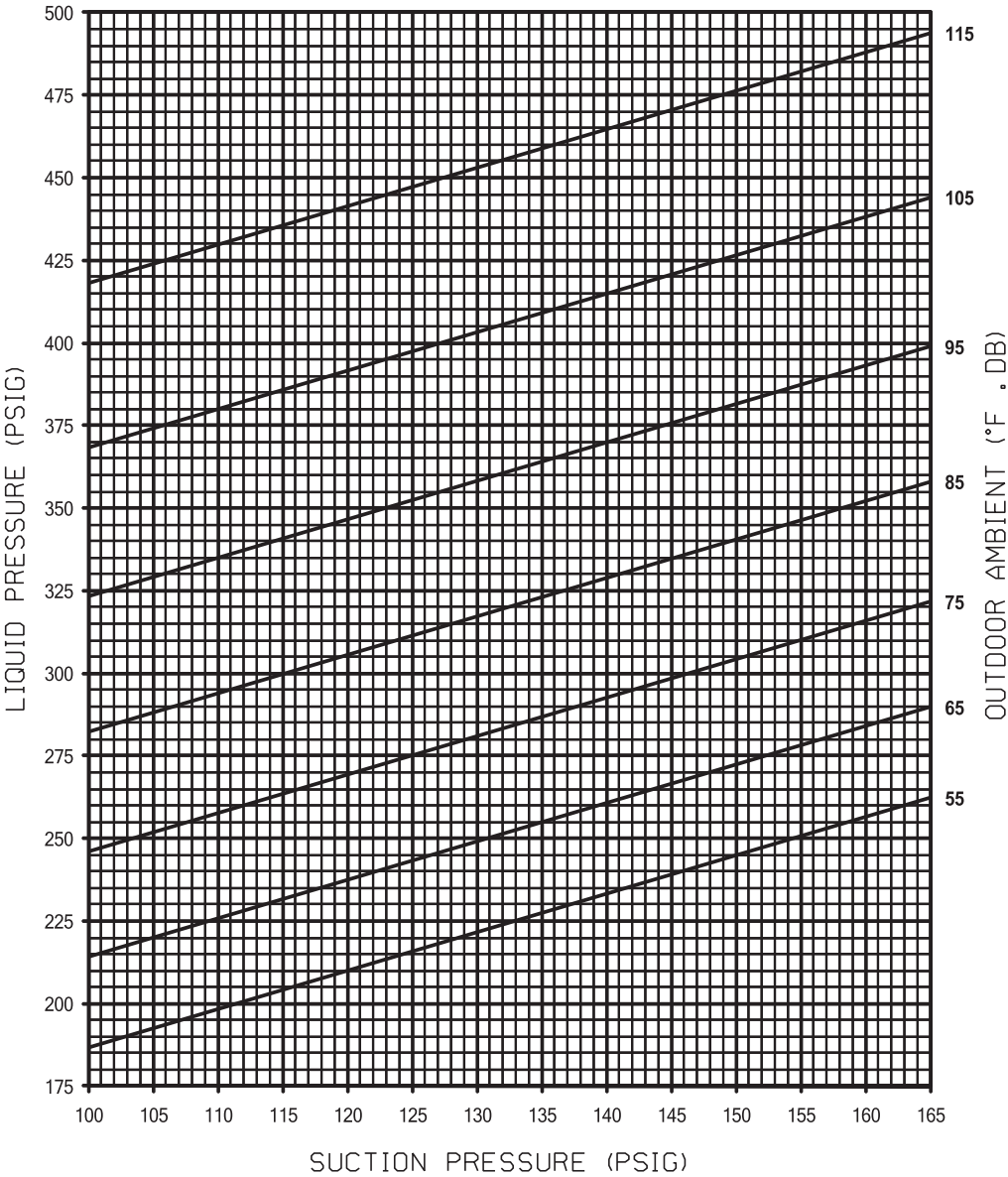


FIGURE 18

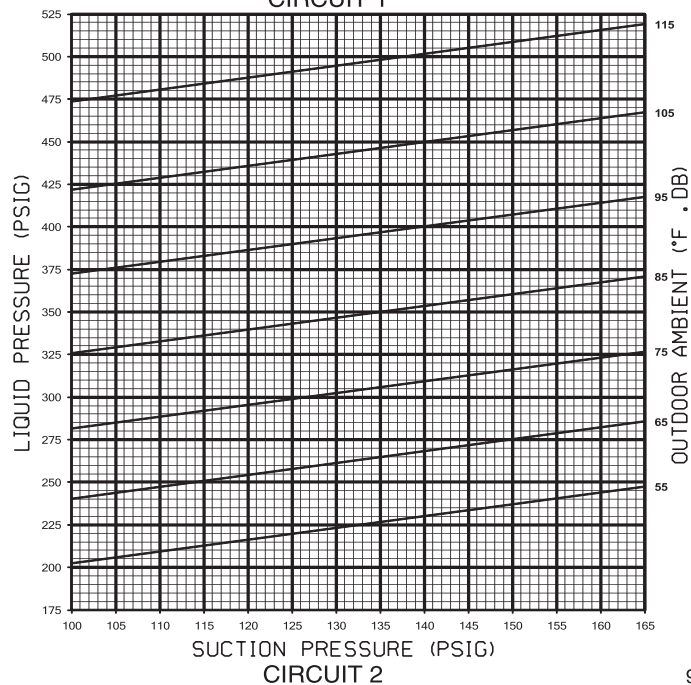
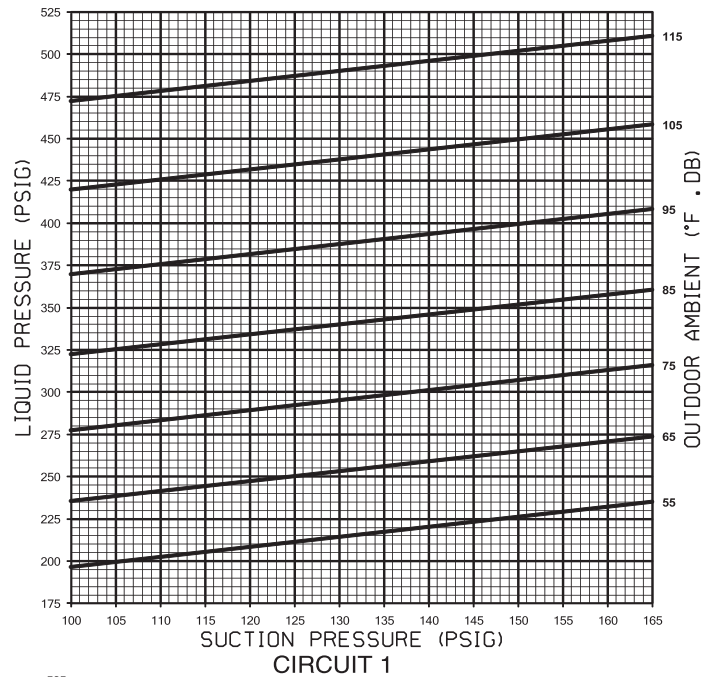
SYSTEM CHARGE CHART - REFRIGERANT 410A 12-1/2 TON, CIRCUITS 1 & 2

CAUTION:

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

INSTRUCTIONS:

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



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