BASO Gas Products LLC

Installation Instructions
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G292 Series BASO® Dual Pilot Gas Valve

Installation

IMPORTANT: Only qualified personnel should install or service BASO® Gas Products. These instructions are a guide for such personnel. Carefully follow all instructions in this document and all instructions for the appliance.

IMPORTANT: Make all gas installations in accordance with applicable local, national, and regional regulations.

WARNING: Risk of Explosion or Fire.
Shut off the gas supply at the main manual shutoff valve before installing or servicing the G292. Failure to shut off the gas supply can result in the release of gas during installation or servicing, which can lead to an explosion or fire, and may result in severe personal injury or death.

IMPORTANT: Verify that the valve is installed only in applications where the specified maximum ambient (surface) temperature and maximum operating pressures will not exceed the limits in the *Technical Specifications* section.

To install the G292 valve:

1. Shut off the gas at the main manual shutoff valve.
2. When installing the valve on the manifold, ensure that the gas flows through the valve body in the direction indicated by the arrow on the valve body. If the valve is installed with the gas flow in the opposite direction of the arrow, leakage can occur.

IMPORTANT: Do not use a wrench on any surface other than the casting flats provided at the inlet and outlet ends of the valve body. The G292 may be damaged in the mounting process if a wrench is used on any other surface. Using a wrench incorrectly may void the warranty.

3. Mount the valve to the pipework. The G292 valve may be mounted in any convenient position. Use an approved pipe joint sealing compound on the male threads before assembly. Remove excess compound after mounting the valve to the pipework. Threads of the pipe and nipples must be smooth and free of tears and burrs. Steam clean all piping to remove foreign substances such as cutting oil or thread chips. A sediment trap must be installed in accordance with the National Fuel Gas Code (ANSI Z223.1).
4. Attach a thermocouple securely to each pilot burner, and screw the terminal end to each BASO® power unit terminal on the valve. Make sure these connections are clean. Tighten the thermocouple lead nut finger tight, plus a maximum of 1/8 turn. **Do not overtighten**.
5. Pilot gas connections.

a. **Internal Pilot Gas Valve Models** receive pilot gas internally from the valve body.

Note: Pilot gas flow comes out of either gas valve top housing portx.

On internal pilot gas valve models, plumb the pilot burner fitting to either of the pilot gas ports on the valve. Plug the unused pilot gas port on the gas valve. **See Figure 1**.

WARNING: Risk of Explosion or Fire.
Never connect an external gas line to an internal pilot gas model. Pilot gas would flow freely in one port and out the other, which could lead to an explosion or fire and may result in severe personal injury or death.

WARNING: Risk of Explosion or Fire.
Verify that there are no gas leaks by testing with appropriate equipment. Never use a match or lighter to test for the presence of gas. Failure to test properly can lead to an explosion or fire, and may result in severe personal injury or death.

6. Check for leakage:
   a. Close the main upstream manual shutoff valve and open the pressure connection between the manual shutoff valve and the G292 valve.
   b. Connect air tubing with a maximum pressure of 1-1/2 times the valve's maximum operating pressure (as indicated on the valve) to the opened pressure connection.
   c. Paint all valve body connections with a rich soap and water solution.

      If bubbles occur, this is an indication of a leak. To stop a leak, tighten joints and connections. Replace the part if the leak cannot be stopped.

      If bubbles do not occur, remove the air tubing and close the pressure connection.

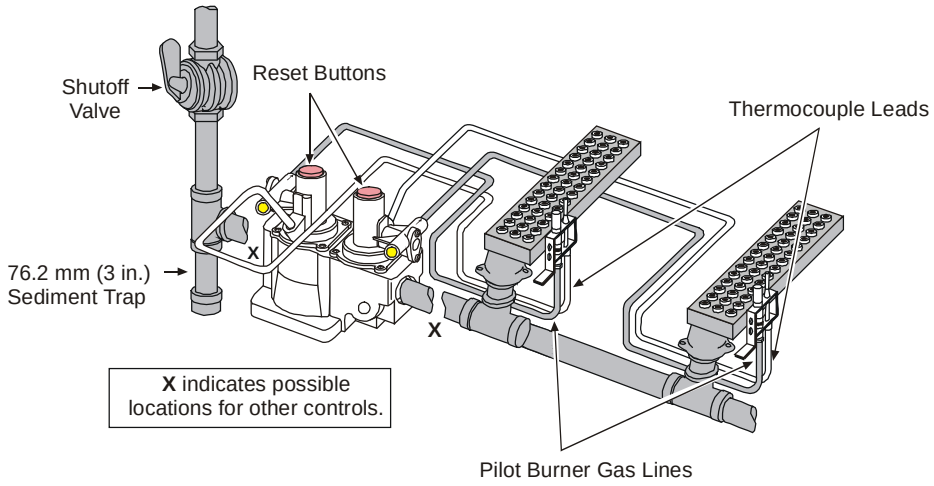

Figure 1: Typical Installation for Internal Pilot Gas Flow

Setup and Adjustments

Checkout

WARNING: Risk of Explosion or Fire.
Follow this or an equivalent checkout procedure after installation. Before leaving the installation, verify that the gas valve functions properly and the system has no gas leaks. Gas leaks can lead to an explosion or fire, and may result in severe personal injury or death.

Make sure all components are functioning properly by performing the following test:

1. Open all upstream shutoff valves and test all joints and connections of leaks with a soap solution.
2. Close the main upstream shutoff valve and wait at least five minutes for unburned gas to escape from the appliance, and then reopen the shutoff valve.
3. Push the reset button of the inlet (first) BASO power unit and light the pilot burner (see Figure 1). Continue to hold the reset button for 30 to 45 seconds or until the pilot remains burning when the reset button is released.
4. Push the reset button of the outlet (second) BASO power unit and light the pilot burner (see Figure 1). Continue to hold the reset button for 30 to 45 seconds or until the pilot remains burning when the reset button is released.

Note: If control thermostats for each burner are not used, gas will flow to both main burners, igniting each.

5. Set the thermostat for the first main burner to the highest setting. It should ignite from the pilot burner.
6. Set the thermostat for the second main burner to the highest setting. It should ignite from the pilot burner.
7. Set the thermostat for each burner to the lowest setting. Both main burners should extinguish.
8. Extinguish the pilot burners by closing the main upstream manual shutoff valve. Verify that the valve drops out within 90 seconds.
9. Relight each pilot burner.
10. Check the millivoltage (mV) output of the thermocouple and the milliampere (mA) dropout range of each BASO power unit to ensure that they meet the values listed in Table 1 and Table 2. Step-by-step procedures for these checks are included with the *Y99AB-4 BASO Test Kit Application Note*.
11. Observe at least three complete operating cycles to make sure that all components are functioning properly.
12. Reset the thermostat to the desired setting before leaving the installation.

    Note: BASO recommends using only BASO thermcouples that come from the original equipment manufacturer to provide optimum performance for your safety shutoff device.

Table 1: Thermocouple Output

Thermocouple		mV Range	
Lead Type	**Turn Down**	**Normal**	**Not Less Than**
K15	4 mV	20-28	15
K16	4 mV	25-35	17
K17	4 mV	30-40	25
K19	4 mV	25-35	17

Table 2: Dropout Range

mA Range of Power Unit Assembly	
Low	**High**
100	300

Pilot Servicing

If pilot flame problems occur, check the following:

- If the pilot flame burns yellow, it may be due to dirt or lint covering the lower portion of the pilot burner. Remove this using a soft brush or a vacuum.
- A flame approximately 1/2 in. (12.7 mm) high must surround the thermocouple tip (see Figure 2).
- Because this is an electrical connection, the thermocouple lead connection to the BASO power unit must be clean and free of grease.

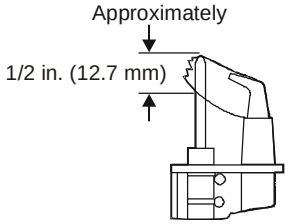

Figure 2: Flame Position

Repairs and Replacement

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Shut off the gas supply at the main manual shutoff valve before installing or servicing the G292. Failure to shut off the gas supply can result in the release of gas during installation or servicing, which can lead to an explosion or fire, and may result in severe personal injury or death.

Field repairs must not be made to the G292 valve. If the thermocouple meets the output listed in Table 1 and the valve does not function, replace the entire valve. Any attempt to repair this assembly voids the manufacturer's warranty. For a replacement valve, contact the original equipment manufacturer or the nearest BASO Gas Products distributor.

Technical Specifications

Product	G292 Series BASO Dual Pilot Gas Valve
Maximum Operating Pressure	0.5 psi (35 mbar)
Valve Body	Aluminum
Permissible Ambient (Surface) Temperature	-30 to 175°F (-34 to 79°C) without rotor B valve 32 to 175°F (0 to 79°C) with rotor B valve
Recommended Thermocouple Lead Lengths	K15: 12 to 48 in. (305 to 1,220 mm) K16: 12 to 72 in. (305 to 1,830 mm) K17: 18 to 72 in. (457 to 1,830 mm) K19: 18 to 72 in. (457 to 1,830 mm)
Body Connections	1/2 in. NPT Inlet x 1/2 in. NPT Outlet 1/2 in. NPT Inlet x 3/4 in. NPT Outlet
Types of Gas	Natural, Liquefied Petroleum (LP), and LP gas-air mixtures
Packaging	Bulk pack supplied to original equipment manufacturer (individual pack optional)
Bulk Pack Quantity	32
Bulk Pack Weight	64 LB (29 kg)
Agency Listing	CSA (AGA/CGA) Certificate Number 229521-1656050
Specification Standards	ANSI Z21.78, CSA 6.20 UL Standard 372

Performance specifications are nominal and conform to acceptable industry standards. All agency certification of BASO products is performed under dry and controlled indoor environmental conditions. Use of BASO products beyond these conditions is not recommended and may void the warranty. Product must be protected if exposed to water (dripping, spraying, rain, etc.) or other harsh environments. The original equipment manufacturer or end user is responsible for the correct application of BASO products. Consult BASO Gas Products LLC for questionable applications. BASO Gas Products LLC shall not be liable for damages or product malfunctions resulting from misapplication or misuse of its products.

Refer to the *G292 Series BASO Dual Pilot Gas Valve Product Bulletin (BASO-PB-G292)* for necessary information on operating and performance specifications of this product.

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