INSTALLATION INSTRUCTIONS

FOR PACKAGE AIR CONDITIONERS FEATURING NEW INDUSTRY STANDARD R410A REFRIGERANT

RLKL-B SERIES 15 & 20 TON [52.8 & 70.3 kW]
60 HZ MODELS (COMPLIES WITH ASHRAE 90.1-2007)



RECOGNIZE THIS SYMBOL AS AN INDICATION OF IMPORTANT SAFETY INFORMATION!

⚠ 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.

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

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

DO NOT DESTROY THIS MANUAL

PLEASE READ CAREFULLY AND KEEP IN A SAFE PLACE FOR FUTURE REFERENCE BY A SERVICEMAN

[ ] INDICATES METRIC CONVERSIONS

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⚠ WARNING

PROPOSITION 65: THIS APPLIANCE CONTAINS FIBERGLASS INSULATION. RESPIRABLE PARTICLES OF FIBERGLASS ARE KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

⚠ 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.

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.

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 20, 40, 60 or 75 kW electric heat. Cooling capacities of 15 and 20 nominal tons of cooling are available. Units are convertible from bottom supply and return to horizontal 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 compressors, condenser coil, evaporator coil with thermal expansion valves), a circulation air blower, condenser fans, 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 / Expansion Device

The capillary tubes are specifically designed to operate with R-410A. **DO NOT use an R-22 expansion 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

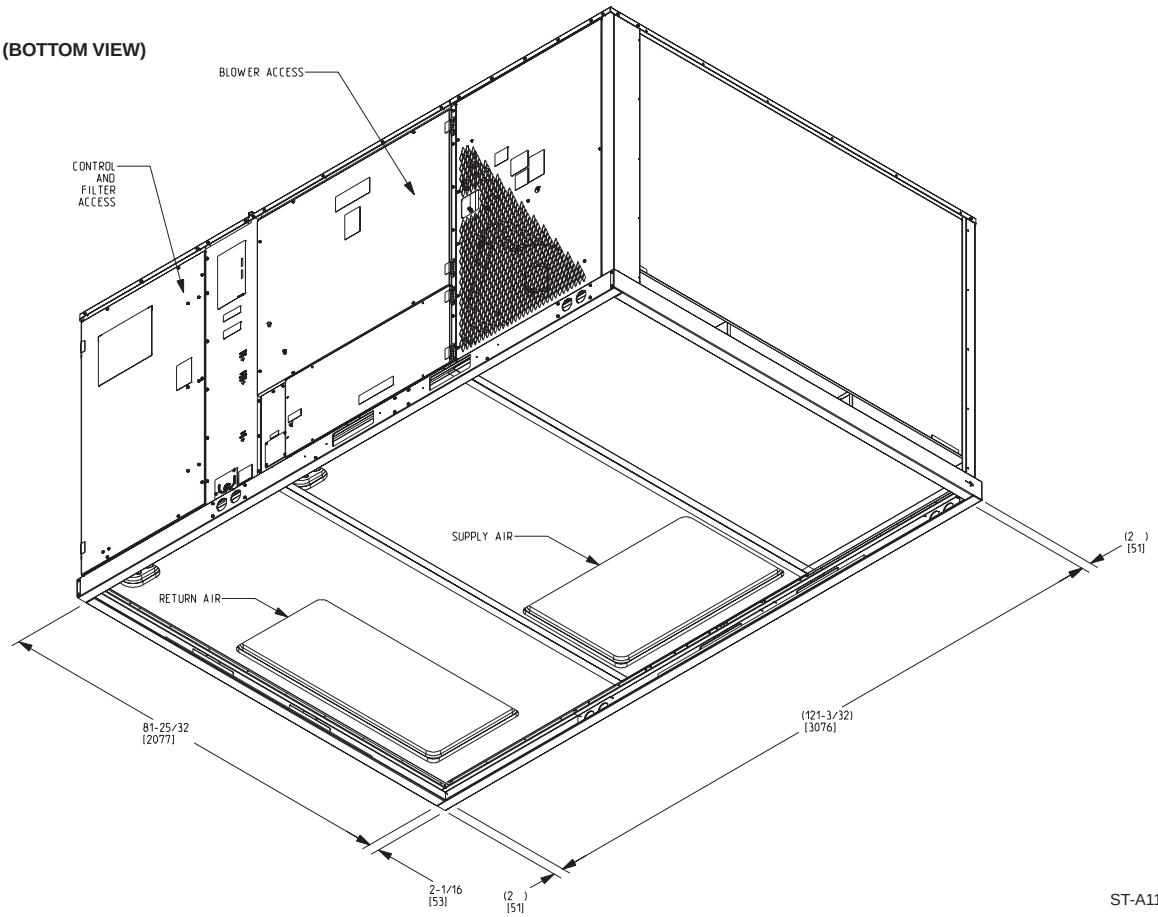
Manifold Hoses:
-Service Pressure Rating of 800 PSIG

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

⚠ CAUTION

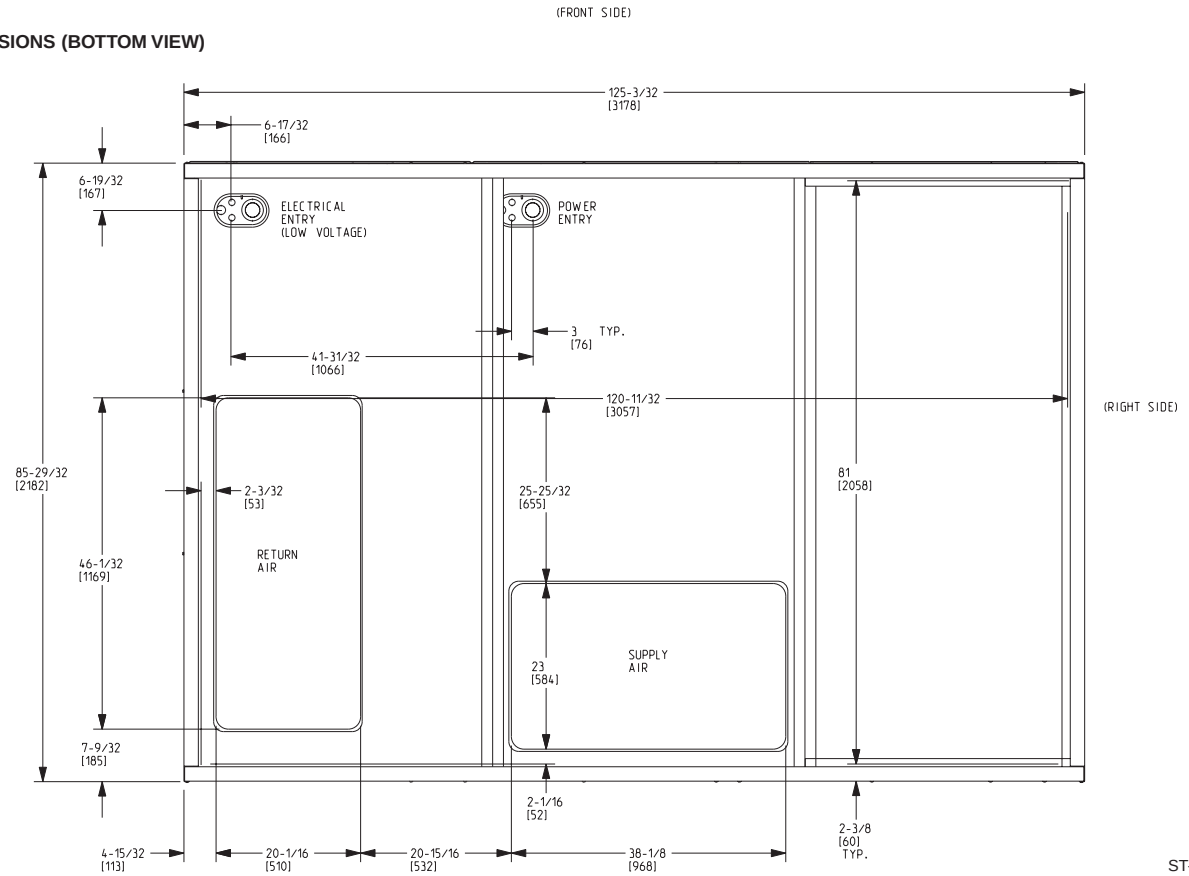
R-410A systems operate at higher pressures than R-22 systems. Do not use R-22 service equipment or components on R-410A equipment.

FIGURE 1
UNIT DIMENSIONS (BOTTOM VIEW)



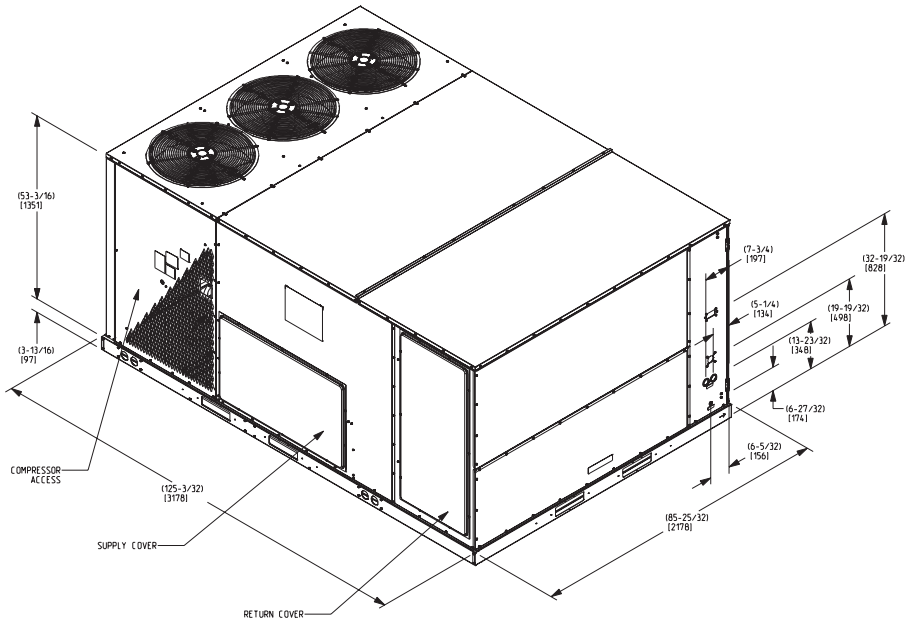
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FIGURE 2
UNIT DIMENSIONS (BOTTOM VIEW)



ST-A1182-09B-00

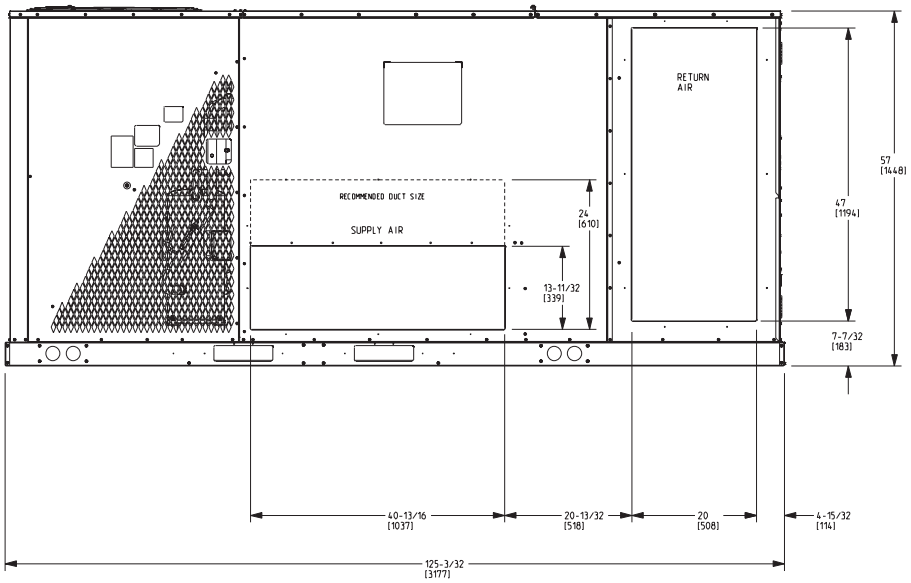
FIGURE 3
UNIT DIMENSIONS



ST-A1182-03-00

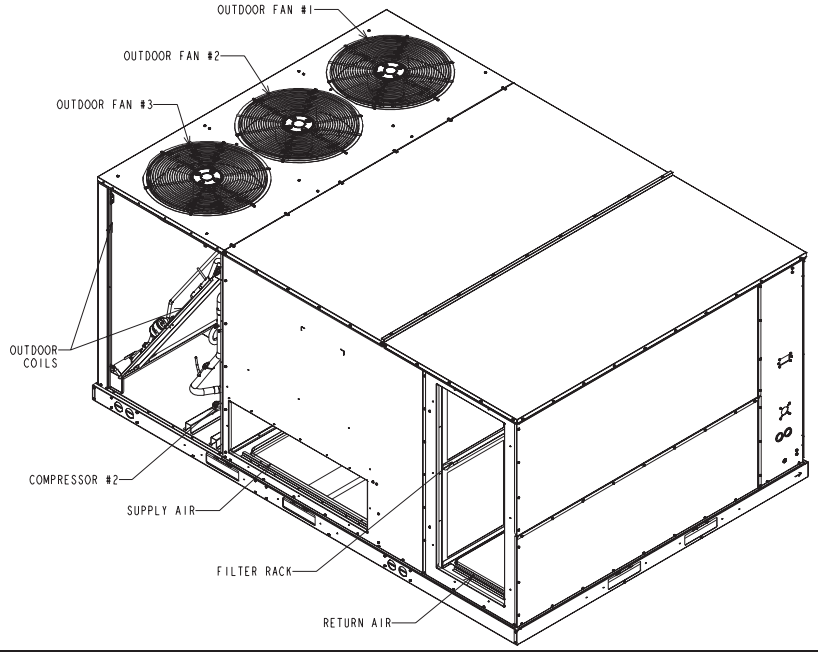
FIGURE 4
UNIT DIMENSIONS

REAR VIEW



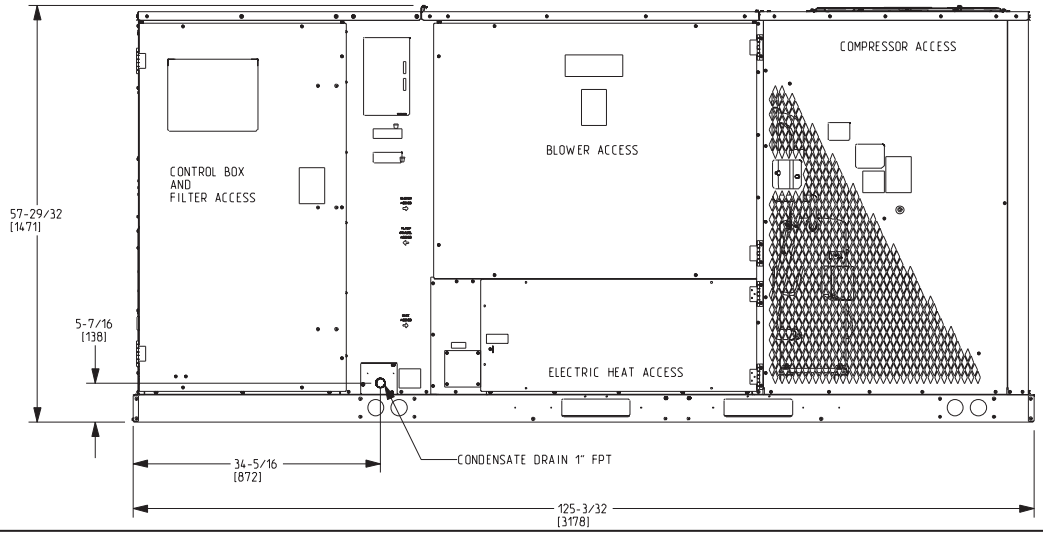
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FIGURE 5
COMPONENT LOCATION



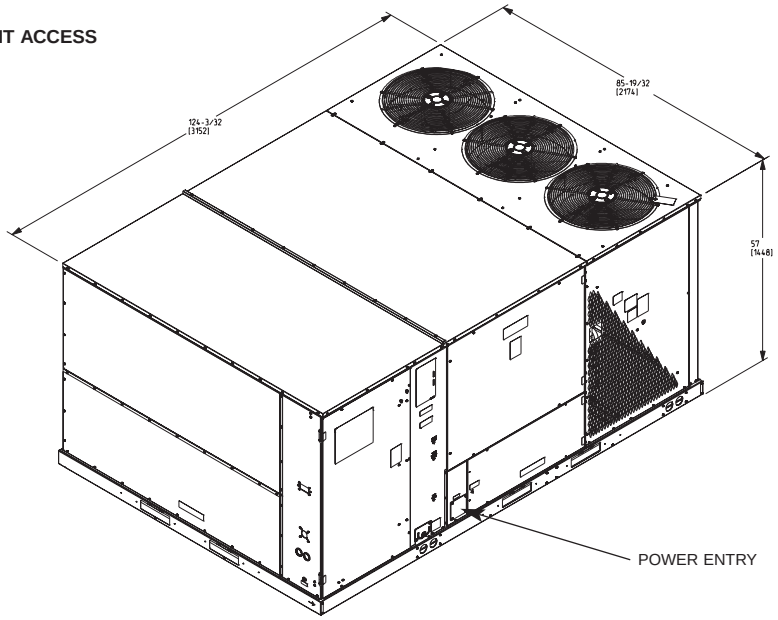
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FIGURE 6
UNIT DIMENSIONS & COMPONENT ACCESS



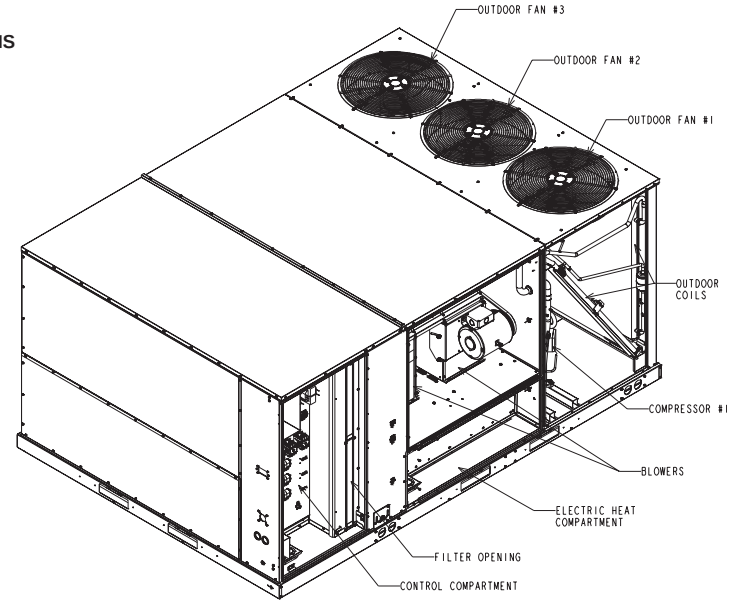
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FIGURE 7
UNIT DIMENSIONS & COMPONENT ACCESS



ST-A1182-01B-00

FIGURE 8
INTERNAL COMPONENT LOCATIONS



ST-A1182-04B-00

GENERAL DATA - RLKL

Model RLKL- Series	B180CL	B180CM	B180DL	B180DM
Cooling Performance[1]				**Continued ->**
Gross Cooling Capacity Btu [kW]	174,000 [30.98]	174,000 [30.98]	174,000 [30.98]	174,000 [30.98]
EER, SEER[2]	11/NA	11/NA	11/NA	11/NA
Nominal CFM/AHRI Rated CFM [L/s]	6000/5500 [2831/2595]	6000/5500 [2831/2595]	6000/5500 [2831/2595]	6000/5500 [2831/2595]
AHRI Net Cooling Capacity Btu [kW]	170,000 [49.81]	170,000 [49.81]	170,000 [49.81]	170,000 [49.81]
Net Sensible Capacity Btu [kW]	125,400 [36.74]	125,400 [36.74]	125,400 [36.74]	125,400 [36.74]
Net Latent Capacity Btu [kW]	44,600 [13.07]	44,600 [13.07]	44,600 [13.07]]	44,600 [13.07]
IEER[3]	11.1	11.1	11.1	11.1
Net System Power kW	15.45	15.45	15.6	15.6
Compressor				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
Outdoor Sound Rating (dB)[5]	91	91	91	91
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]	27.46 [2.55]	27.46 [2.55]	27.46 [2.55]	27.46 [2.55]
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]	26.67 [2.48]	26.67 [2.48]	26.67 [2.48]	26.67 [2.48]
Rows / FPI [FPcm]	2 / 18 [7]	2 / 18 [7]	2 / 18 [7]	2 / 18 [7]
Refrigerant Control	Capillary Tubes	Capillary Tubes	Capillary Tubes	Capillary Tubes
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]	3/24 [609.6]	3/24 [609.6]	3/24 [609.6]	3/24 [609.6]
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1	Direct/1
CFM [L/s]	10000 [4719]	10000 [4719]	10000 [4719]	10000 [4719]
No. Motors/HP	3 at 1/2 HP	3 at 1/2 HP	3 at 1/2 HP	3 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]	2/18x9 [457x229]	2/18x9 [457x229]	2/18x9 [457x229]	2/18x9 [457x229]
Drive Type/No. Speeds	Belt/Variable	Belt/Variable	Belt/Variable	Belt/Variable
No. Motors	1	1	1	1
Motor HP	3	5	3	5
Motor RPM	1725	1725	1725	1725
Motor Frame Size	56	184	56	184
Filter - Type	Disposable	Disposable	Disposable	Disposable
Furnished	Yes	Yes	Yes	Yes
(NO.) Size Recommended in. [mm x mm x mm]	(8)2x25x20 [51x635x508]	(8)2x25x20 [51x635x508]	(8)2x25x20 [51x635x508]	(8)2x25x20 [51x635x508]
Refrigerant Charge Oz. [g]	115/119 [3260/3374]	115/119 [3260/3374]	115/119 [3260/3374]	115/119 [3260/3374]
Weights				
Net Weight lbs. [kg]	1667 [756]	1696 [769]	1667 [756]	1696 [769]
Ship Weight lbs. [kg]	1794 [814]	1823 [827]	1794 [814]	1823 [827]

NOTES:

1. Cooling Performance is rated at 95° F ambient, 80° F entering dry bulb, 67° F entering wet bulb. Gross capacity does not include the effect of fan motor heat. AHRI capacity is net and includes the effect of fan motor heat. Units are suitable for operation to ±20% of nominal cfm. Units are certified in accordance with the Unitary Air Conditioner Equipment certification program, which is based on AHRI Standard 210/240 or 360.
2. EER and/or SEER are rated at AHRI conditions and in accordance with DOE test procedures.
3. IEER is rated in accordance with AHRI Standard 340/360.
4. Not applicable to these units.
5. Outdoor Sound Rating shown is tested in accordance with ARI Standard 270.

GENERAL DATA - RLKL

Model RLKL- Series	B180YL	B180YM	B240CL	B240CM
Cooling Performance[1]				**Continued ->**
Gross Cooling Capacity Btu [kW]	174,000 [30.98]	174,000 [30.98]	250,000 [73.25]	250,000 [73.25]
EER, SEER[2]	11/NA	11/NA	10.5/NA	10.5/NA
Nominal CFM/AHRI Rated CFM [L/s]	6000/5500 [2831/2595]	6000/5500 [2831/2595]	8000/7825 [3775/3693]	8000/7825 [3775/3693]
AHRI Net Cooling Capacity Btu [kW]	170,000 [49.81]	170,000 [49.81]	240,000 [70.32]	240,000 [70.32]
Net Sensible Capacity Btu [kW]	125,400 [36.74]	125,400 [36.74]	175,000 [51.27]	175,000 [51.27]
Net Latent Capacity Btu [kW]	44,600 [13.07]	44,600 [13.07]	65,000 [19.04]	65,000 [19.04]
IEER[3]	11.1	11.1	10.5	10.5
Net System Power kW	15.45	15.45	22.88	22.88
Compressor				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
Outdoor Sound Rating (dB)[5]	91	91	91	91
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]	27.46 [2.55]	27.46 [2.55]	50.8 [4.72]	50.8 [4.72]
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]	26.67 [2.48]	26.67 [2.48]	26.67 [2.48]	26.67 [2.48]
Rows / FPI [FPcm]	2 / 18 [7]	2 / 18 [7]	2 / 18 [7]	3 / 13 [5]
Refrigerant Control	Capillary Tubes	Capillary Tubes	Capillary Tubes	Capillary Tubes
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]	3/24 [609.6]	3/24 [609.6]	3/24 [609.6]	3/24 [609.6]
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1	Direct/1
CFM [L/s]	10000 [4719]	10000 [4719]	10000 [4719]	10000 [4719]
No. Motors/HP	3 at 1/2 HP	3 at 1/2 HP	3 at 1/2 HP	3 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]	2/18x9 [457x229]	2/18x9 [457x229]	2/18x9 [457x229]	2/18x9 [457x229]
Drive Type/No. Speeds	Belt/Variable	Belt/Variable	Belt/Variable	Belt/Variable
No. Motors	1	1	1	1
Motor HP	3	5	5	7 1/2
Motor RPM	1725	1725	1725	1725
Motor Frame Size	56	184	184	213
Filter - Type	Disposable	Disposable	Disposable	Disposable
Furnished	Yes	Yes	Yes	Yes
(NO.) Size Recommended in. [mm x mm x mm]	(8)2x25x20 [51x635x508]	(8)2x25x20 [51x635x508]	(8)2x25x20 [51x635x508]	(8)2x25x20 [51x635x508]
Refrigerant Charge Oz. [g]	115/119 [3260/3374]	115/119 [3260/3374]	200/219 [5670/6209]	200/219 [5670/6209]
Weights				
Net Weight lbs. [kg]	1667 [756]	1696 [769]	1883 [854]	1921 [871]
Ship Weight lbs. [kg]	1794 [814]	1823 [827]	2009 [911]	2047 [929]

NOTES:

1. Cooling Performance is rated at 95° F ambient, 80° F entering dry bulb, 67° F entering wet bulb. Gross capacity does not include the effect of fan motor heat. AHRI capacity is net and includes the effect of fan motor heat. Units are suitable for operation to ±20% of nominal cfm. Units are certified in accordance with the Unitary Air Conditioner Equipment certification program, which is based on AHRI Standard 210/240 or 360.
2. EER and/or SEER are rated at AHRI conditions and in accordance with DOE test procedures.
3. IEER is rated in accordance with AHRI Standard 340/360.
4. Not applicable to these units.
5. Outdoor Sound Rating shown is tested in accordance with ARI Standard 270.

GENERAL DATA - RLKL

Model RLKL- Series	B240CN	B240DL	B240DM	B240DN
Cooling Performance[1]				**Continued ->**
Gross Cooling Capacity Btu [kW]	250,000 [73.25]	250,000 [73.25]	250,000 [73.25]	250,000 [73.25]
EER, SEER[2]	10.5/NA	10.5/NA	10.5/NA	10.5/NA
Nominal CFM/AHRI Rated CFM [L/s]	8000/7825 [3775/3693]	8000/7825 [3775/3693]	8000/7825 [3775/3693]	8000/7825 [3775/3693]
AHRI Net Cooling Capacity Btu [kW]	240,000 [70.32]	240,000 [70.32]	240,000 [70.32]	240,000 [70.32]
Net Sensible Capacity Btu [kW]	175,000 [51.27]	175,000 [51.27]	175,000 [51.27]	175,000 [51.27]
Net Latent Capacity Btu [kW]	65,000 [19.04]	65,000 [19.04]	65,000 [19.04]	65,000 [19.04]
IEER[3]	10.5	10.5	10.5	10.5
Net System Power kW	22.88	22.88	22.88	22.88
Compressor				
No./Type	2/Scroll	2/Scroll	2/Scroll	2/Scroll
Outdoor Sound Rating (dB)[5]	91	91	91	91
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]	50.8 [4.72]	50.8 [4.72]	50.8 [4.72]	50.8 [4.72]
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]	26.67 [2.48]	26.67 [2.48]	26.67 [2.48]	26.67 [2.48]
Rows / FPI [FPcm]	3 / 13 [5]	3 / 13 [5]	3 / 13 [5]	3 / 13 [5]
Refrigerant Control	Capillary Tubes	Capillary Tubes	Capillary Tubes	Capillary Tubes
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]	3/24 [609.6]	3/24 [609.6]	3/24 [609.6]	3/24 [609.6]
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1	Direct/1
CFM [L/s]	10000 [4719]	10000 [4719]	10000 [4719]	10000 [4719]
No. Motors/HP	3 at 1/2 HP	3 at 1/2 HP	3 at 1/2 HP	3 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]	2/18x9 [457x229]	2/18x9 [457x229]	2/18x9 [457x229]	2/18x9 [457x229]
Drive Type/No. Speeds	Belt/Variable	Belt/Variable	Belt/Variable	Belt/Variable
No. Motors	1	1	1	1
Motor HP	5	7 1/2	7 1/2	7 1/2
Motor RPM	1725	1725	1725	1725
Motor Frame Size	213	184	184	184
Filter - Type	Disposable	Disposable	Disposable	Disposable
Furnished	Yes	Yes	Yes	Yes
(NO.) Size Recommended in. [mm x mm x mm]	(8)2x25x20 [51x635x508]	(8)2x25x20 [51x635x508]	(8)2x25x20 [51x635x508]	(8)2x25x20 [51x635x508]
Refrigerant Charge Oz. [g]	200/219 [5670/6209]	200/219 [5670/6209]	200/219 [5670/6209]	200/219 [5670/6209]
Weights				
Net Weight lbs. [kg]	1919 [870]	1883 [854]	1921 [871]	1919 [870]
Ship Weight lbs. [kg]	2046 [928]	2009 [911]	2047 [929]	2046 [928]

NOTES:

1. Cooling Performance is rated at 95° F ambient, 80° F entering dry bulb, 67° F entering wet bulb. Gross capacity does not include the effect of fan motor heat. AHRI capacity is net and includes the effect of fan motor heat. Units are suitable for operation to ±20% of nominal cfm. Units are certified in accordance with the Unitary Air Conditioner Equipment certification program, which is based on AHRI Standard 210/240 or 360.
2. EER and/or SEER are rated at AHRI conditions and in accordance with DOE test procedures.
3. IEER is rated in accordance with AHRI Standard 340/360.
4. Not applicable to these units.
5. Outdoor Sound Rating shown is tested in accordance with ARI Standard 270.

GENERAL DATA - RLKL

Model RLKL- Series	B240YL	B240YM	B240YN
Cooling Performance[1]			
Gross Cooling Capacity Btu [kW]	250,000 [73.25]	250,000 [73.25]	250,000 [73.25]
EER, SEER[2]	10.5/NA	10.5/NA	10.5/NA
Nominal CFM/AHRI Rated CFM [L/s]	8000/7825 [3775/3693]	8000/7825 [3775/3693]	8000/7825 [3775/3693]
AHRI Net Cooling Capacity Btu [kW]	240,000 [70.32]	240,000 [70.32]	240,000 [70.32]
Net Sensible Capacity Btu [kW]	175,000 [51.27]	175,000 [51.27]	175,000 [51.27]
Net Latent Capacity Btu [kW]	65,000 [19.04]	65,000 [19.04]	65,000 [19.04]
IEER[3]	10.5	10.5	10.5
Net System Power kW	22.88	22.88	22.88
Compressor			
No./Type	2/Scroll	2/Scroll	2/Scroll
Outdoor Sound Rating (dB)[5]	91	91	91
Outdoor Coil - Fin Type	Louvered	Louvered	Louvered
Tube Type	MicroChannel	MicroChannel	MicroChannel
MicroChannel Depth in. [mm]	1 [25.4]	1 [25.4]	1 [25.4]
Face Area sq. ft. [sq. m]	50.8 [4.72]	50.8 [4.72]	50.8 [4.72]
Rows / FPI [FPcm]	1 / 23 [9]	1 / 23 [9]	1 / 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]	26.67 [2.48]	26.67 [2.48]	26.67 [2.48]
Rows / FPI [FPcm]	3 / 13 [5]	3 / 13 [5]	3 / 13 [5]
Refrigerant Control	Capillary Tubes	Capillary Tubes	Capillary Tubes
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]	3/24 [609.6]	3/24 [609.6]	3/24 [609.6]
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1
CFM [L/s]	10000 [4719]	10000 [4719]	10000 [4719]
No. Motors/HP	3 at 1/2 HP	3 at 1/2 HP	3 at 1/2 HP
Motor RPM	1075	1075	1075
Indoor Fan - Type	FC Centrifugal	FC Centrifugal	FC Centrifugal
No. Used/Diameter in. [mm]	2/18x9 [457x229]	2/18x9 [457x229]	2/18x9 [457x229]
Drive Type/No. Speeds	Belt/Variable	Belt/Variable	Belt/Variable
No. Motors	1	1	1
Motor HP	7 1/2	7 1/2	7 1/2
Motor RPM	1725	1725	1725
Motor Frame Size	184	213	213
Filter - Type	Disposable	Disposable	Disposable
Furnished	Yes	Yes	Yes
(NO.) Size Recommended in. [mm x mm x mm]	(8)2x25x20 [51x635x508]	(8)2x25x20 [51x635x508]	(8)2x25x20 [51x635x508]
Refrigerant Charge Oz. [g]	200/219 [5670/6209]	200/219 [5670/6209]	200/219 [5670/6209]
Weights			
Net Weight lbs. [kg]	1883 [854]	1921 [871]	1919 [870]
Ship Weight lbs. [kg]	2009 [911]	2047 [929]	2046 [928]

NOTES:

1. Cooling Performance is rated at 95° F ambient, 80° F entering dry bulb, 67° F entering wet bulb. Gross capacity does not include the effect of fan motor heat. AHRI capacity is net and includes the effect of fan motor heat. Units are suitable for operation to ±20% of nominal cfm. Units are certified in accordance with the Unitary Air Conditioner Equipment certification program, which is based on AHRI Standard 210/240 or 360.
2. EER and/or SEER are rated at AHRI conditions and in accordance with DOE test procedures.
3. IEER is rated in accordance with AHRI Standard 340/360.
4. Not applicable to these units.
5. Outdoor Sound Rating shown is tested in accordance with ARI Standard 270.

ELECTRICAL DATA - RLKL

ELECTRICAL DATA - RLKL SERIES										
		B180CL	**B180CM**	**B180DL**	**B180DM**	**B180YL**	**B180YM**	**B240CL**	**B240CM**	**B240CN**
Unit Information	Unit Operating Voltage Range	187-253	187-253	414-506	414-506	518-632	518-632	187-253	187-253	187-253
	Volts	208/230	208/230	460	460	575	575	208/230	208/230	208/230
	Minimum Circuit Ampacity	75/75	78/78	38	40	28	30	94/94	101/101	101/101
	Minimum Overcurrent Protection Device Size	90/90	90/90	45	45	30	35	110/110	110/110	110/110
	Maximum Overcurrent Protection Device Size	90/90	100/100	50	50	35	35	125/125	125/125	125/125
Compressor Motor	No.	2	2	2	2	2	2	2	2	2
	Volts	200/230	200/230	460	460	575	575	200/230	200/230	200/230
	Phase	3	3	3	3	3	3	3	3	3
	RPM	3450	3450	3450	3450	3450	3450	3450	3450	3450
	HP, Compressor 1	7	7	7	7	7	7	10	10	10
	Amps (RLA), Comp. 1	25/25	25/25	12.2	12.2	9	9	33.6/33.6	33.6/33.6	33.6/33.6
	Amps (LRA), Comp. 1	164/164	164/164	100	100	78	78	239/239	239/239	239/239
	HP, Compressor 2	6	6	6	6	6	6	8 1/2	8 1/2	8 1/2
	Amps (RLA), Comp. 2	25/25	25/25	12.8	12.8	9.6	9.6	30.1/30.1	30.1/30.1	30.1/30.1
	Amps (LRA), Comp. 2	164/164	164/164	100	100	78	78	225/225	225/225	225/225
Condenser Motor	No.	3	3	3	3	3	3	3	3	3
	Volts	208/230	208/230	460	460	575	575	208/230	208/230	208/230
	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	1.5	1.5	1	1	2.3/2.3	2.3/2.3	2.3/2.3
	Amps (LRA, each)	5.6/5.6	5.6/5.6	3.1	3.1	2.2	2.2	5.6/5.6	5.6/5.6	5.6/5.6
Evaporator Fan	No.	1	1	1	1	1	1	1	1	1
	Volts	208/230	208/230	460	460	575	575	208/230	208/230	208/230
	Phase	3	3	3	3	3	3	3	3	3
	HP	3	5	3	5	3	5	5	7 1/2	7 1/2
	Amps (FLA, each)	11.5/11.5	14.9/14.9	4.6	6.6	3.5	5.3	14.7/14.7	23.1/23.1	23.1/23.1
	Amps (LRA, each)	74.5/74.5	82.6/82.6	38.1	46.3	20	39.4	82.6/82.6	136/136	136/136

ELECTRICAL DATA - RLKL

ELECTRICAL DATA - RLKL SERIES							
		B240DL	**B240DM**	**B240DN**	**B240YL**	**B240YM**	**B240YN**
Unit Information	Unit Operating Voltage Range	414-506	414-506	414-506	518-632	518-632	518-632
	Volts	460	460	460	575	575	575
	Minimum Circuit Ampacity	51	54	54	37	39	39
	Minimum Overcurrent Protection Device Size	60	60	60	40	45	45
	Maximum Overcurrent Protection Device Size	60	70	70	45	50	50
Compressor Motor	No.	2	2	2	2	2	2
	Volts	460	460	460	575	575	575
	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	17.9	17.9	17.9	12.8	12.8	12.8
	Amps (LRA), Comp. 1	125	125	125	80	80	80
	HP, Compressor 2	8 1/2	8 1/2	8 1/2	8 1/2	8 1/2	8 1/2
	Amps (RLA), Comp. 2	16.7	16.7	16.7	12.2	12.2	12.2
	Amps (LRA), Comp. 2	114	114	114	80	80	80
Condenser Motor	No.	3	3	3	3	3	3
	Volts	460	460	460	575	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)	1.5	1.5	1.5	1	1	1
	Amps (LRA, each)	3.1	3.1	3.1	2.2	2.2	2.2
Evaporator Fan	No.	1	1	1	1	1	1
	Volts	460	460	460	575	575	575
	Phase	3	3	3	3	3	3
	HP	5	7 1/2	7 1/2	5	7 1/2	7 1/2
	Amps (FLA, each)	6.6	9.6	9.6	5.3	7.8	7.8
	Amps (LRA, each)	46.3	67	67	39.4	53.8	53.8

V. 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 9 and 10.)

1. Select a location where external water drainage cannot collect around the unit.
2. Provide a level concrete slab extending 3" 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.

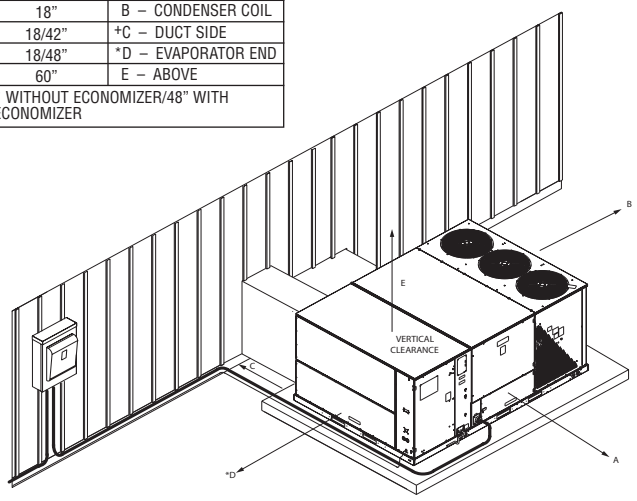
C. CLEARANCES

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

FIGURE 9
PACKAGED AIR CONDITIONER
OUTSIDE SLAB INSTALLATION, BASEMENT OR CRAWL SPACE DISTRIBUTION SYSTEM

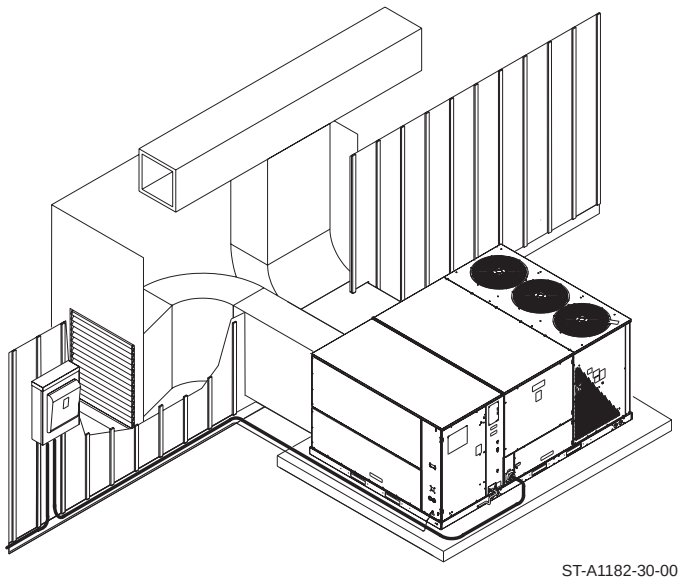
RECOMMENDED CLEARANCE	LOCATION
80"	A – FRONT
18"	B – CONDENSER COIL
18/42"	+C – DUCT SIDE
18/48"	*D – EVAPORATOR END
60"	E – ABOVE
* WITHOUT ECONOMIZER/48" WITH ECONOMIZER	

+ WITHOUT HORIZONTAL ECONOMIZER/ 42" WITH HORIZONTAL ECONOMIZER



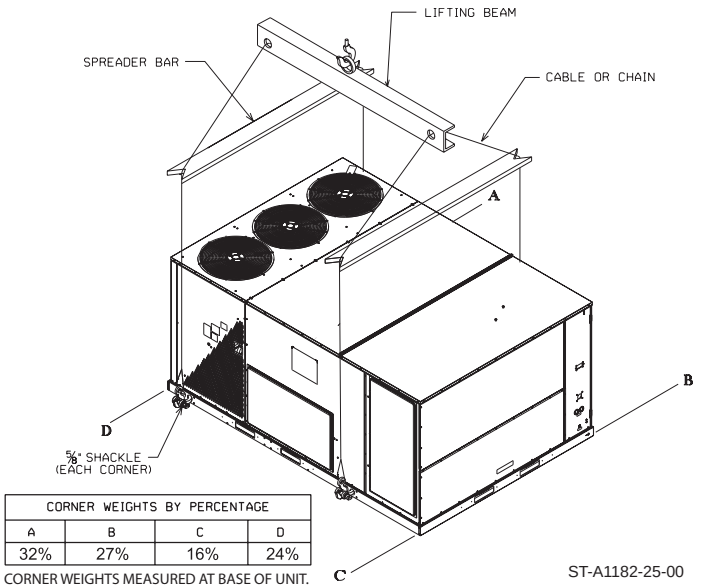
ST-A1182-29-00

FIGURE 10
PACKAGED AIR CONDITIONER
OUTSIDE SLAB INSTALLATION, CLOSET DISTRIBUTION SYSTEM. SLAB FLOOR CONSTRUCTION



ST-A1182-30-00

FIGURE 11



CORNER WEIGHTS BY PERCENTAGE			
A	B	C	D
32%	27%	16%	24%

CORNER WEIGHTS MEASURED AT BASE OF UNIT.

ST-A1182-25-00

PACKAGED AIR CONDITIONER
RIGGING FOR LIFTING

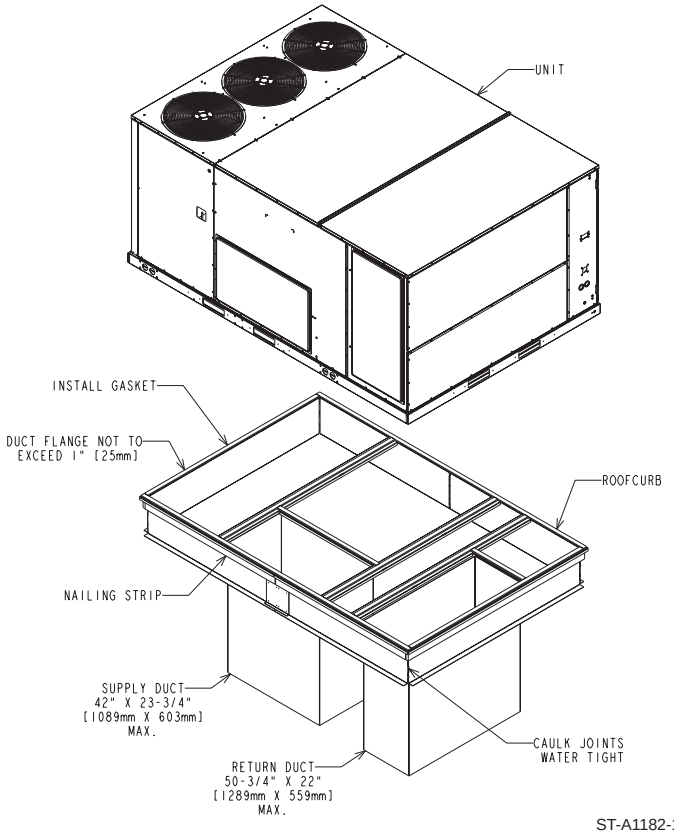
1. Provide 80" minimum clearance at the front of the unit to facilitate removal of the drain pan and return air filters. Provide 18" minimum clearance at all other sides of the unit.
2. Provide 60" minimum clearance between top of unit and maximum 3 foot overhang.
3. Unit is design certified for application on combustible flooring with 0" minimum clearance.
4. See Figure 9 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 11 and 12. 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 13.
6. The location of the unit on the roof should be such as to provide proper access for inspection and servicing.

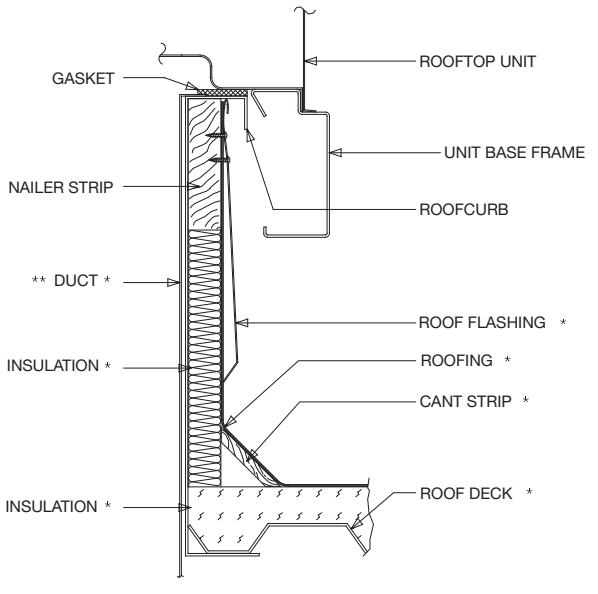
IMPORTANT: ***If unit will not be put into service immediately, cover supply and return openings to prevent excessive condensation.***

FIGURE 12



ST-A1182-14-00

PACKAGED AIR CONDITIONER
ROOFCURB INSTALLATION



ST-A0888-02

* BY CONTRACTOR

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

VI. 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, 2800 Shirlington Road, Suite 300, Arlington, VA 22206, http:/www.acca.org.

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" of insulation and a vapor barrier. Distribution system in attic, furred space or crawl space should be insulated with at least 2" of insulation with vapor barrier. One-half to 1" 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" for the first 3 feet of discharge duct. Clearance to unit top and side is 0".

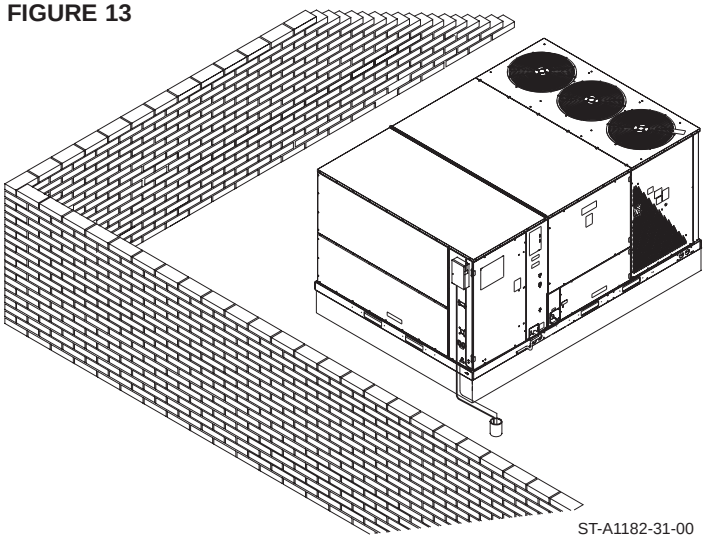
VII. FILTERS

This unit is provided with 8 - 20" x 25" x 2" disposable filters. When replacing filters, ensure they are inserted fully to the back to prevent bypass. See Figure 8.

Recommended supplier of this filter is Glassfloss Industries, Inc. or

AAF International
215 Central Avenue
P.O. Box 35690
Louisville, KY 40232
Phone: 1-800-501-3146
Part #: 54-42541-04 (20” x 25” x 2”)

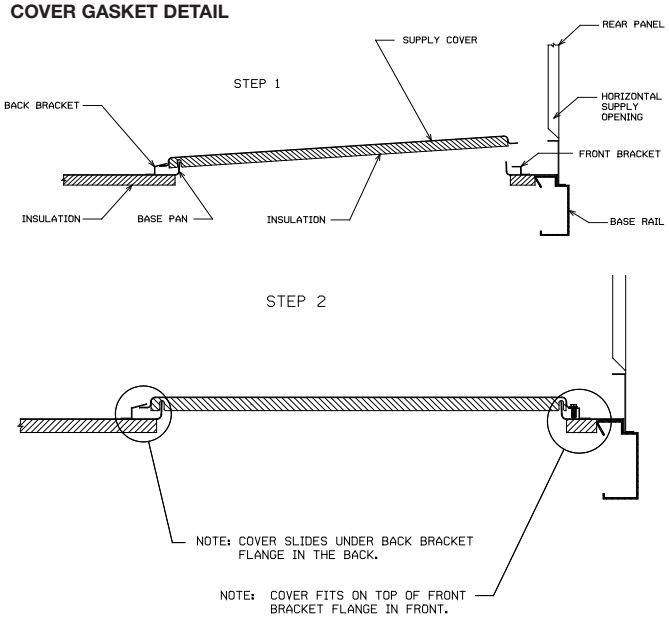
FIGURE 13



ST-A1182-31-00

PACKAGED AIR CONDITIONER
FLAT ROOFTOP INSTALLATION, ATTIC OR DROP CEILING DISTRIBUTION SYSTEM. MOUNTED ON ROOFCURB. CURB MUST BE LEVEL

FIGURE 14
COVER GASKET DETAIL



VIII. COVER PANEL INSTALLATION/ CONVERSION PROCEDURE

DOWNFLOW TO HORIZONTAL

1. Remove the screws and covers from the outside of the supply and return sections. Also remove and discard cover plate. See Figure 3.
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 top of the front bracket provided.*** See Figure 14.
3. Secure the return and supply cover to front bracket with two (2) screws.

IX. CONDENSATE DRAIN

IMPORTANT: *Install a condensate trap to ensure proper condensate drainage. See Figure 15.*

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.

X. ELECTRICAL WIRING

Field wiring must comply with the National Electrical Code* and local ordinances that may apply.

*C.E.C. in Canada

A. POWER WIRING

FIGURE 15
CONDENSATE DRAIN

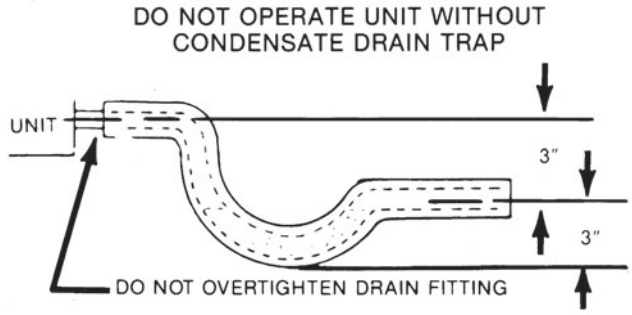
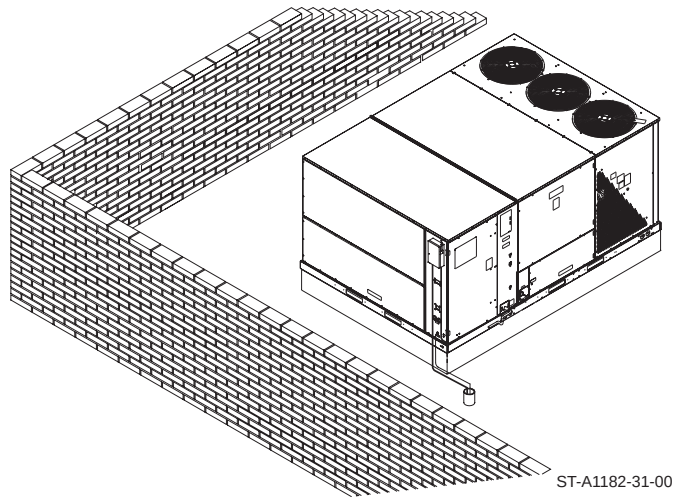


FIGURE 16
BRANCH CIRCUIT DISCONNECT LOCATION



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. See Figure 16. Use the unit rating plate or Tables A, B, C, and D 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 unit contactor wires (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 the 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.

⚠ 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.

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" hole in the unit side panel. See Figure 7. Use a minimum #18 AWG thermostat wire. For wire lengths exceeding 50', use #16 AWG thermostat wire. Connect the control wiring to the low voltage terminal block located below the unit control box.
3. Recommended thermostats can be found in the thermostat specifications catalog T11-001.
4. Figure 18 shows representative low voltage connection diagrams. Read your thermostat installation instructions for any special requirements for your specific thermostat.

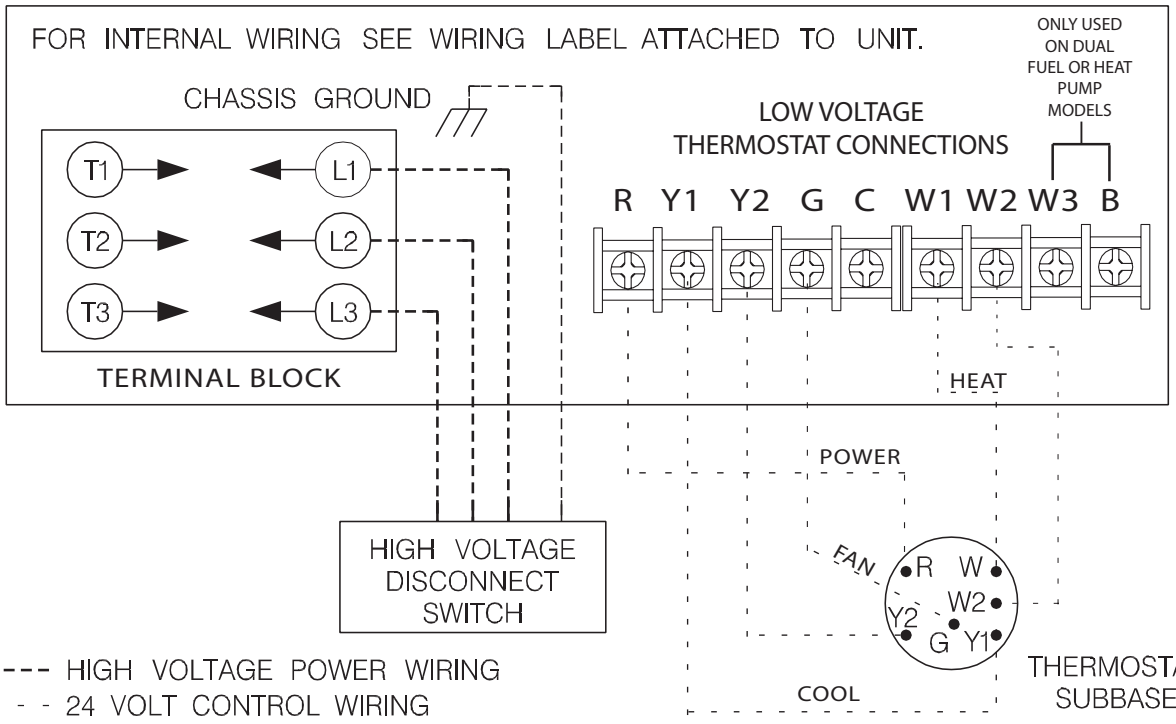
   NOTE — Units installed in Canada require that an outdoor thermostat (30,000 min. cycles of endurance) be installed and be wired with C.E.C. Class I wiring.

D. INTERNAL WIRING
1. A diagram of the internal wiring of this unit is located on the inside of the electrical access panel. If any of the original wire, as supplied with the appliance must be replaced, the wire gauge and insulation must be the same as original wiring.

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 heat pump thermostat package CAREFULLY because each has some different wiring requirements.

FIGURE 17



ST-A1125-12-00

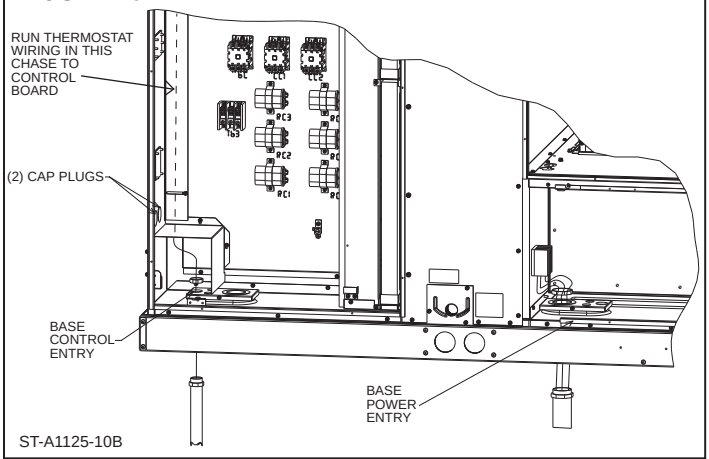
XI. INDOOR AIR FLOW DATA

Belt-drive blower models have motor sheaves set for proper CFM at a typical external static. See airflow tables for blower performance.

XII. CRANKCASE HEAT (OPTIONAL)

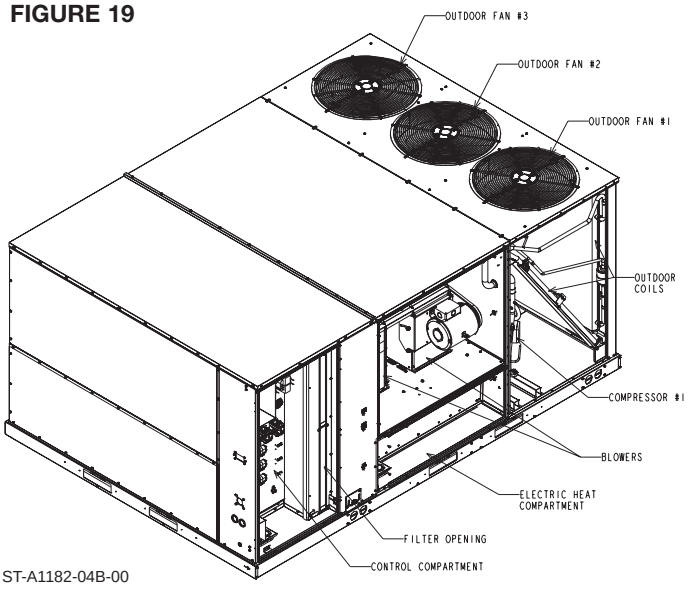
Crankcase heat is not required on scroll type compressors, but may be desirable under certain conditions. Wires have been provided for the addition of crankcase heaters (see wiring diagrams).

FIGURE 18



ST-A1125-10B

FIGURE 19



ST-A1182-04B-00

AIRFLOW PERFORMANCE — 15 TON [52.7kW] — 60 Hz — SIDEFLOW

Air Flow CFM [L/s]	Model RLKL-B180 Voltage 208/230, 460, 575 — 3 phase 60 Hz																																			
	External Static Pressure — Inches of Water [kPa]																																			
	0.1 [.02]		0.2 [.05]		0.3 [.07]		0.4 [.10]		0.5 [.12]		0.6 [.15]		0.7 [.17]		0.8 [.20]		0.9 [.22]		1.0 [.25]		1.1 [.27]		1.2 [.30]		1.3 [.32]		1.4 [.35]		1.5 [.37]		1.6 [.40]		1.7 [.42]		1.8 [.45]		1.9 [.47]		2.0 [.50]	
	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W
4800 [2265]	—	—	—	—	—	—	—	—	—	—	589	1395	613	1488	636	1584	659	1681	681	1781	703	1883	725	1987	746	2093	766	2202	787	2313	806	2426	826	2541	845	2658	863	2778	881	2900
5000 [2359]	—	—	—	—	—	—	—	—	574	1376	598	1469	621	1565	644	1663	667	1763	689	1866	710	1971	732	2078	752	2187	773	2299	793	2412	812	2528	831	2647	850	2767	868	2890	886	3014
5200 [2454]	—	—	—	—	—	—	—	—	583	1452	607	1549	630	1647	652	1748	675	1852	696	1957	718	2065	739	2175	759	2287	779	2401	799	2518	818	2637	837	2758	856	2881	874	3007	891	3134
5400 [2548]	—	—	—	—	—	—	—	—	592	1534	615	1634	638	1735	661	1839	683	1945	704	2054	725	2164	746	2277	766	2392	786	2509	806	2629	825	2751	843	2875	862	3001	879	3129	897	3260
5600 [2643]	—	—	—	—	—	—	578	1522	601	1622	624	1724	647	1829	669	1936	691	2045	712	2156	733	2270	753	2385	773	2503	793	2623	812	2746	831	2870	849	2997	867	3126	885	3258	902	3391
5800 [2737]	—	—	—	—	—	—	587	1612	610	1715	633	1821	655	1928	677	2038	699	2150	720	2264	741	2380	761	2499	781	2620	800	2743	819	2868	837	2996	856	3126	873	3258	891	3392	907	3528
6000 [2831]	—	—	—	—	573	1605	597	1709	620	1815	642	1923	664	2033	686	2146	707	2261	728	2378	748	2497	768	2618	788	2742	807	2868	826	2996	844	3127	862	3260	879	3394	896	3532	913	3671
6200 [2926]	—	—	—	—	583	1704	606	1811	629	1919	651	2030	673	2144	695	2259	715	2377	736	2497	756	2619	776	2744	795	2870	814	2999	832	3130	851	3264	868	3399	885	3537	902	3677	918	3819
6400 [3020]	—	—	570	1701	593	1809	616	1918	639	2030	661	2144	682	2260	703	2378	724	2499	744	2622	764	2747	784	2874	803	3004	821	3136	839	3270	857	3406	875	3544	892	3685	908	3828	924	3973
6600 [3114]	—	—	580	1809	603	1919	626	2031	648	2146	670	2263	691	2382	712	2503	732	2627	753	2753	772	2881	791	3011	810	3143	829	3278	846	3415	864	3554	881	3695	898	3839	914	3985	930	4133
6800 [3209]	—	—	591	1922	614	2035	636	2150	658	2268	679	2388	700	2510	721	2634	741	2760	761	2889	780	3020	799	3153	818	3288	836	3426	854	3566	871	3708	888	3852	904	3999	920	4147	—	—
7000 [3303]	578	1927	601	2041	624	2157	646	2275	667	2395	689	2518	709	2643	730	2770	750	2899	769	3031	788	3165	807	3301	825	3439	843	3579	861	3722	878	3867	894	4014	911	4164	926	4315	—	—
7200 [3398]	589	2049	612	2165	634	2284	656	2405	677	2528	698	2654	719	2782	739	2912	759	3044	778	3178	797	3315	815	3454	833	3595	851	3739	868	3884	885	4032	901	4182	917	4335	—	—	—	—

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

Drive Package	L							M						
Motor H.P. [W]	3 [2237.1]							5 [3728.5]						
Blower Sheave	BK105H							BK105H						
Motor Sheave	1VP-44							1VP-56						
Turns Open	0	1	2	**3**	4	5	6	0	1	2	3	**4**	5	6
RPM	|	733	701	**669**	640	605	572	|	927	903	873	**840**	808	775

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

COMPONENT AIRFLOW RESISTANCE — 15 TON [52.7kW]

CFM [L/s]	4800 [2265]	5000 [2359]	5200 [2454]	5400 [2548]	5600 [2643]	5800 [2737]	6000 [2831]	6200 [2926]	6400 [3020]	6600 [3114]	6800 [3209]	7000 [3303]	7200 [3398]
	Resistance — Inches of Water [kPa]												
Wet Coil	0.03 [.01]	0.04 [.01]	0.05 [.01]	0.06 [.01]	0.06 [.01]	0.07 [.02]	0.08 [.02]	0.09 [.02]	0.10 [.02]	0.10 [.02]	0.11 [.03]	0.12 [.03]	0.13 [.03]
Downflow	0.05 [.01]	0.05 [.01]	0.05 [.01]	0.05 [.01]	0.05 [.01]	0.05 [.01]	0.05 [.01]	0.06 [.01]	0.06 [.01]	0.06 [.01]	0.07 [.02]	0.08 [.02]	0.08 [.02]
Downflow Economizer RA Damper Open	0.09 [.02]	0.10 [.02]	0.10 [.02]	0.11 [.03]	0.12 [.03]	0.13 [.03]	0.13 [.03]	0.14 [.03]	0.15 [.04]	0.16 [.04]	0.16 [.04]	0.17 [.04]	0.18 [.04]
Horizontal Economizer RA Damper Open	0.00 [.00]	0.01 [.00]	0.01 [.00]	0.02 [.00]	0.02 [.00]	0.03 [.01]	0.03 [.01]	0.04 [.01]	0.04 [.01]	0.05 [.01]	0.05 [.01]	0.06 [.01]	0.06 [.01]
Concentric Grill RXRN-AD80 or RXRN-AD81 & Transition RXMC-CJ07	0.21 [.05]	0.25 [.06]	0.28 [.07]	0.32 [.08]	0.35 [.09]	0.39 [.10]	0.43 [.11]	0.46 [.11]	0.50 [.12]	0.54 [.13]	0.57 [.14]	0.61 [.15]	0.64 [.16]

AIRFLOW CORRECTION FACTORS — 15 TON [52.7kW]

	CFM [L/s]	4800 [2265]	5000 [2359]	5200 [2454]	5400 [2548]	5600 [2643]	5800 [2737]	6000 [2831]	6200 [2926]	6400 [3020]	6600 [3114]	6800 [3209]	7000 [3303]	7200 [3398]
	Total MBH	0.98	0.98	0.99	1.00	1.00	1.01	1.02	1.02	1.03	1.04	1.04	1.05	1.06
	Sensible MBH	0.91	0.94	0.96	0.99	1.02	1.04	1.07	1.10	1.12	1.15	1.18	1.20	1.23
	Power kW	0.99	0.99	0.99	1.00	1.00	1.00	1.01	1.01	1.01	1.02	1.02	1.02	1.03

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

[ ] Designates Metric Conversions

AIRFLOW PERFORMANCE — 20 TON [70.3kW] — 60 Hz — SIDEFLOW

Air Flow CFM [L/s]	Model RLKL-B240 Voltage 208/230, 460, 575 — 3 phase 60 Hz																																			
	External Static Pressure — Inches of Water [kPa]																																			
	0.1 [.02]		0.2 [.05]		0.3 [.07]		0.4 [.10]		0.5 [.12]		0.6 [.15]		0.7 [.17]		0.8 [.20]		0.9 [.22]		1.0 [.25]		1.1 [.27]		1.2 [.30]		1.3 [.32]		1.4 [.35]		1.5 [.37]		1.6 [.40]		1.7 [.42]		1.8 [.45]		1.9 [.47]		2.0 [.50]	
	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W
6400 [3020]	—	—	—	—	—	—	—	—	—	—	652	2091	676	2222	699	2354	722	2487	745	2621	766	2756	788	2893	808	3031	829	3170	848	3311	868	3453	887	3595	906	3761	923	3902	937	4121
6600 [3114]	—	—	—	—	—	—	—	—	639	2074	663	2207	687	2341	710	2476	732	2613	754	2751	775	2890	796	3030	817	3172	837	3314	856	3458	875	3604	894	3750	912	3912	930	4056	944	4271
6800 [3209]	—	—	—	—	—	—	—	—	651	2194	674	2331	697	2468	720	2607	742	2747	764	2889	785	3031	805	3175	825	3321	845	3467	864	3614	883	3763	901	3913	919	4072	933	4283	950	4432
7000 [3303]	—	—	—	—	—	—	638	2184	662	2323	685	2463	708	2604	730	2747	752	2890	773	3035	794	3182	814	3329	834	3478	853	3628	872	3779	891	3931	908	4085	926	4240	940	4448	957	4603
7200 [3398]	—	—	—	—	—	—	650	2318	674	2460	697	2604	719	2749	741	2895	762	3042	783	3191	804	3340	824	3492	843	3644	862	3797	880	3952	898	4108	916	4265	932	4417	947	4624	964	4784
7400 [3492]	—	—	—	—	639	2315	662	2460	685	2606	708	2753	730	2902	752	3051	773	3202	793	3354	813	3508	833	3662	852	3818	871	3975	889	4134	906	4293	923	4454	938	4650	954	4810	971	4976
7600 [3586]	—	—	—	—	651	2462	674	2611	697	2760	719	2911	741	3063	762	3216	783	3371	803	3526	823	3683	842	3842	861	4001	879	4162	897	4324	914	4487	931	4651	945	4841	962	5007	978	5179
7800 [3681]	—	—	640	2467	664	2618	687	2770	709	2923	731	3077	752	3233	773	3390	794	3548	814	3707	833	3868	852	4029	870	4192	888	4357	906	4522	923	4689	936	4878	953	5043	969	5214	986	5392
8000 [3775]	630	2475	653	2628	676	2782	699	2937	721	3094	743	3252	764	3411	784	3572	804	3733	824	3896	843	4060	861	4226	880	4392	897	4560	914	4729	931	4900	944	5084	961	5255	977	5432	993	5616
8200 [3869]	643	2640	666	2797	689	2954	711	3114	733	3274	754	3435	775	3598	795	3762	815	3927	834	4094	853	4262	871	4431	889	4601	906	4772	923	4945	936	5130	952	5300	969	5477	985	5660	1001	5850
8400 [3964]	657	2814	680	2974	702	3136	724	3298	745	3462	766	3627	787	3794	807	3961	826	4130	845	4300	863	4471	881	4644	899	4818	915	4993	932	5169	944	5352	961	5528	977	5710	993	5899	1008	6094
8600 [4058]	671	2996	693	3160	715	3325	737	3491	758	3659	778	3827	798	3997	818	4169	837	4341	856	4515	874	4690	891	4866	908	5043	925	5222	937	5408	953	5584	969	5765	985	5954	1001	6148	—	—
8800 [4153]	684	3187	707	3355	728	3523	750	3693	770	3864	790	4036	810	4210	829	4385	848	4561	866	4738	884	4916	901	5096	918	5277	933	5434	946	5645	962	5826	978	6013	993	6208	1009	6408	—	—
9000 [4247]	698	3387	720	3558	742	3730	763	3903	783	4078	803	4254	822	4431	841	4609	859	4789	877	4969	895	5151	912	5335	928	5519	939	5712	955	5892	971	6079	986	6272	1002	6472	—	—	—	—
9200 [4341]	713	3595	734	3769	755	3945	776	4122	796	4300	815	4479	834	4660	853	4842	871	5025	888	5209	905	5395	922	5582	933	5784	949	5963	964	6149	980	6342	995	6541	1010	6747	—	—	—	—
9400 [4436]	727	3811	748	3989	769	4168	789	4349	808	4531	828	4714	846	4898	865	5083	882	5270	899	5458	916	5647	932	5838	942	6040	958	6225	973	6418	989	6616	1004	6821	—	—	—	—	—	—
9600 [4530]	741	4036	762	4218	782	4400	802	4585	821	4770	840	4956	859	5144	877	5333	894	5524	911	5715	927	5908	937	6122	952	6307	968	6498	983	6696	998	6901	—	—	—	—	—	—	—	—

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

Drive Package	L						M						N (field installed only)					
Motor H.P. [W]	5 [3728.5]						7.5 [5592.7]						7.5 [5592.7]					
Blower Sheave	BK130H						BK130H						BK120H					
Motor Sheave	1VP-56						1VP-71						1VP-71					
Turns Open	1	2	**3**	4	5	6	1	2	3	**4**	5	6	1	2	3	4	5	6
RPM	756	734	**709**	683	658	631	928	902	874	**847**	820	793	1009	981	955	928	899	870

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

COMPONENT AIRFLOW RESISTANCE — 20 TON [70.3kW]

CFM [L/s]	6400 [3020]	6600 [3114]	6800 [3209]	7000 [3303]	7200 [3398]	7400 [3492]	7600 [3586]	7800 [3681]	8000 [3775]	8200 [3869]	8400 [3964]	8600 [4058]	8800 [4153]	9000 [4247]	9200 [4341]	9400 [4436]	9600 [4530]
	Resistance — Inches of Water [kPa]																
Wet Coil	0.00 [.00]	0.00 [.00]	0.00 [.00]	0.01 [.00]	0.01 [.00]	0.02 [.00]	0.02 [.00]	0.03 [.01]	0.03 [.01]	0.04 [.01]	0.04 [.01]	0.05 [.01]	0.05 [.01]	0.06 [.01]	0.06 [.01]	0.07 [.02]	0.07 [.02]
Downflow	0.06 [.01]	0.06 [.01]	0.07 [.02]	0.08 [.02]	0.08 [.02]	0.09 [.02]	0.10 [.02]	0.11 [.03]	0.12 [.03]	0.13 [.03]	0.14 [.03]	0.15 [.04]	0.16 [.04]	0.18 [.04]	0.19 [.05]	0.20 [.05]	0.22 [.05]
Downflow Economizer RA Damper Open	0.15 [.04]	0.16 [.04]	0.16 [.04]	0.17 [.04]	0.18 [.04]	0.19 [.05]	0.20 [.05]	0.21 [.05]	0.22 [.05]	0.23 [.06]	0.24 [.06]	0.25 [.06]	0.26 [.06]	0.27 [.07]	0.28 [.07]	0.29 [.07]	0.30 [.07]
Horizontal Economizer RA Damper Open	0.04 [.01]	0.05 [.01]	0.05 [.01]	0.06 [.01]	0.06 [.01]	0.07 [.02]	0.07 [.02]	0.08 [.02]	0.09 [.02]	0.09 [.02]	0.10 [.02]	0.10 [.02]	0.11 [.03]	0.11 [.03]	0.12 [.03]	0.12 [.03]	0.13 [.03]
Concentric Grill RXRN-AD86 & Transition RXMC-CK08	0.26 [.06]	0.29 [.07]	0.32 [.08]	0.35 [.09]	0.38 [.09]	0.41 [.10]	0.44 [.11]	0.47 [.12]	0.50 [.12]	0.53 [.13]	0.56 [.14]	0.59 [.15]	0.62 [.15]	0.65 [.16]	0.69 [.17]	0.72 [.18]	0.75 [.19]

AIRFLOW CORRECTION FACTORS — 20 TON [70.3kW]

	CFM [L/s]	6400 [3020]	6600 [3114]	6800 [3209]	7000 [3303]	7200 [3398]	7400 [3492]	7600 [3586]	7800 [3681]	8000 [3775]	8200 [3869]	8400 [3964]	8600 [4058]	8800 [4153]	9000 [4247]	9200 [4341]	9400 [4436]	9600 [4530]
	Total MBH	0.97	0.97	0.98	0.98	0.99	0.99	0.99	1.00	1.00	1.01	1.01	1.02	1.02	1.03	1.03	1.04	1.04
	Sensible MBH	0.87	0.89	0.91	0.93	0.95	0.97	0.98	1.00	1.02	1.04	1.06	1.08	1.09	1.11	1.13	1.15	1.17
	Power kW	0.98	0.99	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.01	1.01	1.01	1.01	1.02	1.02	1.02

NOTE: Multiply correction factor times gross performance data — resulting sensible capacity cannot exceed total capacity. [ ] Designates Metric Conversions

XIII. 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 5.)
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?

XIV. 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
   C. Vapor Pressure at Compressors (Low) _____PSIG
   D. Vapor Line Temperature at Compressors °F.
   E. Indoor Dry Bulb _____°F.
   F. Indoor Wet Bulb _____°F.
   G. Outdoor Dry Bulb _____°F.
   H. Outdoor Wet Bulb _____°F.
   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

XV. 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 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 thermostat in the heat mode, fan 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 BY A NATIONALLY RECOGNIZED SAFETY TESTING AGENCY 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.

XVI. AUXILIARY HEAT

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

REPLACEMENT PARTS

Contact your local distributor for a complete parts list.

CHARGE INFORMATION

Refer to the appropriate charge chart on the unit, or in this booklet.

TROUBLESHOOTING

Refer to the troubleshooting chart included in this manual.

WIRING DIAGRAMS

Refer to the appropriate wiring diagram included in this manual.

VII. HEATER KIT CHARACTERISTICS
TABLE G. AUXILIARY HEATER KITS CHARACTERISTICS AND APPLICATION (15 & 20 TON MODELS)

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				
Unit Model Number RLKL-	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 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
RLKL-B180CL	No Heat	—	—	—	—	75/75	90/90	90/90	—	—	75/75	90/90	90/90
	CE20C	1	14.4/19.2	49.13/65.5	40/46.2	75/75	90/90	90/90	50/58	50/60	75/75	90/90	90/90
	CE40C	2	28.8/38.3	98.25/130.66	79.9/92.2	115/130	125/125	150/150	100/116	100/125	75/75	90/90	90/90
	CE60C	2	43.2/57.5	147.38/196.16	119.9/138.3	165/188	175/175	200/200	150/173	150/175	75/75	90/90	90/90
	CE75C	2	54/71.9	184.22/245.29	149.8/172.8	202/231	225/225	250/250	188/217	200/225	75/75	90/90	90/90
RLKL-B240CL	No Heat	—	—	—	—	94/94	110/125	110/125	—	—	94/94	110/125	110/125
	CE20C	1	14.4/19.2	49.13/65.5	40/46.2	94/94	110/125	110/125	50/58	50/60	94/94	110/125	110/125
	CE40C	2	28.8/38.3	98.25/130.66	79.9/92.2	119/134	125/125	150/150	100/116	100/125	94/94	110/125	110/125
	CE60C	2	43.2/57.5	147.38/196.16	119.9/138.3	169/192	175/175	200/200	150/173	150/175	94/94	110/125	110/125
	CE75C	2	54/71.9	184.22/245.29	149.8/172.8	206/235	225/225	250/250	188/217	200/225	94/94	110/125	110/125
RLKL-B180CM	No Heat	—	—	—	—	78/78	90/100	90/100	—	—	78/78	90/100	90/100
	CE20C	1	14.4/19.2	49.13/65.5	40/46.2	78/78	90/100	90/100	50/58	50/60	78/78	90/100	90/100
	CE40C	2	28.8/38.3	98.25/130.66	79.9/92.2	119/134	125/125	150/150	100/116	100/125	78/78	90/100	90/100
	CE60C	2	43.2/57.5	147.38/196.16	119.9/138.3	169/192	175/175	200/200	150/173	150/175	78/78	90/100	90/100
	CE75C	2	54/71.9	184.22/245.29	149.8/172.8	206/235	225/225	250/250	188/217	200/225	78/78	90/100	90/100
RLKL-B240CM	No Heat	—	—	—	—	101/101	110/125	110/125	—	—	101/101	110/125	110/125
	CE20C	1	14.4/19.2	49.13/65.5	40/46.2	101/101	125/125	125/125	50/58	50/60	101/101	110/125	110/125
	CE40C	2	28.8/38.3	98.25/130.66	79.9/92.2	129/145	150/150	150/150	100/116	100/125	101/101	110/125	110/125
	CE60C	2	43.2/57.5	147.38/196.16	119.9/138.3	179/202	200/200	225/225	150/173	150/175	101/101	110/125	110/125
	CE75C	2	54/71.9	184.22/245.29	149.8/172.8	217/245	225/225	250/250	188/217	200/225	101/101	110/125	110/125
RLKL-B240CN	No Heat	—	—	—	—	101/101	110/125	110/125	—	—	101/101	110/125	110/125
	CE20C	1	14.4/19.2	49.13/65.5	40/46.2	101/101	125/125	125/125	50/58	50/60	101/101	110/125	110/125
	CE40C	2	28.8/38.3	98.25/130.66	79.9/92.2	129/145	150/150	150/150	100/116	100/125	101/101	110/125	110/125
	CE60C	2	43.2/57.5	147.38/196.16	119.9/138.3	179/202	200/200	225/225	150/173	150/175	101/101	110/125	110/125
	CE75C	2	54/71.9	184.22/245.29	149.8/172.8	217/245	225/225	250/250	188/217	200/225	101/101	110/125	110/125

VII. HEATER KIT CHARACTERISTICS
TABLE G (CONTINUED). AUXILIARY HEATER KITS CHARACTERISTICS AND APPLICATION (15 & 20 TON MODELS)

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					
Unit Model Number RLKL-	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 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
RLKL-B180DL	No Heat	—	—	—	—	38	45/50	—	—	—	38	45/50	—
	CE20D	1	19.2	65.5	23.1	38	45/50	—	29	30	38	45/50	—
	CE40D	2	38.4	131	46.2	64	70/70	—	58	60	38	45/50	—
	CE60D	2	57.6	196.5	69.3	93	100/100	—	87	90	38	45/50	—
	CE75D	2	72	245.63	86.6	114	125/125	—	109	110	38	45/50	—
RLKL-B240DL	NONE	—	—	—	—	51	60/60	—	—	—	51	60/60	—
	CE20D	1	19.2	65.5	23.1	51	60/60	—	29	30	51	60/60	—
	CE40D	2	38.4	131	46.2	67	70/70	—	58	60	51	60/60	—
	CE60D	2	57.6	196.5	69.3	95	100/100	—	87	90	51	60/60	—
	CE75D	2	72	245.63	86.6	117	125/125	—	109	110	51	60/60	—
RLKL-B180DM	No Heat	—	—	—	—	40	45/50	—	—	—	40	45/50	—
	CE20D	1	19.2	65.5	23.1	40	45/50	—	29	30	40	45/50	—
	CE40D	2	38.4	131	46.2	67	70/70	—	58	60	40	45/50	—
	CE60D	2	57.6	196.5	69.3	95	100/100	—	87	90	40	45/50	—
	CE75D	2	72	245.63	86.6	117	125/125	—	109	110	40	45/50	—
RLKL-B240DM	No Heat	—	—	—	—	54	60/70	—	—	—	54	60/70	—
	CE20D	1	19.2	65.5	23.1	54	60/70	—	29	30	54	60/70	—
	CE40D	2	38.4	131	46.2	70	70/70	—	58	60	54	60/70	—
	CE60D	2	57.6	196.5	69.3	99	100/100	—	87	90	54	60/70	—
	CE75D	2	72	245.63	86.6	121	125/125	—	109	110	54	60/70	—
RLKL-B240DN	No Heat	—	—	—	—	54	60/70	—	—	—	54	60/70	—
	CE20D	1	19.2	65.5	23.1	54	60/70	—	29	30	54	60/70	—
	CE40D	2	38.4	131	46.2	70	70/70	—	58	60	54	60/70	—
	CE60D	2	57.6	196.5	69.3	99	100/100	—	87	90	54	60/70	—
	CE75D	2	72	245.63	86.6	121	125/125	—	109	110	54	60/70	—

VII. HEATER KIT CHARACTERISTICS
TABLE G (CONTINUED). AUXILIARY HEATER KITS CHARACTERISTICS AND APPLICATION (15 & 20 TON MODELS)

600 VOLT, THREE PHASE, 60 HZ, AUXILIARY ELECTRIC HEATER KITS CHARACTERISTICS AND APPLICATION

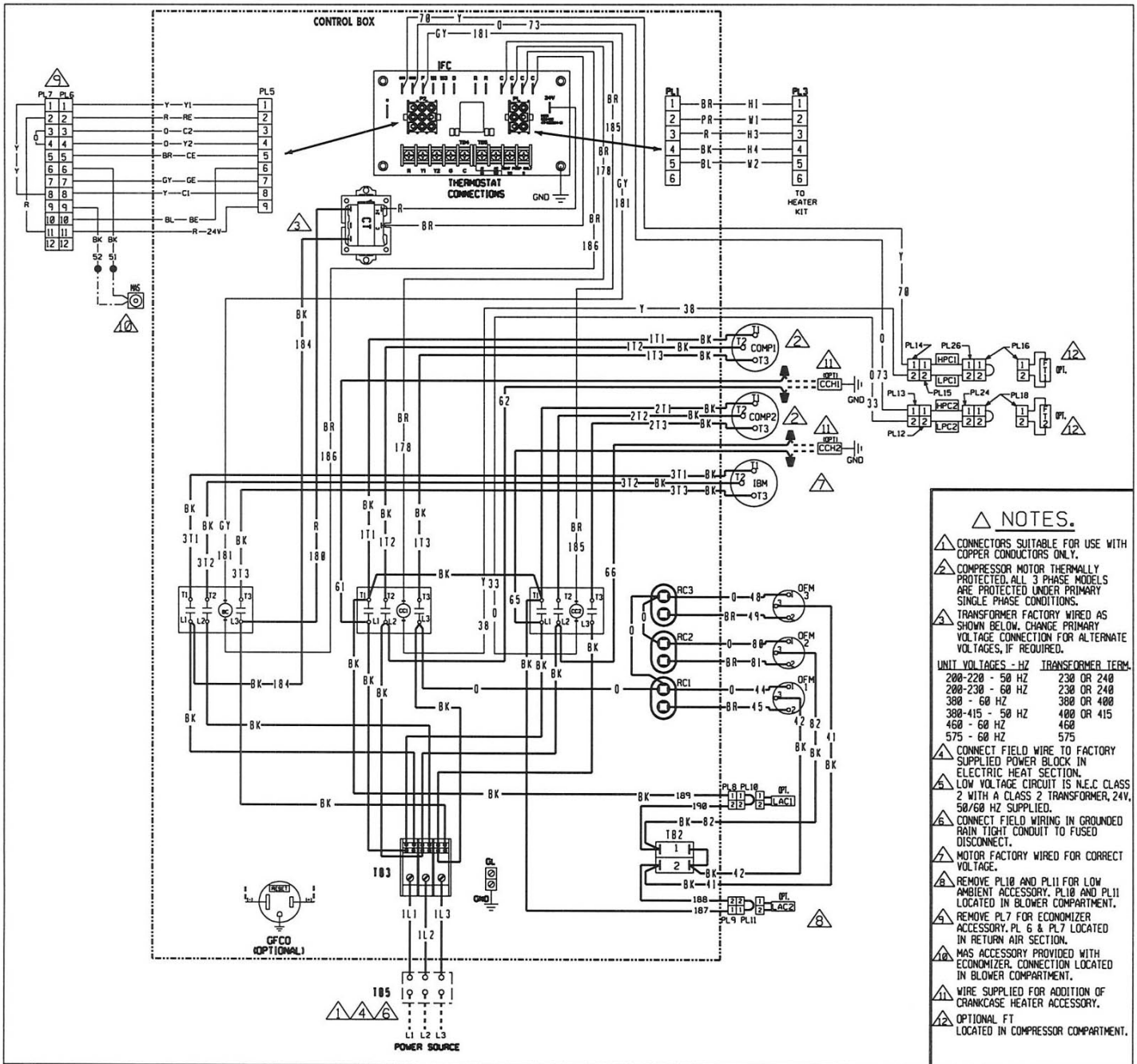
Single Power Supply For Both Unit And Heater Kit									Separate Power Supply For Both Unit And Heater Kit				
Unit Model Number RLKL-	Heater Kit					Air Conditioner			Heater Kit		Air Conditioner		
	RXJJ- Heater Kit Nominal kW	No. of Sequence Steps	Rated Heater kW @ 600 V	Heater KBTU/Hr @ 600 V	Heater Amp. @ 600 V	Unit Min. Ckt Ampacity @ 600 V	Over Current 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
RLKL-B180YL	No Heat	—	—	—	—	28	30/35	—	—	—	28	30/35	—
	CE20Y	1	19.2	65.5	18.5	28	30/35	—	24	25	28	30/35	—
	CE40Y	2	38.4	131	37	51	60/60	—	47	50	28	30/35	—
	CE60Y	2	57.6	196.5	55.4	74	80/80	—	70	70	28	30/35	—
	CE75Y	2	72	245.63	69.3	92	100/100	—	87	90	28	30/35	—
RLKL-B240YL	No Heat	—	—	—	—	37	40/45	—	—	—	37	40/45	—
	CE20Y	1	19.2	65.5	18.5	37	40/45	—	24	25	37	40/45	—
	CE40Y	2	38.4	131	37	53	60/60	—	47	50	37	40/45	—
	CE60Y	2	57.6	196.5	55.4	76	80/80	—	70	70	37	40/45	—
	CE75Y	2	72	245.63	69.3	94	100/100	—	87	90	37	40/45	—
RLKL-B180YM	No Heat	—	—	—	—	30	35/35	—	—	—	30	35/35	—
	CE20Y	1	19.2	65.5	18.5	30	35/35	—	24	25	30	35/35	—
	CE40Y	2	38.4	131	37	53	60/60	—	47	50	30	35/35	—
	CE60Y	2	57.6	196.5	55.4	76	80/80	—	70	70	30	35/35	—
	CE75Y	2	72	245.63	69.3	94	100/100	—	87	90	30	35/35	—
RLKL-B240YM	No Heat	—	—	—	—	39	45/50	—	—	—	39	45/50	—
	CE20Y	1	19.2	65.5	18.5	39	45/50	—	24	25	39	45/50	—
	CE40Y	2	38.4	131	37	57	60/60	—	47	50	39	45/50	—
	CE60Y	2	57.6	196.5	55.4	80	80/80	—	70	70	39	45/50	—
	CE75Y	2	72	245.63	69.3	97	100/100	—	87	90	39	45/50	—
RLKL-B240YN	No Heat	—	—	—	—	39	45/50	—	—	—	39	45/50	—
	CE20Y	1	19.2	65.5	18.5	39	45/50	—	24	25	39	45/50	—
	CE40Y	2	38.4	131	37	57	60/60	—	47	50	39	45/50	—
	CE60Y	2	57.6	196.5	55.4	80	80/80	—	70	70	39	45/50	—
	CE75Y	2	72	245.63	69.3	97	100/100	—	87	90	39	45/50	—

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 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 • TXV does not open	• Remove or replace defective component • 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
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 • Dirty evaporator coil, bent fins	• Increase speed of blower or reduce restriction - replace air filter • Add Low Ambient Kit • Recover refrigerant - evacuate & recharge - add filter drier • Clean evaporator coil, straighten fins
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



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 AND PL11 FOR LOW AMBIENT ACCESSORY. PL10 AND PL11 LOCATED IN BLOWER COMPARTMENT.
9. REMOVE PL7 FOR ECONOMIZER ACCESSORY. PL 6 & PL7 LOCATED IN RETURN AIR SECTION.
10. MAS ACCESSORY PROVIDED WITH ECONOMIZER. CONNECTION LOCATED IN BLOWER COMPARTMENT.
11. WIRE SUPPLIED FOR ADDITION OF CRANKCASE HEATER ACCESSORY.
12. OPTIONAL FT LOCATED IN COMPRESSOR COMPARTMENT.

COMPONENT CODE

BC	BLOWER CONTACTOR
CC	COMPRESSOR CONTACTOR
CCH	CRANKCASE HEATER
COMP	COMPRESSOR
CT	CONTROL TRANSFORMER
FT	FREEZE STAT
GFCO	GROUND FAULT CONVENIENCE OUTLET
GL	GROUND LUG
GND	GROUND
HPC	HIGH PRESSURE CONTROL
IBM	INDOOR BLOWER MOTOR BELT DRIVE
IFC	INTEGRATED FURNACE CONTROL
LAC	LOW AMBIENT COOLING CONTROL
LPC	LOW PRESSURE CONTROL
MAS	MIX AIR SENSOR
OFM	OUTDOOR FAN MOTOR
RC	RUN CAPACITOR
TDC	TIME DELAY CONTROL
PL	PLUG
PT	POWER TRANSFORMER
▲	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.

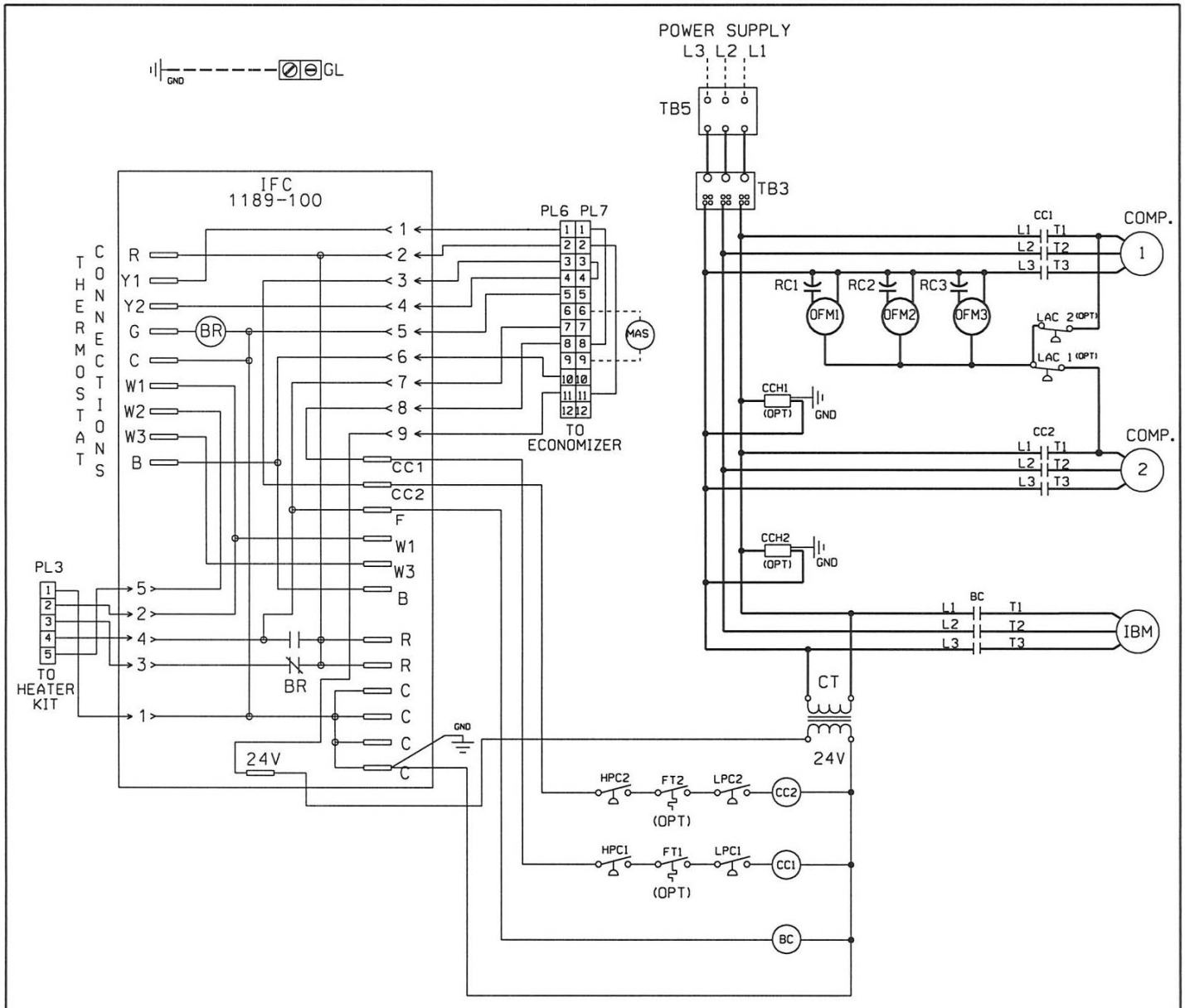
WIRE COLOR CODE

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

WIRING DIAGRAM

RLKL-B180/240
208-230/460/575V 3 PH, 60 HZ.
200-220/380-415 3PH, 50 HZ.
PACKAGED A/C

DR. BY	APP. BY	DATE	DWG. NO.	REV
MGR	RDL	7-21-10	90-42517-40	01



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

RLKL-B180/240
208-230V, 3PH, 60HZ. / 460V, 3PH, 60HZ.
575V, 3PH, 60 HZ.
200-220/380-415V 3 PH, 50 HZ.
PACKAGED A/C

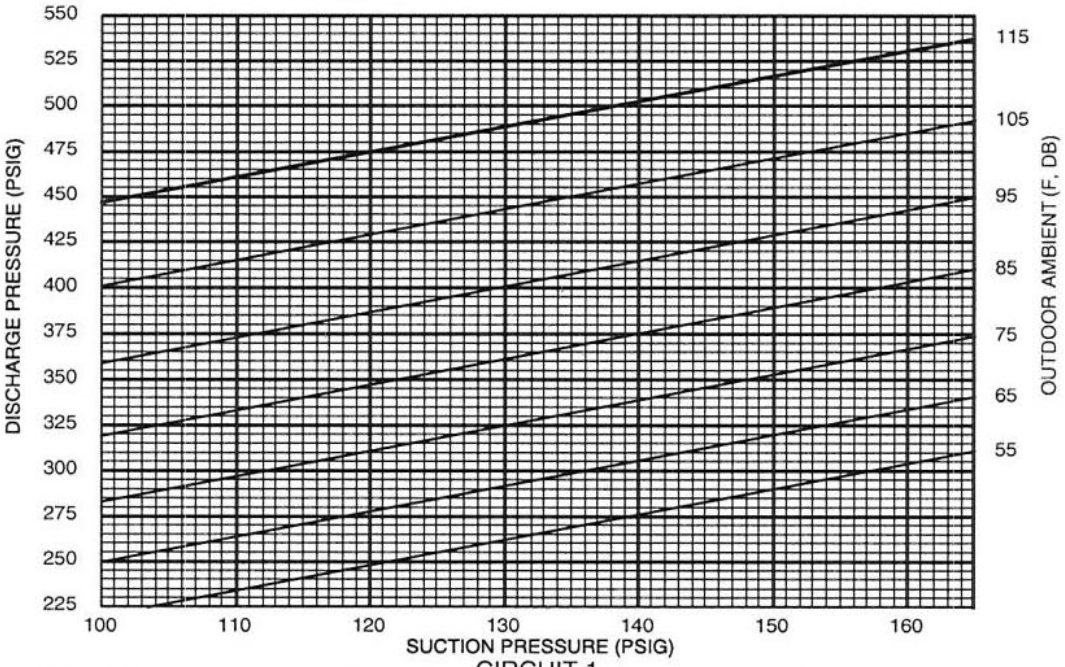
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RLKL SERIES – 15 TON

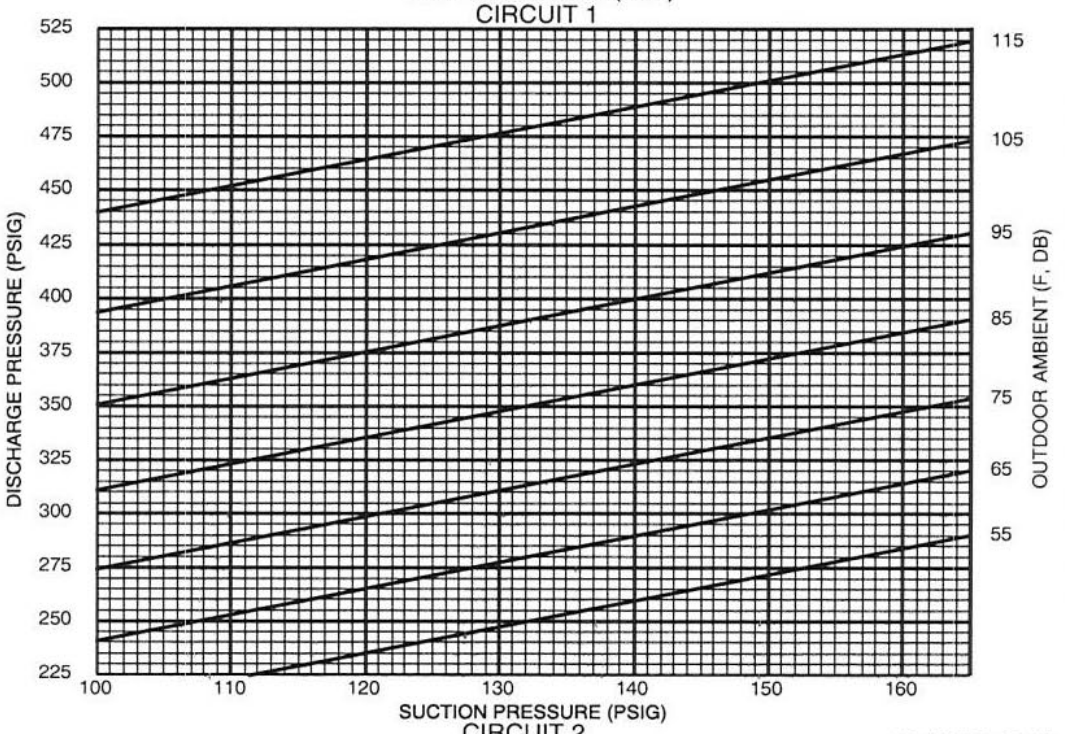
SYSTEM CHARGE CHART - REFRIGERANT 410A
15 TON, CIRCUITS 1 & 2

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 DISCHARGE.
2. MEASURE OUTDOOR AMBIENT TO UNIT.
3. PLACE (X) ON CHART WHERE SUCTION AND DISCHARGE 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

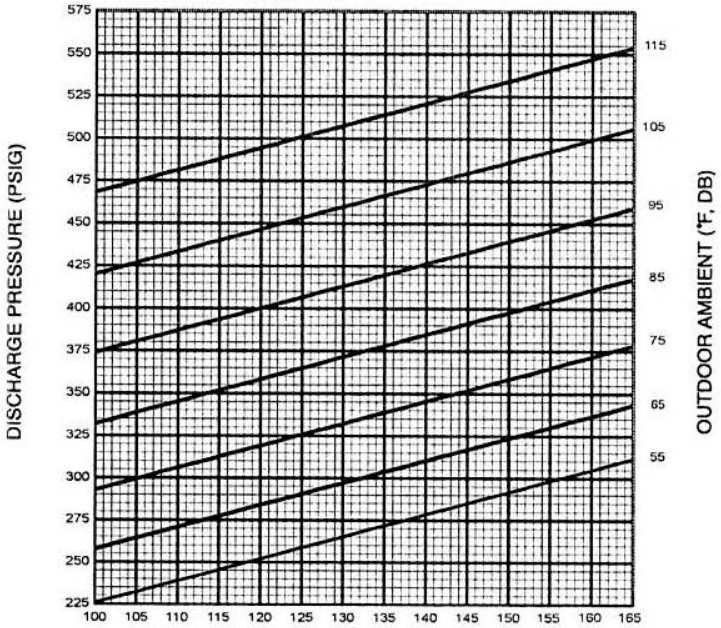
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RLKL SERIES – 20 TON

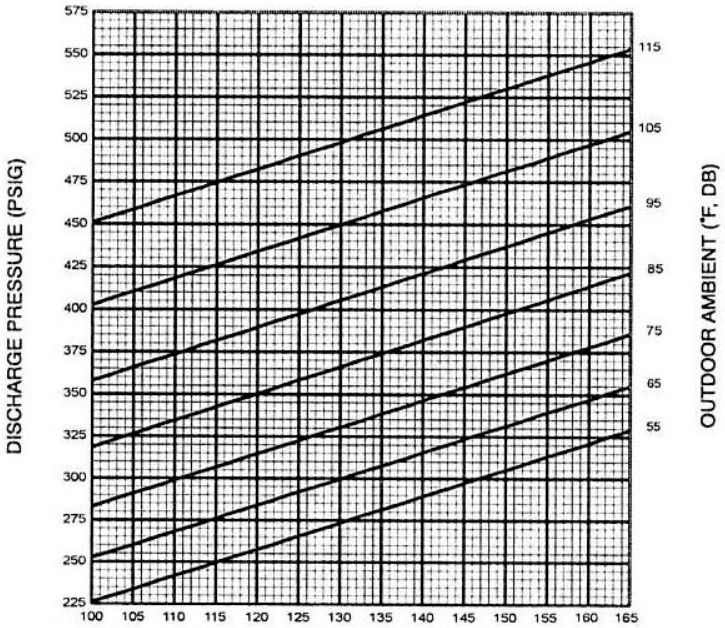
SYSTEM CHARGE CHART - REFRIGERANT 410A
20 TON, CIRCUITS 1 & 2

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 DISCHARGE.
2. MEASURE OUTDOOR AMBIENT TO UNIT.
3. PLACE (X) ON CHART WHERE SUCTION AND DISCHARGE 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

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