

Installation

Orifice Sizes

The efficiency rating of these appliances is a product thermal efficiency rating determined under continuous operating conditions and determined independently of any installed system. For elevations above 2,000 feet reduce ratings 4% for each 1,000 feet above sea level.

The correct orifice sizes for the different input ratings when using natural or L.P. gas are:

CAPACITY AND ORIFICE SIZING						
MODEL NUMBER	GAS TYPE	INPUT RATING Btu/hr.	HEATING CAPACITY RATING Btu/hr.	Main Burner Orifice		
				DRILL	DEC	QTY
14038 Series	Nat	14,000	10,244	#50	.0700	1
14038 Series	LP.	14,000	10,516	#56	.0460	1
22038 Series	Nat	22,000	16,210	#44	.0860	1
22038 Series	LP.	22,000	16,595	#54	.0550	1

Btu/hr. = British Thermal Units per hour.

CONVERSION KITS	
Description	Models
Natural Gas to L.P. Gas for 14038 Series	8939
Natural Gas to L.P. Gas for 22038 Series	8940
L.P. Gas to Natural Gas for 14038 Series	8942
L.P. Gas to Natural Gas for 22038 Series	8943

Gas Piping

The gas supply line must be of an adequate size to handle the Btu/hr. requirements and length of the run for the unit being installed.

Determine the minimum pipe size from Figure 14, basing the length of the run from the gas meter or source to the unit.

All piping must comply with local codes and ordinances or with the National Fuel Gas Code (ANSI Z223.1 NFPA No. 54), whichever applies. (In Canada: CAN/C.G.A B149). Refer to Figure 12 for the general layout of the unit. It shows the basic fittings needed.

1. Use new, properly reamed pipe free from chips such as steel or black iron pipe and fittings that are approved by local codes. Metal chips and debris can damage the gas valve.

2. Do not thread the pipe too far. Distortion or malfunction may result from excess pipe within the control valve. Apply a moderate amount of good quality dope to the pipe threads only. Leave the two end threads bare. (Figure 13). On L.P. gas installations, use a compound resistant to action of liquefied petroleum gases.
3. Use ground joint unions.
4. Install a drip leg (sediment trap) to trap dirt and moisture before it can enter the gas valve. The nipple must be a minimum of 3-inches long.
5. Install a manual shutoff valve.
6. Provide a 1/8" NPT test gauge connection immediately before the gas supply connection to the furnace.

Gas Connection

If installation is for L.P. gas, use a two-stage regulator and make all connections from the storage tank to furnace.

Use two pipe wrenches when making the connection to the valve to prevent turning and/or damage to the gas valve.

The connection between the shutoff valve and the burner control assembly can be made with an A.G.A / C.G.A. design certified flexible connector if allowed by local codes.

FIGURE 12

