



GM-7000 Series CE Approved Gas Control Valve

Installation

IMPORTANT: These instructions are intended as a guide for qualified personnel installing or servicing BASO Gas Products. Carefully follow all instructions in this bulletin and all instructions on the appliance. Limit repairs, adjustments, and servicing to the operations listed in this bulletin or on the appliance.

WARNING: Risk of Fire or Explosion.
The system must meet all applicable local, national, and regional regulations. Improper installation may cause gas leaks, explosions, property damage, and injuries.

WARNING: Risk of Fire or Explosion.
To prevent leakage of upstream gas, shut off the gas supply at the main manual shutoff valve before installing or servicing the GM-7000 valve. 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.

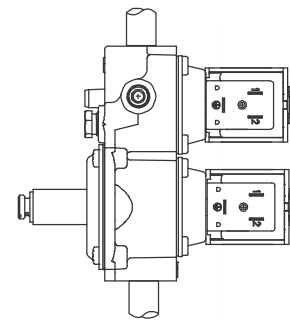
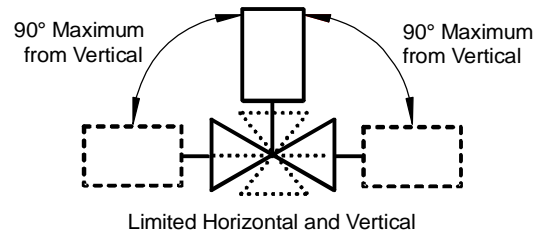
Mounting

CAUTION: Risk of Equipment Damage.
To prevent damage to the valve when mounting to pipework, do not use a wrench on any surface other than the casting flats provided at the inlet and outlet ends of the valve body.

To install the GM-7000 valve:

1. Shut off power to the appliance.
2. Shut off the gas at the main manual shutoff valve.
3. Label each wire with the correct terminal designation prior to disconnection.

4. Compare the voltage on the valve with the power source voltage to ensure the correct unit is being installed.
5. Mount the valve. The GM-7000 valve may be mounted on a horizontal manifold with the magnetic operators (solenoid coils) pointed up (vertical) or in any position not exceeding 90° from the vertical (Figure 1). The valve may also be mounted on a vertical manifold in any position around its axis. **Do not** install the solenoid coils upside down. Install vertically wherever possible.
6. If you desire to measure the outlet pressure, use the bottom cast pressure test fitting.



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: GM-7000 Mounting Positions

7. Install the valve on the manifold; ensure the gas flows through the valve body in the direction indicated by the arrow on the body. If the valve is installed with the gas flow in the opposite direction of the arrow, leakage can occur.

Note: If installing a valve with threaded connections, use an approved pipe joint sealing compound on the male threads before assembly. An optional thread lubricant may have been factory applied to the first two or three threads of the inlet and outlet to avoid galling. Make sure that excess compound is removed after mounting. Threads of 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.

8. Connect the pilot tubing (when necessary) to the threaded pilot connection on the underside of the valve body (Figure 2) and run the tube to the pilot burner within the appliance. Connect the pilot tube to the valve with an optional compression fitting.

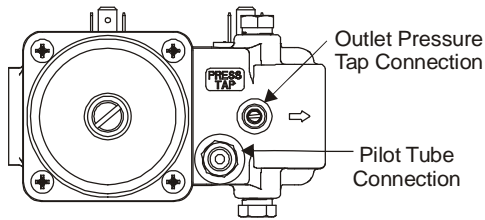


Figure 2: Underside of Valve with Direct-Acting Regulator

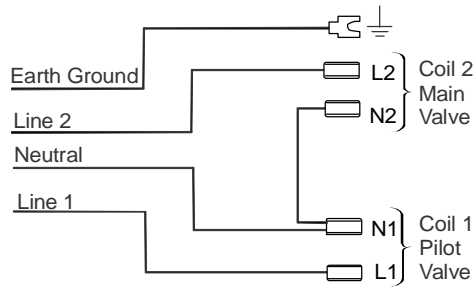
9. Check for leakage before making any valve adjustments.
 - a. Shut off the gas at the main manual shutoff valve and open the pressure connection between the manual shutoff valve and the GM-7000 valve.
 - b. Connect air tubing with a maximum pressure of 1-1/2 times the valve's maximum operating pressure (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.

10. Make wiring connections. See the *Wiring* section for specific wiring instructions.
11. To measure the outlet pressure, by apply power to the valve and energizing both valve solenoids. Use the outlet pressure tap connection on the underside of the valve body to monitor the outlet pressure. The outlet pressure tap is a bleed hole with a cast spigot, sealed with a threaded brass needle screw (Figure 2). To measure the outlet pressure, turn the screw in a counterclockwise direction one or two turns and fit a 9 mm diameter flexible tube over the cast spigot. After all valve adjustments have been made and the desired outlet pressure has been obtained, remove the flexible tube. Tighten the needle screw by turning it clockwise with a slotted screwdriver until hand tight, sealing the bleed hole.
12. Check for leakage at the bleed hole. Paint the bleed hole with a rich soap and water solution (or use acceptable gas leak detection equipment). If bubbles occur, this is an indication of a gas leak. To stop a leak, tighten the needle screw. Replace the valve if the leak cannot be stopped.

Note: If installing a valve with a pressure regulator, set the valve to the desired outlet pressure. See the *Regulator Adjustment* section for specific adjustment procedures. After setting the valve outlet pressure, ensure that the leak-limiting seal cap is replaced (Figure 3).
13. Observe at least three complete operating cycles to ensure that all components are functioning correctly before leaving the installation.



Twin Solenoid Wiring Using 4-Wire Cable

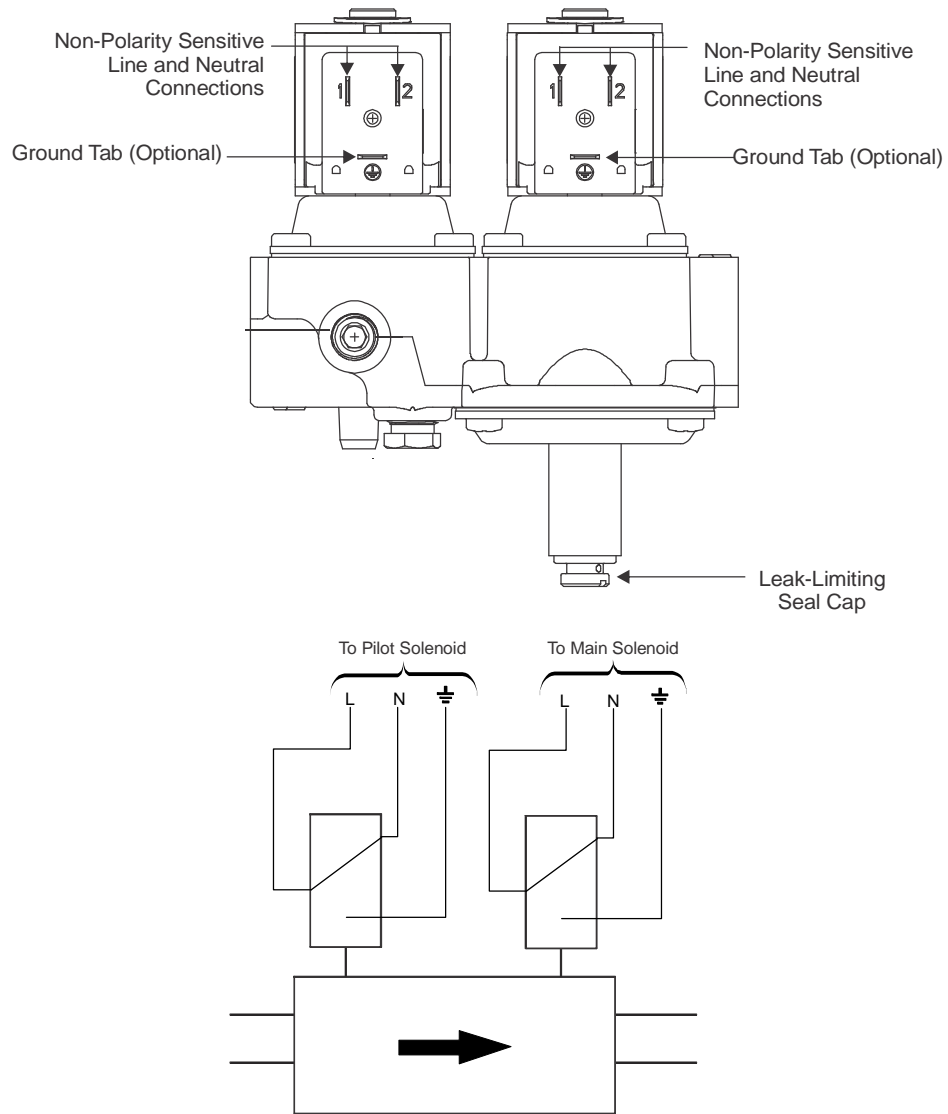


Figure 3: GM-7532 Model with Direct-Acting Regulator

Wiring



CAUTION: Risk of Electric Shock.

Disconnect power supply before making electrical connections to avoid electric shock or equipment damage. Ensure that the operating voltage is identical to the information on the product identification label.

The GM-753_ is supplied with 6.35 x 0.8 mm (1/4 in.) male tabs, and connections should be made using 6.35 x 0.8 mm (1/4 in.) female, fully insulated push-on terminals.

Route the electrical connection for the valve solenoid actuators from the burner sequence control to the valve (see Figure 3).

Note: Electrical connections can also be made using pre-wired electrical plugs (DIN 43650 Form B [ISO 4400]).

Note: All wiring must be in accordance with national and local codes and regulations.

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. Test all joints and connections for leaks with a soap solution.
2. Close the main upstream shutoff valve and wait at least 5 minutes for unburned gas to escape from the appliance, and then reopen the shutoff valve.
3. Turn on the main electrical power switch and close the thermostat contacts. The appliance should operate in accordance with the manufacturer's specified sequence of operation.

4. Turn the thermostat to a low dial setting to open the contacts. All burner flames should be extinguished. Repeat Steps 3 and 4 at least three times.
5. Return the thermostat to a normal setting before leaving the installation.

Regulator Adjustment

IMPORTANT: All adjustments must be made in conjunction with the gas appliance and in accordance with the appliance manufacturer's instructions. Only authorized personnel should make adjustments.



WARNING: Risk of Explosion or Fire.

The minimum flow rate of the valve must not be adjusted below the minimum safe working rate of the appliance. This may cause gas leaks, which can lead to an explosion or fire and may result in severe personal injury or death.

The GM-753_ model has a bottom adjust pressure regulator. To adjust the regulator, turn the adjusting screw to determine the compression of the regulator spring against the regulator diaphragm.

To adjust the outlet pressure, remove the leak-limiting seal cap to expose the adjusting screw (Figure 3). Turn the screw (using a suitable screwdriver) in a clockwise direction to increase or in a counterclockwise direction to decrease the outlet pressure of the valve.

Repairs and Replacement

Table 1: Replacement Solenoid Coil

Part Number	Description
RSDA95A-25	25 VAC; 50/60 Hz; 3-tab 10.5 VA Coil
RSDA95A-25A	25 VAC; 50/60 Hz; 2-tab 10.5 VA Coil

Do not make field repairs except for the replacement of the solenoid coil.

Any attempt to repair this assembly voids the manufacturer's warranty. For a replacement coil or gas valve, contact the original equipment manufacturer or the nearest BASO Gas Products distributor.

Technical Specifications

Product	GM-7000 Series CE Approved Gas Control Valve		
Types of Gas	Natural, Liquefied Petroleum (LP), and LP gas-air mixtures		
Rated Inlet Pressure	North America:	1/2 psi	
	Europe:	35 mbar	
	Australia:	3.5 kPa	
Maximum Working Pressure (CE)	50 mbar		
Maximum Differential Pressure	20 mbar (2 kPa [8 in. W.C.])		
Reverse Pressure Rating	50 mbar (5 kPa [20 in. W.C.]) Class B (EN 126 and 161); Class 2 (AS 4624 and AS 4629)		
Regulator Classification	Class C (EN 126); Adjustable, Class 2, Grade 20 (AS 4624)		
Regulator Setting	Factory set to customer's specification		
Direct-Acting Regulator Pressure Range	Natural Gas:	7.5 to 12.5 mbar (0.15 to 1.25 kPa [3 to 5 in. W.C.])	
	LP Gas:	22.5 to 30 mbar (2.25 to 3 kPa [9 to 12 in. W.C.])	
Permissible Ambient (Surface) Temperature	0 to 70°C (32 to 158°F)		
Body Connections	1/2 NPT, 1/2 BSPP (Thread ISO 7-Rp) or 1/2 BSPT (Thread ISO 7-Rc) with Flange Connection Holes (M4 x 0.7 mm pitch x 6 mm deep)		
Valve Torsion Group	Group 2 (EN 126 and 161)		
Pressure Taps	M5 x 0.8 Thread		
Pilot Connection	1/4 in. cc Blank Plug		
Materials	Body:	Die-Cast Aluminum	
	Diaphragms and Seals:	Nitrile Rubber	
Dirt Strainer	0.9 mm (0.036 in.) mesh (CE only or upon request)		
Operating Time Rating	100% Continuous		
Valve Timings	Closing Time:	≤ 1 Second	
	Opening Time:	≤ 1 Second	
	Dead Time:	< 1 Second	
Power Rating	10.5 VA per Coil		
Electrical Rating	25 VAC, 50/60 Hz, 0.42A		
Electrical Connection	2-Tab Solenoid Coil: 2 x 6.35 mm (1/4 in.) 3-Tab Solenoid Coil: 2 x 6.35 mm (1/4 in.) + 6.35 mm (1/4 in.) Earth Ground		
Coil Insulation Class	Class F		
Accessories	Conversion Kits	Natural gas to LP gas:	GM-70-CLP
		LP gas to Natural gas:	GM-70-CNG
		Regulated to non-regulated:	BG-70-CBP

Technical Specifications (continued)

Agency Listings	CSA (AGA/CGA) Certificate Number 229521-1656041 EC Certificate Number EC-86/11/041 Australian Gas Association Certificate Number 7934
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Specification Standards	EN 126 and 161 Standards Complying with the Directive Standards Complying with the Low Voltage Directive Australian Standards AS 4624 and AS 4629 Canadian Standard CSA 6.5 and 6.20 ANSI Standards Z21.21 and Z21.78
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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 *GM-7000 Series CE Approved Gas Control Valve Product Bulletin (BASO-PB-GM7000)* for necessary information on operating and performance specifications for this product.



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