

GAS CONVERSION KIT INSTALLATION FOR DOWNFLOW UNIT HEATERS

MODEL LDAP

GENERAL INFORMATION

These gas conversion kits are for model LDAP downflow unit heaters equipped with either a single-stage gas valve (unit sizes 400, 800, and 1200) or a two-stage gas valve (unit size 400).

Model Identification

When converting fuels, it is necessary to have the complete heater model. The identifying model number can be found on the heater rating plate. The rating plate identifies only original equipment so also compare the label on the gas valve with the description listed.

Important Safety Information

- Refer to the installation manual provided with the heater for important safety information.
- Pay attention to all dangers, warnings, cautions, and notes highlighted in this manual. Safety markings should not be ignored and are used frequently throughout to designate a degree or level of seriousness.

⚠ DANGER ⚠

- **All gas conversion must be done by a qualified service person in accordance with these instructions and in compliance with all codes and requirements.**
- **The gas burner in this gas-fired equipment is designed to provide safe complete combustion. However, if the installation does not permit the burner to receive the proper supply of combustion air, complete combustion may not occur. The result is incomplete combustion, which produces carbon monoxide, a poisonous gas that can cause death.**
- **Safe operation of indirect-fired gas burning equipment requires a properly-operating vent system that vents all flue products to the outside atmosphere. Failure to provide proper venting will result in a health hazard that could cause serious personal injury or death.**
- **For all heater installations, always comply with the combustion air requirements in the installation codes and instructions. Downflow unit heaters installed in a confined space must be supplied with air for combustion as required by code and in the heater installation manual. Combustion air at the burner should be regulated only by manufacturer-provided equipment. Never restrict or otherwise alter the supply of combustion air to any heater. Maintain the vent or vent/combustion air system in structurally sound and proper operating condition.**
- **Improper installation, adjustment, alteration, service, or maintenance can cause property damage, injury, or death. Read the installation, operation and maintenance instructions thoroughly before installing or servicing this equipment.**
- **The conversion kit is to be selected and installed by a qualified service person in accordance with these instructions and in compliance with all codes and requirements of authorities having jurisdiction. Failure to follow instructions could result in death, serious injury, and/or property damage. The qualified agency performing this work assumes responsibility for this conversion.**

Heater Component Locations

Heater component locations are shown in [Figure 1](#).

GENERAL INFORMATION—CONTINUED

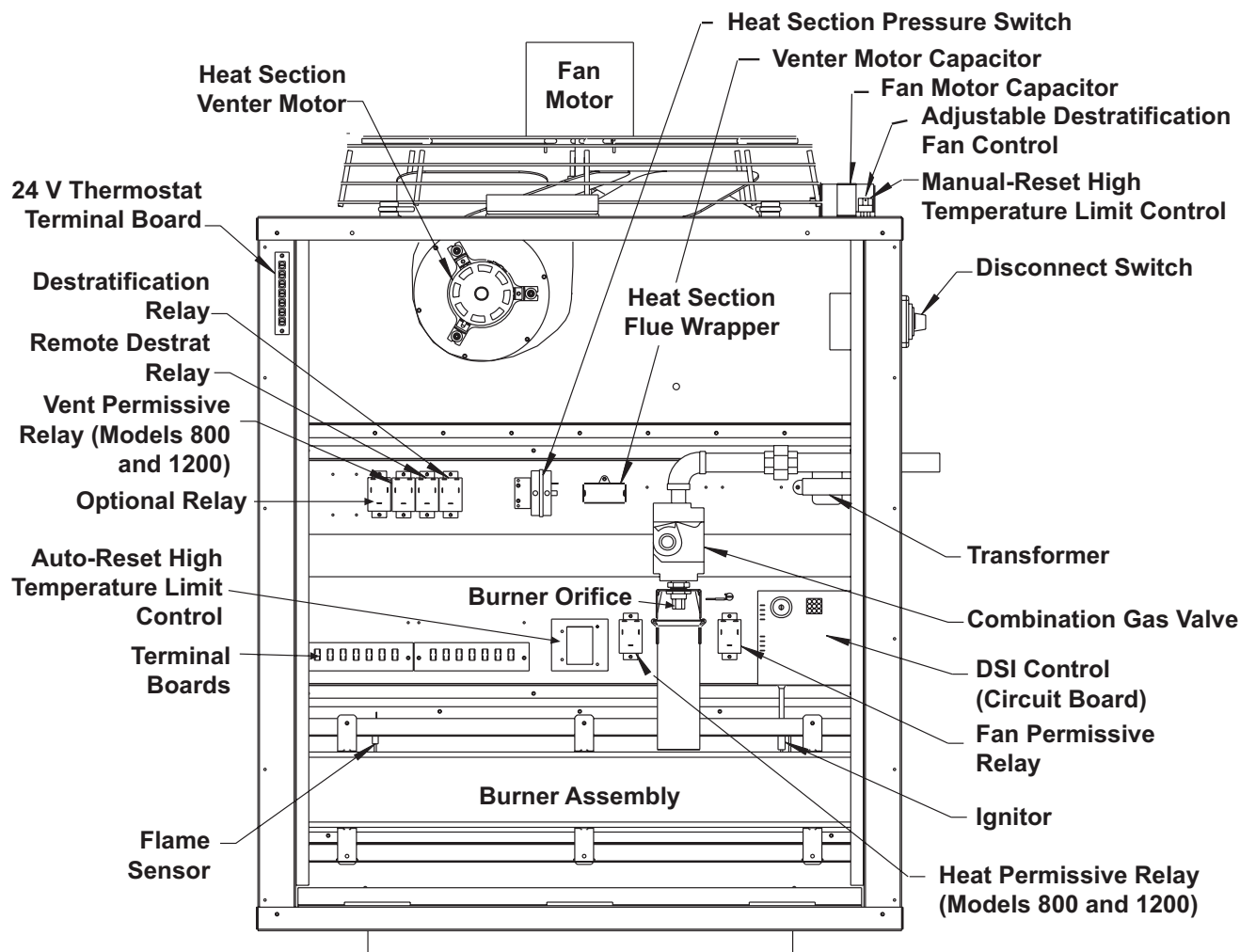


Figure 1. Heater Components

CONVERSION KIT SELECTION

Ensure that conversion kit is correct for unit size of heater being serviced and that all parts are included. Refer to [Table 1](#) for a list of natural gas to propane conversion kit components. Refer to [Table 2](#) for a list of propane to natural gas conversion kit components.

Table 1. Natural Gas to Propane Conversion Kit Components					
Component	Description	Gas Valve (Honeywell Model No.)			
		Two-stage (VR8305N4297)		Single-stage (VR8305K4241)	
		Unit Size			
		400	400	800	1200
		Kit PN			
		208879	208877	208894	208895
Component PN					
Spring kit	#396021 for two-stage valve #393691 for single-stage valve VR8105, VR8205, or VR8305	197207	—		
Tape	Conversion	64391			
Disk	Propane	37752			
Elevation adjustment label	For installation elevations >2000 feet (>610 meters)	197062			
Burner orifice*	5.88 mm	196905			

*Quantity is one (1) for unit size 400, two (2) for unit size 800, or three (3) for unit size 1200.

Table 2. Propane to Natural Gas Conversion Kit Components

Component	Description	Gas Valve (Honeywell Model No.)			
		Two-stage (VR8305N4289)		Single-stage (VR8305K4258)	
		Unit Size			
		400	400	800	1200
		Kit PN			
		208880	208878	208896	208897
		Component PN			
Spring kit	#396025 for two-stage valve	197208	—		
	#394588 for single-stage valve VR8105, VR8205, or VR8305	—	98721		
Tape	Conversion	64391			
Disk	Natural gas	1401			
Elevation adjustment label	For installation elevations >2000 feet (>610 meters)	197062			
Burner orifice*	9.60 mm	196897			

*Quantity is one (1) for unit size 400, two (2) for unit size 800, or three (3) for unit size 1200.

INSTALLATION

Install the conversion kit in accordance with the following steps. Ensure that the kit is correct for the size of the heater being serviced (refer to [Table 1](#) or [Table 2](#)).

1. Remove gas supply and electrical power:

- a. Turn OFF gas supply at shutoff valve outside of heater.
- b. Turn OFF electrical power.
- c. Open control access panel.

2. Install regulator spring kit:

⚠ WARNING ⚠

Regulator spring kits are not interchangeable. Each kit must be used only in the model and type of gas valve for which the kit is designated. Verify compatibility before installing the regulator spring kit.

- a. Select regulator spring kit that corresponds with gas valve on heater.
- b. Install regulator spring kit in accordance with gas valve manufacturer’s instructions (included with regulator spring kit).

⚠ CAUTION ⚠

After a new regulator spring kit is installed, it is necessary to adjust the spring by adjusting the manifold pressure. This adjustment can be made only after the heater is in operation (refer to step 7).

3. Replace burner orifice:

⚠ CAUTION ⚠

When removing or replacing a burner orifice, use two wrenches and take care not to damage the venturi tube and/or the bracket.

- a. Carefully remove existing burner orifice (see [Figure 1](#)).
- b. Select replacement burner orifice in accordance with [Table 1](#) or [Table 2](#).

⚠ WARNING ⚠

Do not attempt to drill burner orifice. Use factory-supplied orifice only.

- c. Install replacement burner orifice (see [Figure 1](#)).

INSTALLATION—CONTINUED

- For installations at elevations >6,000 feet (>1,830 meters), replace pressure switch in accordance with *Pressure Switch Replacement* section in installation/operation/maintenance manual provided with unit.

⚠ CAUTION ⚠

If the heater will be operated at an elevation >6,000 feet (>1,830 meters), a high-elevation pressure switch (option DJ20) must be installed. Contact your distributor (refer to replacement parts manual) to select the factory-authorized replacement part.

5. Restore electrical power and gas supply:

- Turn ON electrical power.
- Turn ON gas supply and relight heater, following instructions on heater.

6. Perform leak test:

- Check all connections for gas leaks using commercial leak-detecting fluid or rich soap and water solution. Leaks are indicated by presence of bubbles.
- If leak is detected, tighten connection. If leak cannot be stopped by tightening connection, replace part(s).

NOTES:

- Conversion of a unit using these kits does not alter the input rate. Refer to the rating plate on the heater for the input rate and other appropriate information.
 - If adjusted for high-elevation operation, the input rate will be affected.
 - The high-elevation adjustment label is not used on units operated at elevations of $\leq 2,000$ feet (≤ 610 meters).
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- Adjust manifold (outlet) gas pressure in accordance with *Measure and Adjust Manifold (Outlet) Gas Pressure* section in installation/operation/maintenance manual provided with unit.

- Close control access panel.



Specifications and illustrations subject to change without notice or incurring obligations.
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