



G92 Series BASOTROL® Automatic 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 G92. 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.

CAUTION: Risk of Electrical Shock.
Disconnect power supply before making electrical connections to avoid electrical shock.

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 G92 valve:

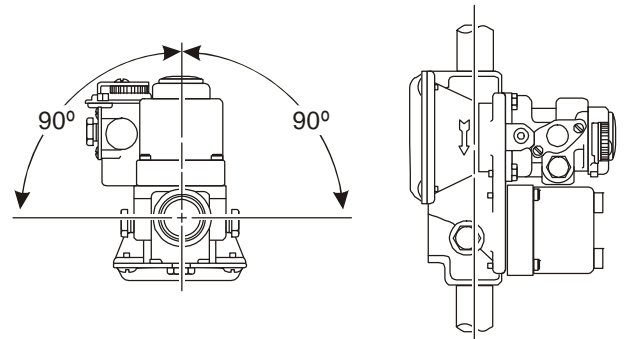
1. Shut off the gas at the main manual shutoff valve.
2. Compare the voltage on the valve with the power source voltage to ensure the correct unit is being installed. For valves with 25 volt coils, use a National Electrical Code (NEC) Class 2 transformer.

Note: The transformer must be mounted to a grounded metal enclosure.

3. Ensure that the gas flows through the valve body in the direction indicated by the arrow on the valve body when installing the valve on the manifold. 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 G92 may be damaged in the mounting process if a wrench is used on any other surface. Using a wrench incorrectly may void the warranty.

4. Mount the G92 valve on a horizontal manifold with the magnetic operator point up (vertical) or in a position not exceeding 90° from vertical. The valve may also be mounted on a vertical manifold in any position around its axis (see Figure 1).



Horizontal mounting limited to 90° from upright.

Vertical mounting may be 360° around its axis with the gas flow either up or down, but always in the direction of the arrow.

Figure 1: G92 Mounting Positions

5. Mount the valve to the pipework. 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 should also be installed in accordance with the National Fuel Gas Code (ANSI Z223.1).

6. Attach the thermocouple securely to the pilot burner, and screw the terminal end to the BASO power unit terminal on the valve. Make sure this connection is clean. Tighten the thermocouple lead nut finger tight, plus a maximum of 1/8 turn. Do not overtighten.

7. Pilot gas connections.

- **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 ports.

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 2 and Figure 3.**

- **External Pilot Gas Valve Models** receive pilot gas from an external gas source.

Note: Pilot gas flow through the gas valve top housing can be in either direction as indicated by the arrows.

On external pilot gas valves, plumb the pilot gas line from an external gas source to either pilot gas port on the gas valve. Plumb the other pilot gas port to the pilot burner fitting. **See Figure 4.**



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.

8. Check for leakage:

- a. Close the main upstream manual shutoff valve and the **B** valve (applications with a **B** valve) and open the pressure connection between the manual shutoff valve and the G92 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.



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.

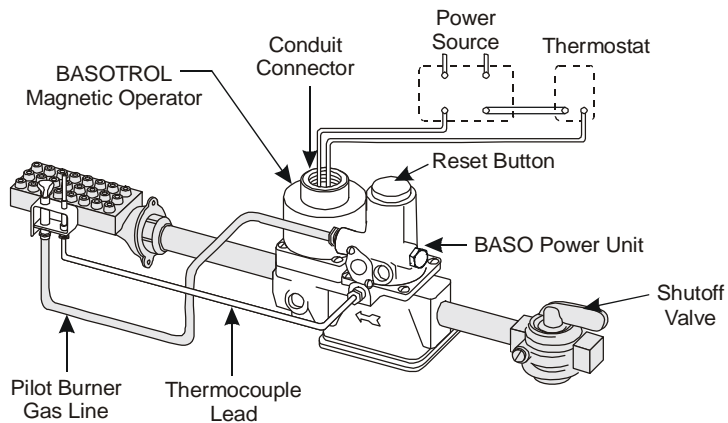


Figure 2: Typical Installation for Internal Pilot Gas Flow

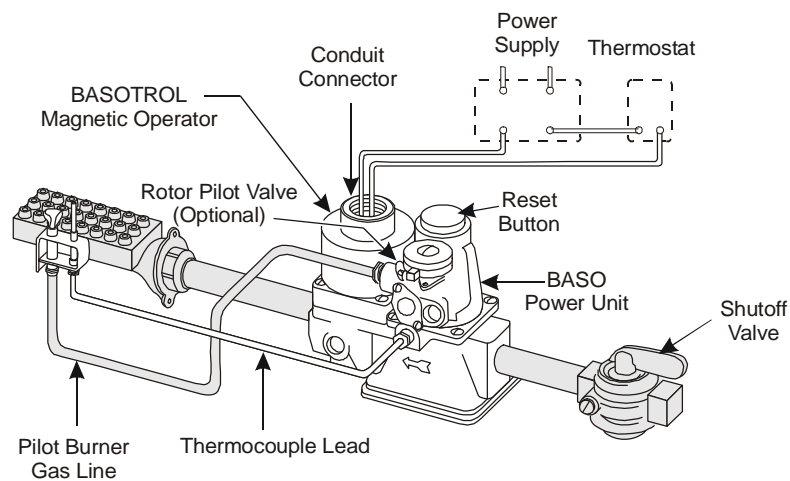


Figure 3: Typical Installation Showing Internal and Rotor B Valve

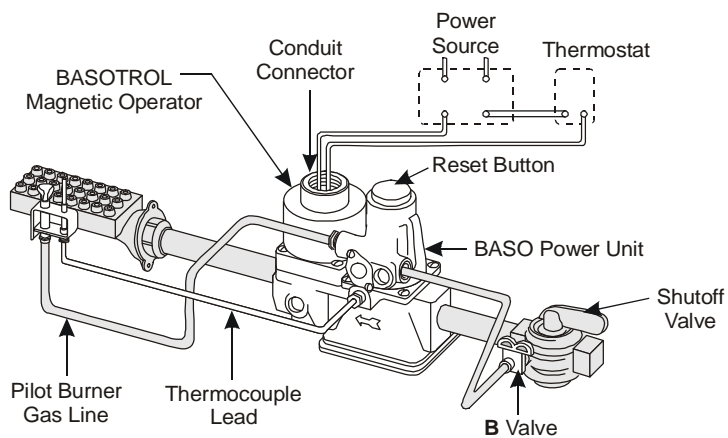


Figure 4: Typical Installation for External Pilot Gas Flow

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 that 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 for leaks with a soap solution.
2. Close the main upstream manual shutoff valve and the **B** valve (applications with a **B** valve only) and wait at least five minutes for unburned gas to escape from the appliance. Then reopen the valves.
3. Push the reset button and light the pilot burner. Continue to hold the reset button for 30 to 45 seconds or until the pilot remains burning when the reset button is released.
4. Set the thermostat to the highest setting. The main burner should now ignite from the pilot burner.
5. Extinguish the burner by closing the main upstream manual shutoff valve. Verify that the valve drops out within 90 seconds.
6. Relight the pilot burner.
7. Check the millivoltage (mV) output of the thermocouple and the milliampere (mA) dropout range of the BASO power unit to ensure that they meet the values listed in and Table 2. Step-by-step procedures for these checks are included with the *Y99AB-4 BASO Test Kit Application Note*.
8. Observe at least three complete operating cycles to make sure that all components are functioning properly.
9. Reset the thermostat to the desired setting before leaving the installation.

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
K19	4 mV	25-35	17

Table 2: Dropout Range

Series Number	mA Range of Power Unit Assembly	
	Low	High
All models except G92CAA-19 and G92CBA-10	100	300
G92CAA-19 and G92CBA-10	100	200

Pilot Gas Adjustment (Applications with a B Valve)

Models with an optional manual rotor pilot valve allow for the adjustment of the pilot gas flame. To adjust the pilot gas flame:

1. Loosen the round-head screw holding the small adjustment plate beside the manual rotor pilot valve knob, and turn the knob clockwise as far as it goes.
2. Slowly push the adjustment plate in a counterclockwise direction while watching the size of the pilot burner flame.
3. Stop moving the adjustment plate when the pilot flame reaches the proper size, and tighten the round-head screw. The rotor pilot valve provides complete On/Off operation with the adjustment fixed at the On position.

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 5).
- Because this is an electrical connection, the thermocouple lead connection to the BASO power unit must be clean and free of grease.

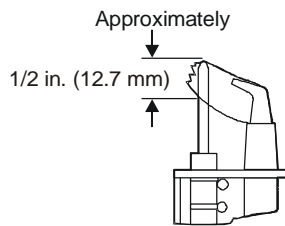


Figure 5: Flame Position

Repairs and Replacement



WARNING: Risk of Explosion or Fire.

Shut off the gas supply at the main manual shutoff valve before installing or servicing the G92. 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.



CAUTION: Risk of Electrical Shock.

Disconnect power supply before making electrical connections to avoid electrical shock.



WARNING: Risk of Explosion, Fire, or Electrical Shock.

Label all wires before they are disconnected when replacing the G92. Wiring errors can cause improper or dangerous operation and may result in an explosion, fire, or electrical shock leading to severe personal injury or death.

Field repairs must not be made to the G92 valve. If the thermocouple meets the output listed in 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	G92 Series BASOTROL Automatic Pilot Gas Valve
Maximum Operating Pressure	0.5 psi (35 mbar)
Valve Body	Aluminum
Permissible Ambient (Surface) Temperature	G92__ A and G92__ C models without rotor valve CSA: -30 to 175°F (-34 to 79°C) UL: -30 to 125°F (-34 to 52°C) G92__ B models with rotor valve CSA: 32 to 175°F (0 to 79°C) UL: 32 to 125°F (0 to 52°C)
Available Magnetic Operator Cover Styles	Aluminum side conduit hub Aluminum top conduit hub Aluminum top without conduit hub Aluminum side outlet with eyelet Steel top conduit hub Plastic with 1/4 in. (6.35 mm) male quick-connect terminals
Electrical Rating	25 VAC, 60 Hz, 0.3 ampere draw 120 VAC, 60 Hz, 0.05 ampere draw 240 VAC, 60 Hz, 0.03 ampere draw 208/240 VAC, 60 Hz, 0.037 ampere draw (UL only) 12 VDC, 0.5 ampere draw (CSA only)
Recommended Thermocouple Lead Lengths	K15: 12 to 48 in. (305 to 1,220 mm) K16: 12 to 72 in. (305 to 1,830 mm) K19: 18 to 72 in. (457 to 1,830 mm)
Wiring Connections	1/4 in. (6.35 mm) male quick-connect terminals or 30 in. (762 mm) lead wires (other lengths are optional)
Inlet Body Connection	1/2 in. NPT
Outlet Body Connection	1/2 or 3/4 in. NPT
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	48 lb (22 kg)
Agency Listing	CSA Certificate Number 229521-1656050 (exclude G92CS_) UL File Number MH2926 (excludes G92CV_ and G92D__)
Specification Standards	ANSI Z21.78, CSA 6.20 UL Standard 372 and 429

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 *G92 Series BASOTROL Automatic Pilot Gas Valve Product Bulletin (BASO-PB-G92)* for necessary information on operating and performance specifications of this product.



BASO Gas Products LLC

1007 South 12th Street
 PO Box 170
 Watertown, WI 53094
 1-877-227-6427 (1-877-BASOGAS)

www.baso.com
 Published in U.S.A.