



# GM-7000 Series Multi-Function Gas Control Valve

The GM-7000 Series multi-function gas control valve works in conjunction with an electronic sequence control unit to provide fully automatic control for residential and light commercial heating, cooking, drying, and other light commercial applications.

Typical applications include freestanding and wall hung boilers for residential hydronic heating, commercial cooking appliances, and commercial tumbler dryers.



Figure 1: GM-7000 Multi-Function Gas Control Valve

Features and Benefits	
<input type="checkbox"/> <b>Optional Pressure Regulator</b>	Provides field adjustable flow control for range-rated applications
<input type="checkbox"/> <b>Convertible Pressure Regulator</b>	Permits use with Liquid Petroleum (LP) gas or natural gas
<input type="checkbox"/> <b>Compact Size</b>	Permits installation in space-restrictive applications
<input type="checkbox"/> <b>CE Compliant</b>	Broadens applications to include markets in Europe

## Overview

### Valve Operation

The GM-7000 is an on/off valve with spring-loaded seat discs that are operated by solenoids with protected rectifiers to ensure quiet operation.

When the valve is energized, the solenoid plunger is pulled into the coil, overcoming the force of the closeoff spring and the flow medium pressure. The valve seat discs are directly fixed to the plunger stem so the valve fully opens.

The Teflon® coated plunger provides maintenance-free operation under permissible temperature and pressure specifications.

### Valve Types

The GM-7000 valve is available with 24 VAC solenoids and 1/2-inch body thread connections.

### Adjustment Methods

The GM-7000 Series offers direct-acting regulator control.

### No Adjustment

The GM-7\_1\_ model has a blank plate mounted onto the bottom of the body casting for applications where adjustment control is not needed or for applications where separate adjustment control is already provided.

### Regulator Adjustment

The regulator controls the gas pressure at the valve outlet by positioning the regulator poppet for selected throughput flow and pressure. Regulator pressure is achieved by the valve outlet pressure acting on the regulator diaphragm, which balances against the preset regulator spring. Adjustment of the spring compression determines the valve outlet pressure and the throughput flow rate.

The GM-7532 model has a direct-acting pressure regulator. The direct-acting regulator operates by means of the regulator spring acting directly onto the regulator diaphragm. The direct-acting regulator is adjusted from the underside of the valve.

**Table 1: Range of Regulation (ANSI Z21.78) for Pressure Regulator Models**

Valve Model	Q <sub>minimum</sub>		Q <sub>maximum</sub>	
	m <sup>3</sup> /h	cf/h	m <sup>3</sup> /h	cf/h
<b>GM7000</b>	0.566	20	2.83	100

Note: 1 m<sup>3</sup>/h = 10.67 kW (1 cf/h = 1,000 Btu/h) natural gas at 0.64 specific gravity.

## Range of Regulation

### Pressure Regulator Model GM-7\_3\_

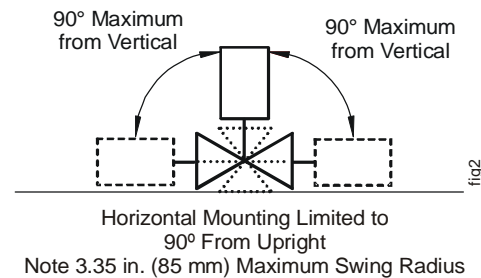
The GM-7\_3\_ model has an adjustable direct-acting pressure regulator. The direct-acting pressure regulator has the following pressure range:

- Natural gas 3 to 5 in. W.C. (7.5 to 12 mbar)
- Liquid Petroleum (LP) gas 9 to 12 in. W.C. (22.5 to 30 mbar)

## Mounting

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 2)

The valve also may be mounted on a vertical manifold in any position around its axis. Do not install the solenoid actuator upside down. Install the valve on a horizontal manifold wherever possible.



**Figure 2: GM-7000 Mounting Positions**

## Accessories

**Table 2: Accessories**

Description	Part Number
<b>Conversion Kit for Non-Regulation</b>	GM-70-CBP
<b>Conversion Kit for LP Regulation</b>	GM-70-CLP
<b>Conversion Kit for Natural Gas Regulation</b>	GM-70-CNG

## Repairs and Replacement

**Table 3: Replacement Solenoid Coil**

Part Number	Description
<b>R9622-1C</b>	24 VAC; 50/60 Hz; 2-pin, 9.5 VA Coil

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

For a replacement coil or gas valve, contact the original equipment manufacturer or the nearest BASO Gas Products® distributor.

## Dimensions

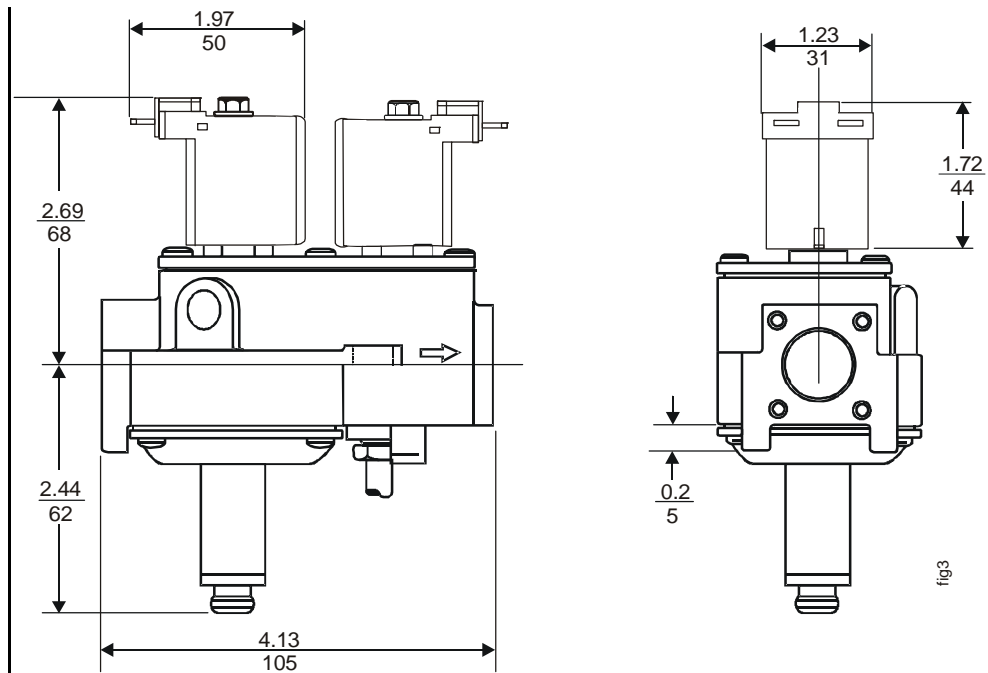


Figure 3: Valve with Direct-Acting Pressure Regulator and 2-pin, 24 VAC, 9.5 VA Coils, in. (mm)

## Ordering Information

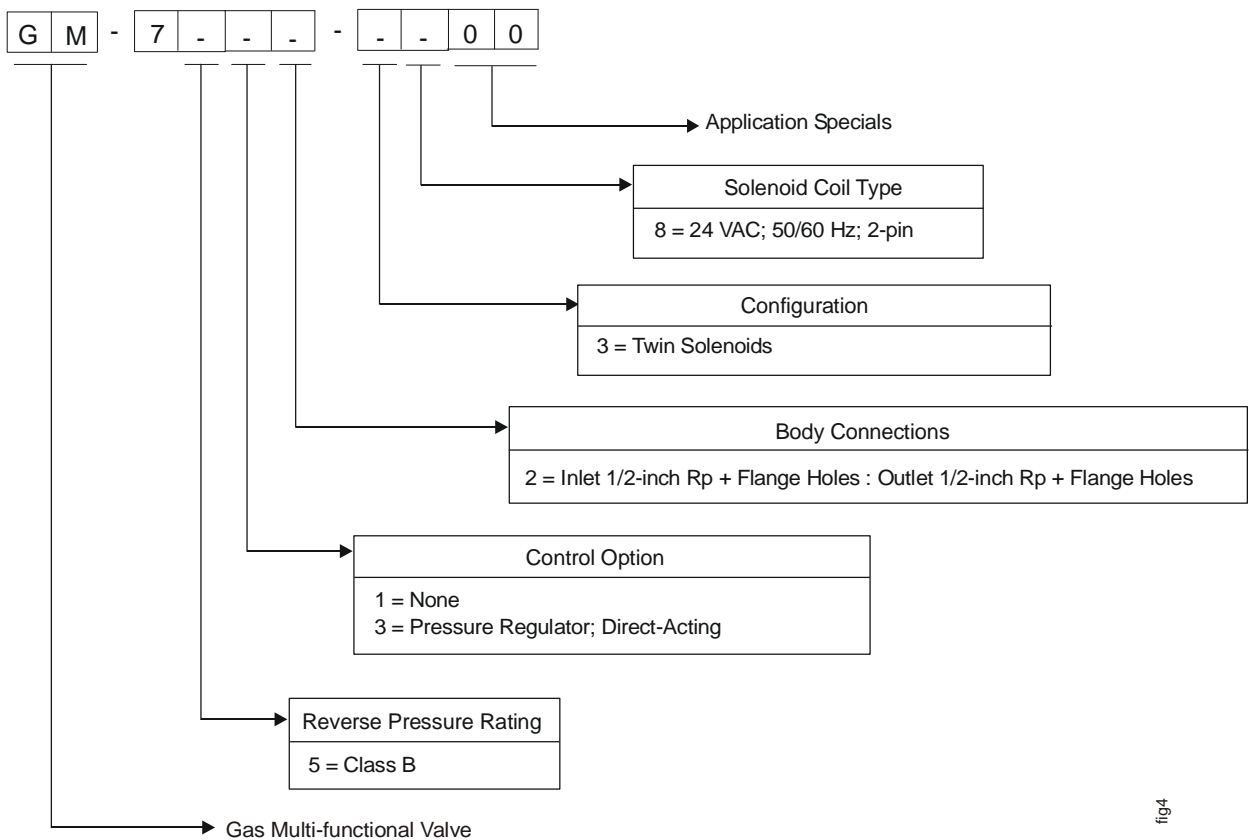


Figure 4: Valve Ordering Matrix

## Technical Specifications

<b>Product</b>	GM-7000 Series Multi-Function Gas Control Valve	
<b>Types of Gas</b>	Natural, Liquefied Petroleum (LP), and LP gas-air mixtures	
<b>Maximum Operating Pressure</b>	North America:	1/2 psi
	Europe:	50 mbar; Class B (EN 126 and 161)
<b>Maximum Differential Pressure</b>	8 in. W.C. (20 mbar)	
<b>Reverse Pressure Rating</b>	20 in. W. C. (50 mbar) Minimum; Class B (EN 126 and 161)	
<b>Regulator Classification</b>	Class C (EN 126)	
<b>Direct-Acting Regulator Pressure Range</b>	Natural Gas:	3 to 5 in. W.C. (7.5 to 12 mbar)
	LP Gas:	9 to 12 in. W.C. (22.5 to 30 mbar)
<b>Permissible Ambient (Surface) Temperature</b>	32 to 158°F (0 to 70°C)	
<b>Body Connections</b>	1/2 in. Rp with Flange Connection Holes (M4 x 0.7 mm pitch x 6 mm deep)	
<b>Valve Torsion Group</b>	Group 2 (EN 126 and EN 161)	
<b>Pressure Taps</b>	M5 x 0.8 Thread	
<b>Pilot Connection</b>	1/4 in. Blank Plug	
<b>Materials</b>	Body:	Die-Cast Aluminum
	Diaphragms and Seals:	Nitrile Rubber
<b>Dirt Strainer</b>	0.036 in. (0.9 mm) mesh	
<b>Operating Time Rating</b>	100% Continuous	
<b>Valve Timings</b>	Closing Time:	≤ 1 Second
	Opening Time:	≤ 1 Second
	Dead Time:	< 1 Second
<b>Power Rating</b>	9.5 VA per Coil	
<b>Electrical Connection</b>	2-Pin Solenoid Coil:	1/4 in (2 x 6.35 mm) Terminals
<b>Agency Listings</b>	CSA Certificate Number 229521-1656114 EC Certificate Number EC-87/94/57	
<b>Specification Standards</b>	EN 126 and EN 161 Standards Complying with the EMC Directive Standards Complying with the Low Voltage Directive Canadian Standard CSA 6.5 and 6.20 ANSI Standards Z21.21 and Z21.78	

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 Multi-function Gas Control Valve Installation Instructions (Part No. BASO-INS-GM7000) for necessary information on the installation, use, and servicing of this product.



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Published in U.S.A.