Installation Instructions

PART NO. CRBTMPWR009A01

IMPORTANT: Read and become familiar with all instructions before beginning installation.

SAFETY CONSIDERATIONS

Installation and servicing of air-conditioning equipment can be hazardous due to system pressure and electrical components. Only trained and qualified service personnel should install, repair, or service air-conditioning equipment.

Untrained personnel can perform basic maintenance functions of cleaning coils and filters and replacing filters. All other operations should be performed by trained service personnel. When working on air-conditioning equipment, observe precautions in the literature, tags and labels attached to the unit, and other safety precautions that may apply.

Follow all safety codes, including ANSI (American National Standards Institute) Z223.1. Wear safety glasses and work gloves. Use quenching cloth for unbrazing operations. Have fire extinguisher available for all brazing operations.

It is important to recognize safety information. This is the safety-alert symbol ⚠. When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury.

Understand the signal words DANGER, WARNING, CAUTION, and NOTE. These words are used with the safety-alert symbol. DANGER identifies the most serious hazards which **will** result in severe personal injury or death. WARNING signifies hazards which **could** result in personal injury or death. CAUTION is used to identify unsafe practices, which **may** result in minor personal injury or product and property damage. NOTE is used to highlight suggestions which **will** result in enhanced installation, reliability, or operation.

⚠DANGER

ELECTRICAL SHOCK HAZARD

Failure to follow this warning will result in personal injury or death.

Before performing service or maintenance operations on unit, turn off main power switch to unit and install lock(s) and lockout tag(s). Ensure electrical service to rooftop unit agrees with voltage and amperage listed on the unit rating plate. Unit may have more than one power switch.

GENERAL

Thru-the-bottom, power connection accessory packages reduce the number of penetrations in the roof. They provide a watertight way to connect power wiring, control wiring, 115-v service power, and the gas supply line through the base of the unit in the condenser section. Kit CRBTMPWR009A01 is used on the 3 to 6 ton units.

When the thru-the-bottom power accessory package is purchased, one of two bulkhead connector configurations may be selected for power connections. Each set contains 2 bulkhead connector sizes (1/2 in. and 3/4 in.). Set #1 uses the (3) hole cover plate and enables the low-voltage control wires (using one 1/2 in. bulkhead connector), the high-voltage power wires (using one 3/4 in. bulkhead connector), and the gas line to pass through the basepan. Set #2 uses the (4) hole cover plate and enables the low-voltage control wires, the high-voltage power wires, the gas line, and the 115 v service power (using one 1/2 in. bulkhead connector) to pass through the basepan. Refer to Table 1 for package contents. See Table 2 for package usage.

Table 1 — Package Contents

QTY	PART NUMBER	CONTENTS
1	50HJ540100	Support Bracket
4	AL48AM217	Screws (#10 x 5/8 in.)
1	DK06DA118	1/2 in. Gas Adapter Fitting
2	LF48ZZ050	1/2 in. Elec. Bulkhead Connector
1	LF48ZZ075	3/4 in. Elec. Bulkhead Connector
1	AL83AS216	Screw (10-16 x 1/2 in. long)
1	48TC500045	Cover-(3) hole
1	48TC500046	Cover-(4) hole
1	48TC500041	Gasket

Table 2 — Package Usage

KIT NUMBER	MODELS
CRBTMPWR009A01	48/50FC 04-07 48/50GC 04-06 48/50HC 04-06* 48/50JC 04-06 48/50KC 04-06* 48/50LC 04-06* 48/50TC 07* 50FCQ 04-07 50GCQ 04-06 50HCQ 04-06* 50KCQ 04-06* 50LCQ 04-06* 50TCQ 07*
	582K/559K/547K 04-07 581K/551K/549K 04-06 582J/559J/548J 04-06* 581J/551J/549J 04-06* 580J/558J/548J 07*
	RGW/RAW/RHW 036-060 RGV/RAV/RHV 036-072 RGX/RAX/RHX 036-060* RGH/RAH/RHH 036-060* RGS/RAS/RHS 072*

*For models built on or after April 15, 2019.

INSTALLATION

Make sure the roof curb is installed in accordance with the instructions provided.

The thru-the-bottom power connection accessory package must be used with a roof curb that has an opening in the insulated panel. This opening allows power and control wires to pass through the roof curb and into the rooftop unit. Refer to Table 3 for roof curbs that can be used with a thru-the-bottom power connection accessory package.

Table 3 — Accessory Roof Curb Data

UNIT	ROOF CURB ACCESSORY PACKAGE NUMBER	NOMINAL ROOF CURB HEIGHT (IN.)
3 to 6 Tons	CRRFCURB001A01	14
	CRRFCURB002A01	24

IMPORTANT: The accessory thru-the-bottom power connection package must be installed before the unit is set on the roof curb.

UNITS WITH COVER PLATE IN BASEPAN

Step 1 — Mount the Cover Plate

The cover plate is located in the compressor compartment of the unit, directly below the control box. (See Fig. 1.) Remove the blank cover plate from the unit. Discard the blank cover plate but reserve the screws. Depending on the number of connectors required, select either the (3) hole or the (4) hole cover plate. Adhere the gasket to the underside of the selected cover plate. Attach the desired bulkhead connectors to the cover plate (see Table 4) and then, using the reserved screws, attach the cover plate with the bulkhead connectors to the opening in the basepan.

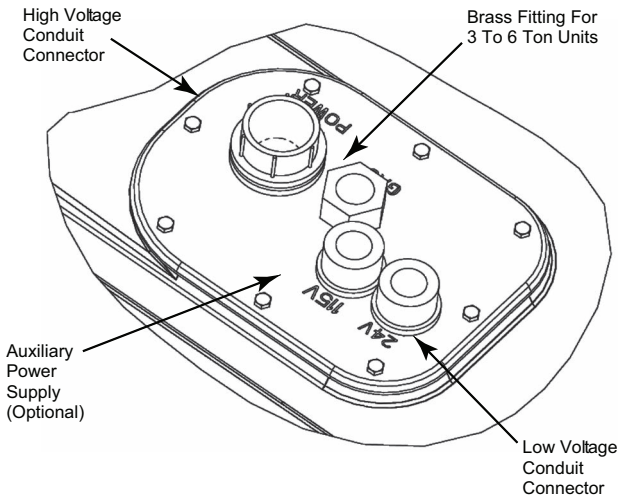

Fig. 1 — Thru-Base Gas Connection Fittings (Four Hole Cover Plate Shown)

Table 4 — Hole Size Requirements

COUPLING SIZE	USAGE	REQUIRED HOLE SIZE(MAX) (PRE-PUNCHED)
1/2 in.	24-v Control Wiring	7/8 in. (22.2 mm)
1/2 in.	115-v Accessory Wiring	7/8 in. (22.2 mm)
3/4 in.	High-voltage power wiring and accessory convenience outlet wiring*(3 to 6 ton units)	1-1/8 in. (29.0 mm)
1/2 in. NPT	Gas Line	1-1/8 in. (29.0mm)

*Hole for gas service plate is pre-drilled in roof curb part numbers CRRFCURB001A-004A.

Step 2 — Run Wiring and Connect Conduit

IMPORTANT: Liquid-tight conduit must be used on outdoor appliances.

Attach the conduit to the appropriate bulkhead connectors. When the connector cover plate with the bulkhead connectors is in place, field-supplied and field-installed liquid-tight conduit with electrical wires may be drawn through the connectors into the rooftop unit. Pull correctly rated high-voltage and low-voltage wires through appropriate conduits and connect to unit per rooftop unit's installation instructions. (See Fig. 2.)

IMPORTANT: Follow all local and national electrical codes when installing electrical service to the rooftop.

The blank cover plate on the basepan is located in the outdoor compartment of the unit, directly below the control box. (See Fig. 2.)

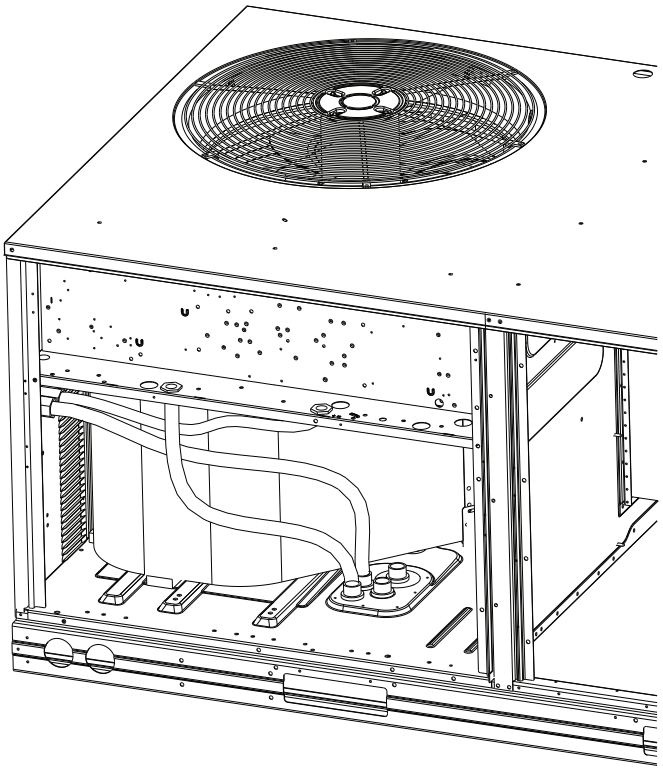

Fig. 2 — Typical Conduit Installation

Step 3 — Install the Unit on Roof Curb

Make all appropriate connections to install the unit on the roof curb. See the installation instructions provided with the roof curb for specific information. See Fig. 3.

Plate should be installed before flashing is applied.

Step 4 — Make Gas Connections

Gas connections to the unit must be field-installed after the unit is installed on the roof curb. If using 1/2 in. pipe, a minimum 16 in. nipple (field-supplied) is required, which attaches to the elbow and extends the gas piping through compressor access panel (if unit is so equipped). Install the gas pipe support bracket, using 5/8 in. screws provided, to the basepan edge as depicted in Fig. 3.

The thru-base gas connector has male and female threads. The male threads protrude above the basepan of the unit; the female threads protrude below the basepan.

Check tightness of connector lock nuts before connecting gas piping.

Install a 1/2 in. NPT street elbow on the thru-base gas fitting. Attach a 1/2 in. pipe nipple with minimum length of 16 in. (406 mm) (field-supplied) to the street elbow and extend it through the access panel at the gas support bracket. (See Fig. 3.)

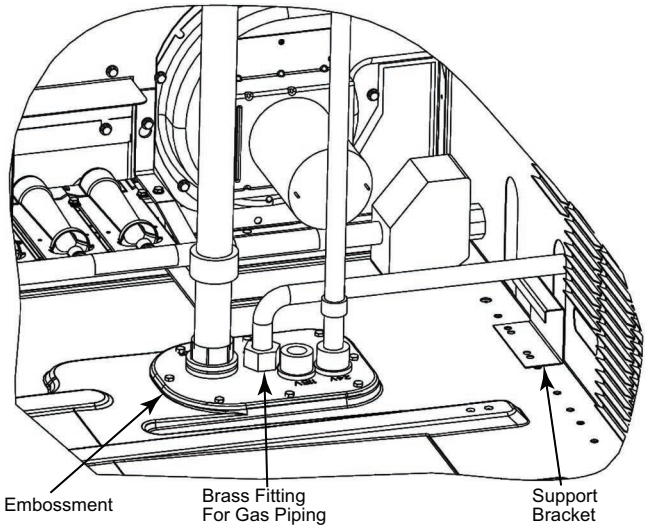

Fig. 3 — Gas Line Piping for 3 to 6 Ton Units

Unit is equipped for use with type of gas shown on nameplate. Refer to local building codes, or in the absence of local codes, to ANSI (American National Standards Institute) Z223.1 latest year and Addendum Z223.1A latest year entitled NFGC (National Fuel Gas Code). In Canada, installation must be in accordance with the CAN1.B149.1 and CAN1.B149.2 installation codes for gas appliances. For natural gas applications, gas pressure at unit gas connection must not be less than 4.0 in. wg or greater than 13.0 in. wg while unit is operating. For liquid propane and high heat applications, the gas pressure must not be less than 5.0 in. wg or greater than 13.0 in. wg at the unit connection. Size gas supply piping for 0.5 in. wg maximum pressure drop. Do not use supply pipe smaller than unit gas connection.

Support gas piping as shown in Fig. 4 and for typical pipe guide and locations of external, manual gas shutoff valve. Once installed, leak-check all gas fittings.

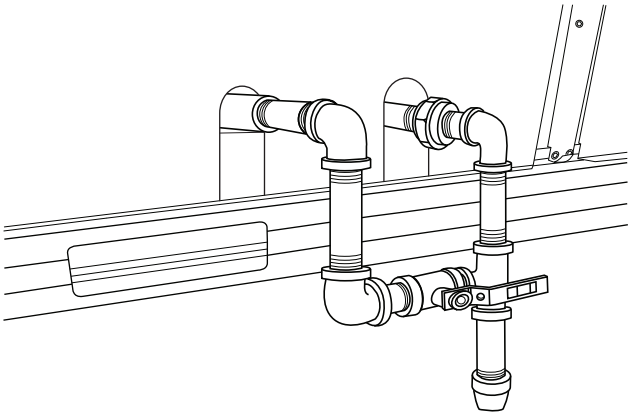

Fig. 4 — Manual Gas Shutoff Location

Step 5 — Connect Unit Disconnect

A unit disconnect must be field-supplied and field-installed or factory-supplied and factory-installed.

One knockout panel is provided in the unit side panel (on the left side of the compressor). (See Fig. 2.) The knockout panel must be removed so that conduit may be run through the hole. A second hole must be field cut so that the power wiring can be run to or from the unit disconnect.

Run the field supplied and installed liquid-tight conduit from the bulkhead connectors through the holes in the side panel. Connect the conduit to the unit disconnect.

Step 6 — Make Wiring Connections

FACTORY-OPTION THRU-BASE ELECTRICAL CONNECTIONS

This service connection kit consists of a 1/2 in. electrical bulkhead connector and a 3/4 in. electrical bulkhead connector, all factory- installed in the embossed (raised) section of the unit basepan in the condenser section. The 3/4 in. bulkhead connector enables the low-voltage control wires to pass through the basepan. The 1/2 in. bulkhead connector allows the high-voltage power wires to pass through the basepan. (See Fig. 1.)

Check tightness of connector lock nuts before connecting electrical conduits.

Field-supplied and field-installed liquid tight conduit connectors and conduit may be attached to the connectors on the basepan. Pull correctly rated high voltage and low voltage through appropriate conduits. Connect the power conduit to the internal disconnect (if unit is so equipped) or to the external disconnect (through unit side panel). A hole must be field-cut in the main control box bottom on the left side so the 24-v control connections can be made. Connect the control power conduit to the unit control box at this hole.

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