

# CRBTMPWR003A01 and CRBTMPWR004A01

## SMALL ROOFTOP UNITS THRU-THE-BOTTOM SERVICE CONNECTION GAS HEATING/ELECTRIC COOLING, 3 to 12-1/2 TONS

### Installation Instructions

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

#### PACKAGE CONTENTS

QTY	PART NUMBER	CONTENTS
1	50HJ540100	Support Bracket
4	AL48AM217	Screws (10 AB x 5/8-in.)
1	DK06DA118	1/2-in. Gas Adapter Fitting (CRBTMPWR003A01 Only)
1	DK06RB162	3/4-in. Gas Adapter Fitting (CRBTMPWR004A01 Only)
2	LF48ZZ050	1/2-in. Elec. Bulkhead Connector
1	LF48ZZ075	3/4-in. Elec. Bulkhead Connector (CRBTMPWR003A01 Only)
1	LF48ZZ125	1-1/4-in. Elec. Bulkhead Connector (CRBTMPWR004A01 Only)


#### PACKAGE USAGE

UNIT SIZE	PART NUMBER
3 to 6 Tons	CRBTMPWR003A01
7 <sup>1</sup> / <sub>2</sub> to 12 <sup>1</sup> / <sub>2</sub> Tons	CRBTMPWR004A01

#### 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 the basic maintenance functions. 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. Wear safety glasses and work gloves.

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, and CAUTION. 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 a hazard 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.

#### WARNING

##### ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in personal injury and/or death.

Before performing service or maintenance operations on unit, turn off main power switch to unit. If gas unit, shut off gas supply *before* shutting off main power. TAG DISCONNECT SWITCH WITH A SUITABLE WARNING LABEL.

#### 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 and the gas supply line through the base of the unit in the condenser section. Kit CRBTMPWR003A01 is used on the 3 to 6 ton units and CRBTMPWR004A01 is used on the 7-1/2 to 12-1/2 ton units.

When the thru-the-bottom power accessory package is purchased, one of two bulkhead connector sets may be selected for power connections. Each set contains 2 bulkhead connectors. The 1/2-in. diameter bulkhead connector enables the low-voltage control wires to pass through the basepan. The larger bulkhead connector allows the high voltage power wires to pass through the basepan. The gas adapter fitting allows the gas line to come up through the basepan.

## INSTALLATION

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

The thru-the-bottom service connection accessory package must be used with a roof curb that has a pre-cut opening in the insulated deck pan. This opening allows high-voltage power, control wiring and gas connections to pass through the roof curb and into the basepan of the rooftop unit. Refer to Table 1 for roof curbs that can be used with a thru-the-bottom power connection accessory package.

**Table 1 – Accessory Roof Curb Data**

APPLICATION USAGE	ROOF CURB ACCESSORY PACKAGE NUMBER	NOMINAL ROOF CURB HEIGHT (in.)
3 to 6 Tons	CRRFCURB001A01	14
	CRRFCURB002A01	24
7 <sup>1</sup> / <sub>2</sub> to 12 <sup>1</sup> / <sub>2</sub> Tons	CRRFCURB003A01	14
	CRRFCURB004A01	24

### Step 1 — Prepare Unit for Installation

The accessory thru-the-bottom power or gas connection package must be installed **before** the unit is set on the roof curb. Use 1/2-in. gas pipe coupling for 3 to 6 ton units or 3/4-in. gas pipe adapter for 7-1/2 to 12-1/2 ton units. Gas and electrical connections to the unit must be field installed after the unit is installed on the roof curb.

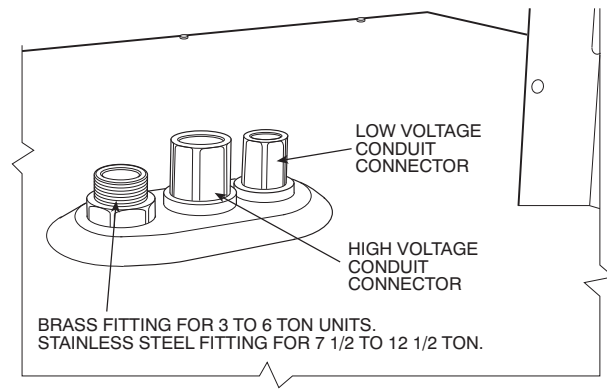
### Step 2 — Install the Unit on the Roof Curb

Follow all appropriate instructions required to install the rooftop unit on the roof curb. See installation instructions provided with the roof curb and unit for more specific information.

### Step 3 — Creating Holes in the Raised Surface of the Unit Basepan

Each unit is equipped with a raised (embossed) surface in the basepan. This area is located in the compressor compartment of the unit, adjacent to the compressor. (See Fig. 1.) The embossment of the basepan contains three (3) dimples for locating cutouts. Holes can be field cut in the embossed surface so that high voltage power, control wires and gas connection can be routed through the roof curb basepan.

Use a chassis punch or hole saw to create holes in the embossed surface of the basepan per Table 2.



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**Fig. 1 - Fittings for 3 to 6 Ton and 7-1/2 to 12-1/2 Ton Units**

**Table 2 – Bottom Power Chart**

KIT NO.	CONN. SIZE (in.)	USE	REQ'D HOLE SIZES (Max) (in.)
003A, 004A	1/2	24V	7/8
003A	1/2	Gas	1 – 1/8
	3/4	Power	1 – 1/8
004A	3/4	Gas	1 – 3/4
	1 – 1/4	Power	1 – 3/4

### Step 4 — Mounting the Electric Bulkhead Connectors

Once the holes have been cut, insert electrical bulkhead connectors. Place one connector beneath the basepan and mount the other above the basepan.

When the electrical connectors are in place, field supplied and installed liquid tight conduit connectors and conduit may be attached to the connectors. Pull correctly rated high voltage and low voltage wires through appropriate conduits and connect to unit per roof top units' installation instructions.

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

### Step 5 — Make Gas Connections

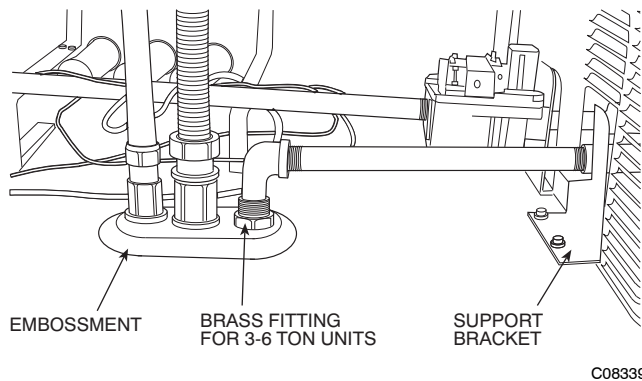
The thru-the-bottom gas connection fitting has male and female threads.

\*The gas fitting also contains two neoprene washers and two locking washers. One neoprene and one locking washer are installed below the unit basepan with the second set being installed on the top side of the basepan before the fitting is tightened. Tighten all fittings. The male threads protrude above the basepan of the unit, while the female threads protrude below the basepan. (See Fig. 1.)

Install appropriate street elbow on the through the pan gas fitting (1/2-in. or 3/4-in. depending on kit).

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). If using 3/4-in. pipe, a minimum 19-in. nipple (field-supplied) is required which 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. 2.

When installing on the high-efficiency units, remove or cut away ten louvers from the right side of the louvered compressor access panel. This allows the gas line to exit the unit. (See Fig. 2.)



**Fig. 2 - Gas Line Piping for  
3 to 6 Ton Units Only**

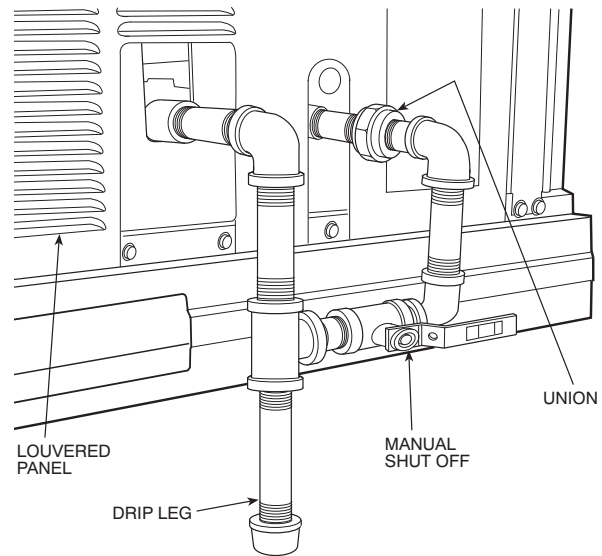
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## Step 6 — Install Gas Piping

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. 3 and for typical pipe guide and locations of external, manual gas shutoff valve. Once installed, leak check all gas fittings.

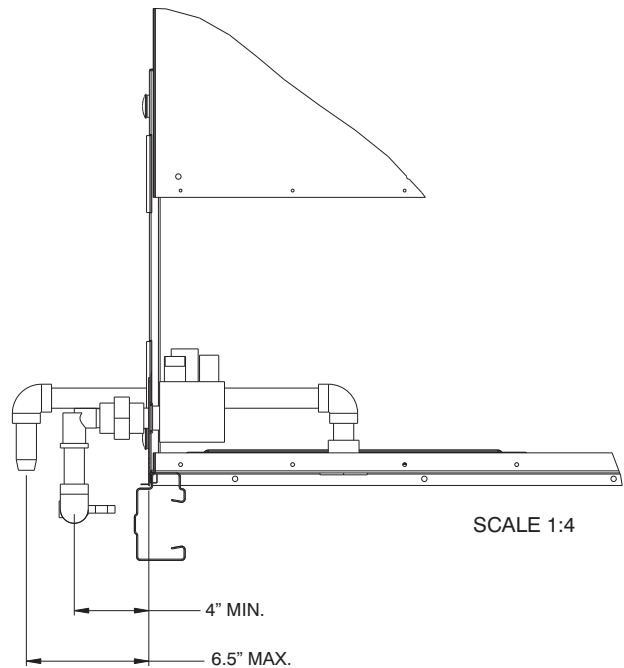
On 7-1/2 to 12-1/2 ton units with hinged panel option, install gas piping as shown in Fig. 4.



NOTE: Depicts the piping outside the unit, starting at the end of a 16-in. threaded piece of pipe.

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**Fig. 3 - Gas Piping, 3 to 6 Ton Models Only**



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**Fig. 4 - Gas Piping, 7-1/2 to 12-1/2 Ton Models  
with Hinged Panel Option**

# ⚠ WARNING

## ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in personal injury and/or death.

Unit cabinet must have an uninterrupted, unbroken electrical ground to minimize the possibility of personal injury if an electrical fault should occur. This ground may consist of electrical wire connected to the unit ground lug in the control compartment, or conduit approved for electrical ground when installed in accordance with NEC (National Electrical Code) ANSI/NFPA (National Fire Protection Association), latest edition, and local electrical codes. Do not use gas piping as an electrical ground.

## Step 7 — Disconnect Box Location

The field-supplied disconnect box may be mounted on the unit's end panel or on the corner post. Mount disconnect box on the left side of the rating plate when mounting on the unit's end panel. Do not mount the disconnect box over the unit rating plate. When mounting disconnect box on corner post, secure disconnect box to corner post and condenser coil top cover. (See Fig. 5.)

A disconnect box mounting space is available when an optional or accessory condenser coil grille is used. Mount the disconnect on the sheet metal provided with the condenser coil grille. The sheet metal is located adjacent to the corner post on the left side of the power wiring access panel.

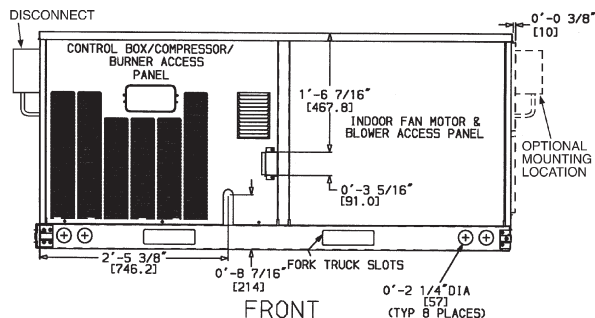


Fig. 5 - Electrical Disconnect Location

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## Field Power Supply

All units except 208/230-v units are factory wired for the voltage shown on the nameplate. If the 208/230-v unit is to be connected to a 208-v power supply, the transformer must be rewired by moving the black wire from the 230-v orange wire on the transformer and connecting it to the 200-v red wire from the transformer. The end of the orange wire must then be insulated.

Refer to unit label diagram for additional information. Wiring leads are provided for field service. Use copper conductors only when splice connectors are used.

When installing units, provide a disconnect per NEC.

All field wiring must comply with NEC and local requirements. In Canada, electrical connections must be in accordance with CSA (Canadian Standards Association) C22.1 Canadian Electrical Code Part 1.

## Step 8 — Make Wiring Connections

A hole must be field cut in the sheet metal underneath the control box on the left side so that 24-v connections can be made. Field supplied and installed wiring must be provided for the 24-v connections. (See Fig. 6.) Make the power and control wiring connections based on the wiring schematic found in the rooftop unit Installation Instructions or on unit wiring diagram. (See Fig. 6.)

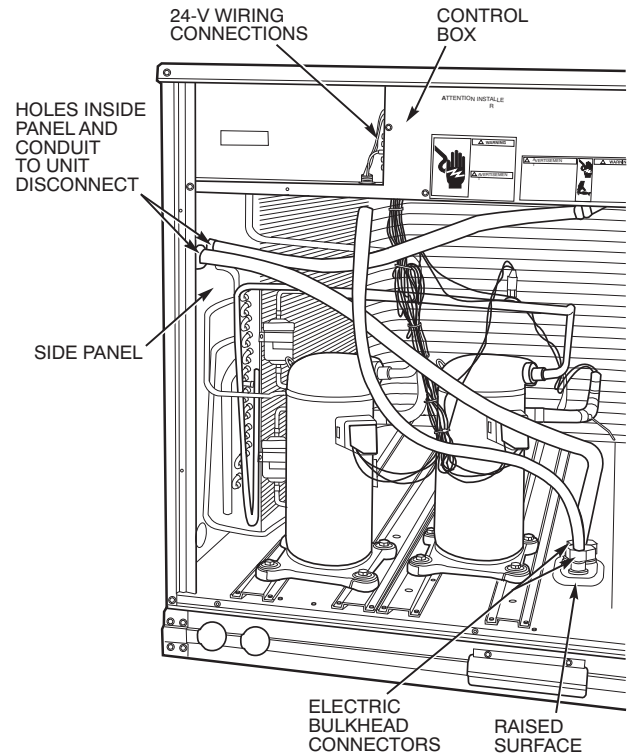


Fig. 6 - Typical Conduit Installation

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