

GAS CONVERSION KIT INSTALLATION FOR UNIT HEATERS

MODELS UBX, UBZ, UDX, UDZ, UDAP, UDAS, UDBP, AND UDBS

GENERAL INFORMATION

These gas conversion kits are for standard power-vent or separated-combustion heaters equipped with either a single-stage or two-stage gas valve.

Table 1. Model Configuration

Model	Configuration	Model	Configuration
UBX, UDBP	Standard power-vent blower-type	UBZ, UDBS	Separated-combustion blower-type
UDX, UDAP	Standard power-vent fan-type	UDZ, UDAS	Separated-combustion fan-type

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. In Canada, gas conversion shall be carried out in accordance with the requirements of the Provincial Authorities having jurisdiction and in accordance with the requirements of the CAN/CGA-B149.1 and CAN/CGA-B149.2 installation code.**
- **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.**
- **On separated combustion heaters, install either the horizontal or vertical combustion air/vent system illustrated in the heater venting manual, using the concentric adapter supplied. For all heater installations, always comply with the combustion air requirements in the installation codes and instructions. Standard power vent 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.**

GENERAL INFORMATION—CONTINUED

Heater Component Locations

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

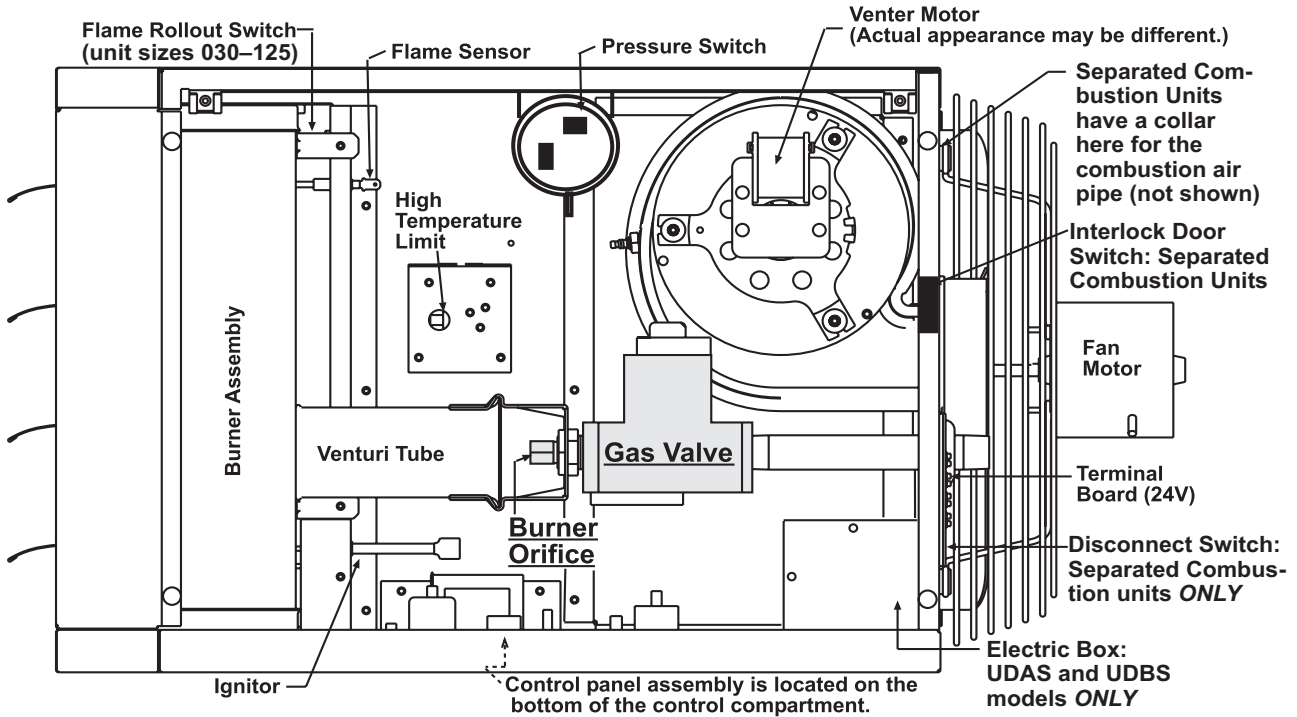


Figure 1. Heater Components

CONVERSION KIT SELECTION

Each conversion kit includes two or three spring kits and burner orifices for multiple unit sizes. Some parts will not be used—carefully select the parts to be used. Refer to [Table 2](#) for components common to all kits. Refer to [Table 3](#) or [Table 4](#) for kit-specific components for current models UBX, UBZ, UDX, and UDX. Refer to [Table 5](#) or [Table 6](#) for kit-specific components for legacy models UDAP, UDAS, UDBP, and UDBS. Refer to [Table 7](#) for burner orifices.

NOTE: When ordering a conversion kit for legacy model UDAP, UDAS, UDBP, or UDBS, either kit PN—current or legacy as shown in [Table 5](#) and [Table 6](#)—is applicable.

Table 2. Conversion Kit Common Components—All Models

Component	Description	PN
Tape	Conversion	64391
Disk	Propane (included in all NG to LP kits)	37752
	Natural gas (included in all LP to NG kits)	1401
Label	High-elevation adjustment (used only at installation elevations >2000 feet (>610 meters))	197062
Burner orifice	Refer to Table 7	

Table 3. Natural Gas to Propane Kit-Specific Components—UBX, UBZ, UDX, and UDX Models

Component	Description	Gas Valve (Honeywell Model No.)					
		1/2-Inch, Single-Stage (VR8105K2942, VR8205K2957, or VR8215T1239)	1/2-Inch, Single-Stage (VR8105K2942, VR8205K2957, or VR8215T1239) or 1/2-Inch, Two-Stage (VR8105N2949 or VR8205N2921)	1/2-Inch, Single-Stage (VR8205K2957 or VR8215T1239) or 1/2-Inch, Two-Stage (VR8205N2921)	1/2-Inch, Single-Stage (VR8205K2957 or VR8215T1239), 3/4-Inch Single-Stage (VR8305K4241), or 1/2-Inch, Two-Stage (VR8205N2921 or VR8305N4297)	3/4-Inch Single-Stage (VR8305K4241) or 3/4-Inch, Two-Stage (VR8305N4297)	
		Unit Size					
		030, 045	060, 075	100, 125	150, 175	200, 225, 250	300, 350, 400
		Model					
		UBX, UBZ	UDX, UDZ	UBX, UBZ	UDX, UDZ	All	
		Kit PN					
		1036541R	1036536R	1036542R	1036537R	1036538R	1036539R
		Component PN					
Spring kit	#393691 for single-stage valve VR8105, VR8205, or VR8305	98720		98720		98720	
	#396221 for single-stage valve VR8215	260605		260605		260605	—
	#396021 for two-stage valve VR8105, VR8205, or VR8305	—		197207		197207	
Air restrictor plate	1-3/16-inch (30 mm) opening	203078	—	—		—	
	1-3/8-inch (35 mm) opening	—	196687	—		—	
	1-9/16-inch (40 mm) opening	—		202051	—	—	
	1-3/4-inch (44 mm) opening	—		—	196688	196688	

Table 4. Propane to Natural Gas Kit-Specific Components—UBX, UBZ, UDX, and UDX Models

Component	Description	Gas Valve (Honeywell Model No.)					
		1/2-Inch, Single-Stage (VR8105K2959, VR8205K2965, or VR8215T5214)	1/2-Inch, Single-Stage (VR85K2959, VR8205K2965, or VR8215T5214) or 1/2-Inch, Two-Stage (VR8105N2931 or VR8205N2913)	1/2-Inch, Single-Stage (VR85K2959, VR8205K2965, or VR8215T5214), 3/4-Inch Single-Stage (VR8305N4258), 1/2-Inch, Two-Stage (VR8105N2931 or VR8205N2913), or 3/4-Inch, Two-Stage (VR8305N4289)	3/4-Inch Single-Stage (VR8305N4258) or 3/4-Inch, Two-Stage (VR8305N4289)		
		Unit Size					
		030, 045	060, 075	100, 125	150, 175	200, 225, 250	300, 350, 400
		Kit PN					
		1036544R	1036545R	1036546R	1036547R	1036548R	1036549R
		Component PN					
Spring kit	#394588 for single-stage valve VR8105, VR8205, or VR8305	98721		98721		98721	
	#396222 for single-stage valve VR8215	261651		261651		261651	—
	#396205 for two-stage valve VR8105, VR8205, or VR8305	—		197208		197208	

CONVERSION KIT SELECTION—CONTINUED

Table 5. Natural Gas to Propane Kit-Specific Components—UDAP, UDAS, UDBP, and UDBS Models

Component	Description	Gas Valve (Honeywell Model No.)													
		1/2-Inch, Single-Stage (VR8105K2942, VR8205K2957, or VR8215T1239)		1/2-Inch, Single-Stage (VR8105K2942, VR8205K2957, or VR8215T1239) or 1/2-Inch, Two-Stage (VR8105N2949 or VR8205N2921)		1/2-Inch, Single-Stage (VR8205K2957 or VR8215T1239) or 1/2-Inch, Two-Stage (VR8205N2921)		1/2-Inch, Single-Stage (VR8205K2957 or VR8215T1239), 3/4-Inch Single-Stage (VR8305K4241), or 1/2-Inch, Two-Stage (VR8205N2921 or VR8305N4297)		3/4-Inch Single-Stage (VR8305K4241) or 3/4-Inch, Two-Stage (VR8305N4297)					
		Unit Size													
		030, 045		060, 075		100, 125	150, 175	200, 225, 250		300, 350, 400					
		Model													
		UDAP, UDAS	UDBP, UDBS	UDAP, UDAS	UDBP, UDBS	All									
		Kit PN													
		269835 or 1036536R		269840 or 1036541R		269836 or 1036542R		269841 or 1036537R		269837 or 1036538R		269838 or 1036539R		269839 or 1036540R	
Component PN															
Spring kit	#393691 for single-stage valve VR8105, VR8205, or VR8305	98720		98720		98720		98720							
	#396221 for single-stage valve VR8215	260605		260605		260605		260605		—					
	#396021 for two-stage valve VR8105, VR8205, or VR8305	—		197207		197207		197207							
Air restrictor plate	1-3/8-inch (35 mm) opening	196687	—		—		—		—						
	1-3/16-inch (30 mm) opening	—	203078		—		—		—						
	1-3/4-inch (44 mm) opening	—		196688	—		196688*		—						
	1-9/16-inch (40 mm) opening	—		—	202051		—		—						

*The plate from kit PN 269837 is not used on unit size 125 models. The plate from kit PN 269838 is not used on unit size 175 models for residential or commercial applications.

Table 6. Propane to Natural Gas Kit-Specific Components—UDAP, UDAS, UDBP, and UDBS Models

Component	Description	Gas Valve (Honeywell Model No.)											
		1/2-Inch, Single-Stage (VR8105K2959, VR8205K2965, or VR8215T5214)		1/2-Inch, Single-Stage (VR85K2959, VR8205K2965, or VR8215T5214) or 1/2-Inch, Two-Stage (VR8105N2931 or VR8205N2913)		1/2-Inch, Single-Stage (VR85K2959, VR8205K2965, or VR8215T5214), 3/4-Inch Single-Stage (VR8305N4258), 1/2-Inch, Two-Stage (VR8105N2931 or VR8205N2913), or 3/4-Inch, Two-Stage (VR8305N4289)		3/4-Inch Single-Stage (VR8305N4258) or 3/4-Inch, Two-Stage (VR8305N4289)					
		Unit Size											
		030, 045		060, 075		100, 125	150, 175	200, 225, 250		300, 350, 400			
		Kit PN											
		269851 or 1036544R		269852 or 1036545R		269853 or 1036546R		269854 or 1036547R		269855 or 1036548R		201738 or 1036549R	
		Component PN											
		Spring kit	#394588 for single-stage valve VR8105, VR8205, or VR8305	98721		98721		98721					
#396222 for single-stage valve VR8215	261651		261651		261651		—						
#396205 for two-stage valve VR8105, VR8205, or VR8305	—		197208		197208		197208						

Table 7. Burner Orifices—All Models

Unit Size	Model	Natural Gas	Propane
		Orifice Size/Marking (PN)	
030	UDAP, UDAS, UDBP, UDBS	#37 (196853)	1.6 mm (196844)
	UBX, UBZ, UDX, UDZ	#39 (196852)	
045	UDAP, UDAS, UDBP, UDBS	#30 (196838)	#48 (196845)
	UBX, UBZ, UDX, UDZ	3.1 mm (120144)	
060	UDAP, UDAS, UDBP, UDBS	3.7 mm (196839)	2.3 mm (196846)
	UBX, UBZ, UDX, UDZ	#28 (124969)	2.25 mm (1034350)
075	UDAP, UDAS, UDBP, UDBS	#19 (196855)	#39 (196852)
	UBX, UBZ, UDX, UDZ	#22 (196361)	#40 (120137)
100	UDAP, UDAS, UDBP, UDBS	#10 (120158)	3.0 mm (196854)
	UBX, UBZ, UDX, UDZ	#14 (208247)	#32 (120141)
125	UDAP, UDAS, UDBP, UDBS	#4 (196840)	3.2 mm (196847)
	UBX, UBZ, UDX, UDZ	#10 (120158)	3.1 mm (120144)
150	UDAP, UDAS, UDBP, UDBS	5.9 mm (131581)	9/64-inch (196898)
	UBX, UBZ, UDX, UDZ	5.6 mm (208243)	3.5 mm (120148)
175	UDAP, UDAS, UDBP, UDBS	E (196891)	#24 (196899)
	UBX, UBZ, UDX, UDZ	6.0 mm (208245)	#27 (120149)
200	UDAP, UDAS, UDBP, UDBS	6.8 mm (196892)	4.1 mm (196900)
	UBX, UBZ, UDX, UDZ	F (120167)	
225	All	6.95 mm (221121)	11/64 inch (196901)
250	UDAP, UDAS, UDBP, UDBS	L (208255)	#14 (196902)
	UBX, UBZ, UDX, UDZ		4.60 mm (1034352)
300	UDAP, UDAS, UDBP, UDBS	8.0 mm (221122)	#8 (196903)
	UBX, UBZ, UDX, UDZ	7.8 mm (208253)	
350	UDAP, UDAS, UDBP, UDBS	8.7 mm (221123)	#3 (196904)
	UBX, UBZ, UDX, UDZ	8.5 mm (1034354)	5.4 mm (1034353)
400	UDAP, UDAS, UDBP, UDBS	9.6 mm (196897)	5.8 mm (196905)
	UBX, UBZ, UDX, UDZ	9.2 mm (1034355)	

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.

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. All gas conversion kits include one or two regulator spring kits for single-stage valve and one regulator spring for two-stage valve. Other included regulator spring kits will not be used.
- 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).

INSTALLATION—CONTINUED

3. Remove or install air restrictor plate as necessary and replace burner orifice:
 - a. Carefully remove existing burner orifice (see [Figure 2](#), DETAIL A).

⚠ DANGER ⚠

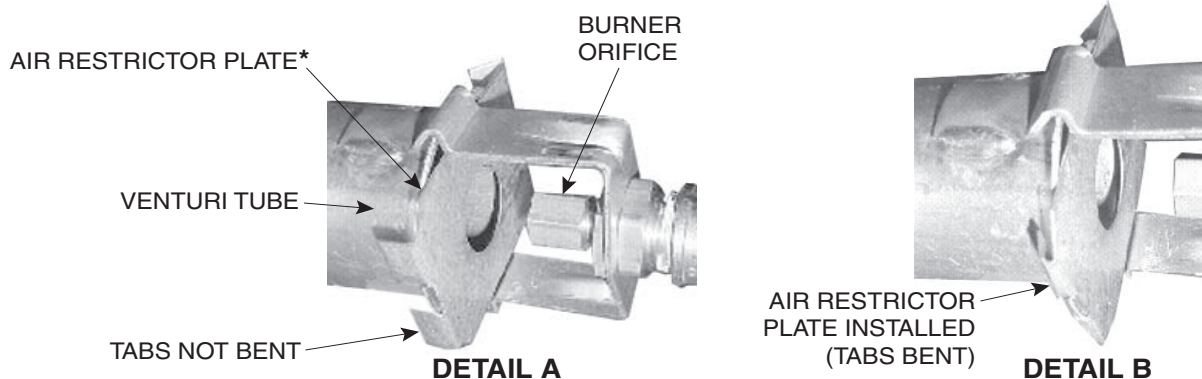
- The air restrictor plate **MUST BE INSTALLED** when converting unit sizes 030, 045, 060, 075, 100, and 150 (all models) and unit size 125 (models UDBP, UDBS, UBX, and UBZ) to propane.
- The air restrictor plate **MUST BE REMOVED** when converting unit sizes 030, 045, 060, 075, 100, and 150 (all models) and unit size 125 (models UDBP, UDBS, UBX, and UBZ) to natural gas.
- For these models/unit sizes, the failure to install or remove the air restrictor plate in accordance with the following directions can cause death or injury and/or property damage.

- b. For unit sizes 030, 045, 060, 075, 100, and 150 (all models) and unit size 125 (models UDBP, UDBS, UBX, and UBZ), proceed to step c. For all other models/unit sizes, proceed to step e.
- c. If converting from propane to natural gas, remove air restrictor plate as follows. If converting from natural gas to propane, install air restrictor plate in accordance with step d.
 - (1) See [Figure 2](#), DETAIL B to locate air restrictor plate held in place on venturi tube by its bent tabs.
 - (2) Use pliers to carefully unbend tabs as shown in [Figure 2](#), DETAIL A and remove air restrictor plate.
- d. For natural gas to propane conversion, install air restrictor plate as follows:
 - (1) Refer to [Table 3](#) or [Table 5](#) to select correct air restrictor plate. Slide plate in place over venturi tube opening so that its 45-degree angle is hooked over rear of venturi tube (see [Figure 2](#)).
 - (2) While holding plate in position, use pliers to carefully bend tabs to lock plate in place (see [Figure 2](#), DETAIL B). Ensure that air restrictor is aligned and secure.
- e. For all conversions, select replacement burner orifices in accordance with [Table 7](#). All conversion kits include two or three burner orifices. Other included orifice(s) will not be used.

⚠ WARNING ⚠

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

- f. Install replacement burner orifice (see [Figure 2](#), DETAIL A).



*USED ONLY ON UNIT SIZES 030, 045, 060, 075, 100, AND 150 (ALL PROPANE MODELS) AND UNIT SIZE 125 (PROPANE MODELS UDBP, UDBS, UBX, AND UBZ).

Figure 2. Burner Orifice and Air Restrictor Plate

⚠ CAUTION ⚠

If the heater will be operated at an elevation >6,000 feet (>1,830 meters), a high-elevation pressure switch must be installed.

NOTES:

- **If the installation elevation is >6,000 feet (>1,830 meters), verify that the elevation on the rating plate or high-elevation label is >6,000 feet (>1,830 meters). If the rating plate or label does not indicate an elevation of >6,000 feet (>1,830 meters), order and install the appropriate high pressure switch kit.**
 - **If the heater is equipped for installation at an elevation of >6,000 feet (>1,830 meters) and is being installed at a lower elevation, order and install the appropriate switch.**
 - **Contact your distributor (refer to replacement parts manual) to select the factory-authorized replacement part.**
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4. 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.
 5. Restore electrical power and gas supply:
 - a. Turn ON electrical power.
 - b. Turn ON gas supply and relight heater, following instructions on heater.
 6. Perform leak test:
 - a. Check all connections for gas leaks using commercial leak-detecting fluid or rich soap and water solution. Leaks are indicated by presence of bubbles.
 - b. If leak is detected, tighten connection. If leak cannot be stopped by tightening connection, replace part(s).
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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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7. Adjust manifold (outlet) gas pressure in accordance with ***Measure and Adjust Manifold (Outlet) Gas Pressure*** section in installation/operation/maintenance manual provided with unit.
8. Close control access panel.



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