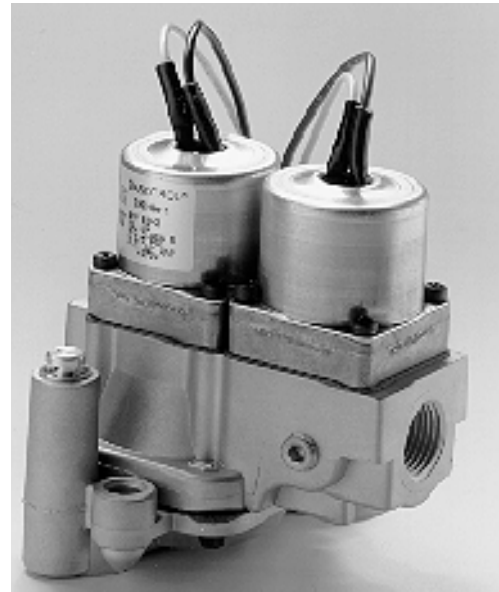




## G96 Series BASOTROL® Dual Operator Valve

*The G96 Series BASOTROL® valves are combination, dual operator, automatic valves available with or without a pressure regulator. Typical applications include central heating units, unit heaters, rooftop units, make up air heaters, and similar applications.*



**Figure 1: G96 Dual Operator Gas Valve**

### Features and Benefits

|   |   |
|---|---|
| <input type="checkbox"/> <b>Bipolar Magnetic Operator</b>                         | Provides dependable operation and long life   |
| <input type="checkbox"/> <b>Top or Bottom Regulation Adjustment</b>               | Provides application flexibility  |
| <input type="checkbox"/> <b>Compact Design</b>                                    | Permits installation in dimensionally restricted applications                         |
| <input type="checkbox"/> <b>Selectable Pilot Tap Positions</b>                    | Provides application flexibility  |
| <input type="checkbox"/> <b>Numerous Magnetic Operator Cover Styles Available</b> | Allows various mounting options and connection choices to best suit your requirements |
| <input type="checkbox"/> <b>Optional Valve-Mounted Ignition (BGQ)</b>             | Lowers assembly costs and simplifies wiring   |

## Product Overview

### Application

The G96 Valves are suitable for use with natural gas or Liquefied Petroleum (LP) gas at pressures up to 0.5 psi (35 mbar [3.5 kPa]). The G96 valves with a silicone diaphragm are suitable for operation over a temperature range of -40 to 175°F (-40 to 79°C). Valves with a nitrile diaphragm are suitable for operation over a temperature range of -20 to 175°F (-29 to 79°C).

Note: This valve should be used only in applications that are within the limitations and provisions of the applicable American National and/or Underwriters Laboratories® standards.

### Description

The G96 valve is equipped with two BASOTROL bipolar magnetic operators. Bipolar construction reduces the possibility of the valve sticking in the open position from residual magnetism or from mechanical interference.

A leak limit orifice is supplied as standard on valves with a regulator stack.

Valves can be constructed in one of the following two constructions.

#### Indirect Burner Ignition

The indirect burner ignition construction offers redundant main gas shutoff as the pilot and main gas operators are in series. This construction is for use with intermittent pilot ignition systems.

#### Direct Burner Ignition

The direct burner ignition construction offers redundant automatic main gas shutoff. Both valves are energized and de-energized simultaneously. This construction is for use with direct spark or hot surface ignition systems.

### Valve Constructions

The G96 series is available with 1/2 x 1/2 in. or 1/2 x 3/4 in. body connections with 25, 120, or 240 VAC 2-wire magnetic operators. Refer to the *Ordering Information* section for more information.

Additionally, the G96 series is available with other optional configurations.

### Pressure Connections

The G96 valve is available with 1/8-27 NPT pressure taps when required. Contact BASO Gas Products for details and ordering.

### Magnetic Operator Cover Styles

An aluminum magnetic operator cover with conduit hub and 30 in. (762 mm), 18 American Wire Gauge (AWG) stranded lead wires are supplied as standard on all line voltage models. The leads and hub position may be located at the top, over the inlet, on the right side, or on the left side of the valve. Lead wires with 1/4 in. (6.35 mm) quick-connect terminals are also available.

The Underwriters' Laboratories (UL), Inc. Listed steel operator cover is available with a top conduit hub only.

A plastic magnetic operator cover with 1/4 in. (6.35 mm) quick-connect male terminals is supplied as standard on all low-voltage models. However, an aluminum or steel operator cover with conduit hub is available.

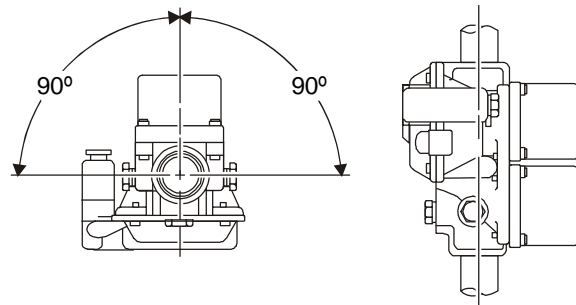
Contact BASO Gas Products for details and ordering of magnetic operator cover style and wiring requirements.

### Regulator/Pilot Tap Options

The G96 is designed for various configurations. The top adjust or bottom adjust regulator, and right- or left-hand pilot tap options take advantage of space access limitations.

### Mounting

The G96 valves may be mounted on a horizontal manifold with the magnetic operators pointed up (vertical) or in a position not exceeding 90° from vertical. The G96 also may be mounted on a vertical manifold in any position around its axis.



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 2: Mounting Positions

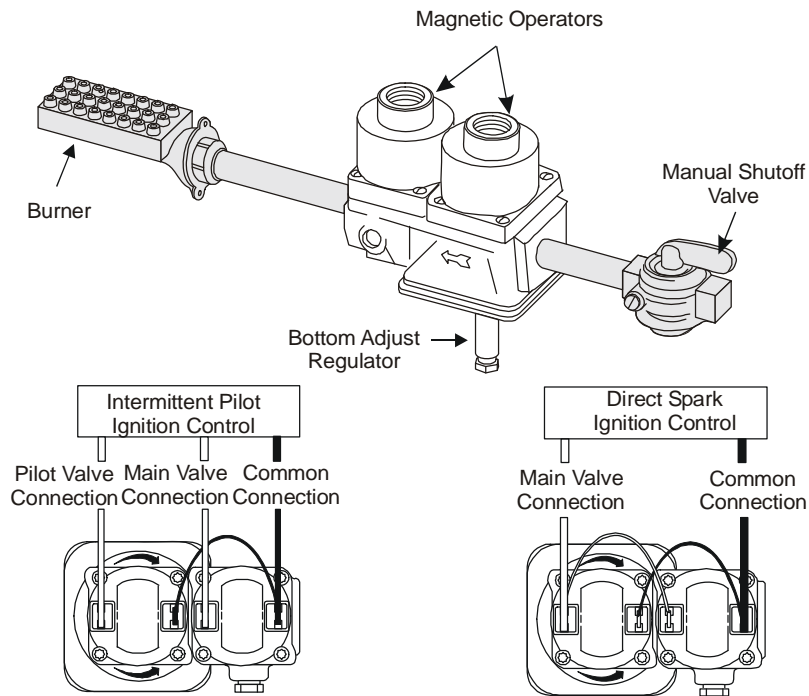


Figure 3: Typical G96 Installation and Wiring

## Dimensions

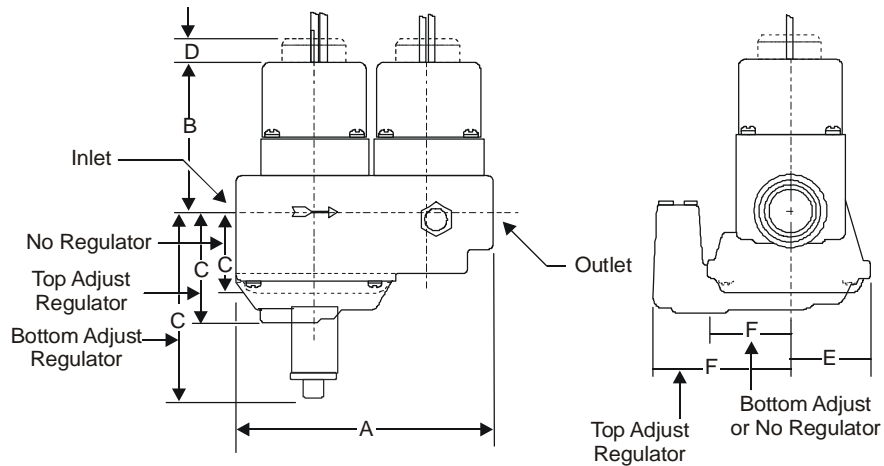


Figure 4: Dimensions

Table 1: Dimensions

| Series Number                    | A    |     | B    |    | C    |    | D    |    | E    |    | F    |    |
|----------------------------------|------|-----|------|----|------|----|------|----|------|----|------|----|
|                                  | in.  | mm  | in.  | mm | in.  | mm | in.  | mm | in.  | mm | in.  | mm |
| G96 without a Regulator          | 4.23 | 107 | 2.44 | 62 | 1.28 | 33 | 0.41 | 10 | 1.33 | 34 | 1.33 | 34 |
| G96 with Top Adjust Regulator    | 4.23 | 107 | 2.44 | 62 | 1.66 | 42 | 0.41 | 10 | 1.33 | 34 | 2.10 | 53 |
| G96 with Bottom Adjust Regulator | 4.23 | 107 | 2.44 | 62 | 2.48 | 63 | 0.41 | 10 | 1.33 | 34 | 1.33 | 34 |

## Range of Regulation

Table 2: Range of Regulation

| Inlet/Outlet<br>in. NPT | Q <sub>MINIMUM</sub> |                   | Q <sub>MAXIMUM</sub> |                   |
|-------------------------|----------------------|-------------------|----------------------|-------------------|
|                         | cf/h                 | m <sup>3</sup> /h | cf/h                 | m <sup>3</sup> /h |
| 1/2 x 1/2               | 20                   | 0.57              | 200                  | 5.7               |
| 1/2 x 3/4               | 20                   | 0.57              | 250                  | 7.1               |

Note: 1 m<sup>3</sup>/h = 10.67 kW (cf/h - 1,000 Btu/hr) natural gas at 0.64 specific gravity. For LP flow rates, see Figure 5.

## Ordering Information

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Customer-specific Requirements

| Letter | Regulator Type  | Gas Flow       |
|--------|---|----------------|
| A =    | Top Adjust: 3 to 6 in. W.C. (7.5 to 15 mbar [0.75 to 1.5 kPa])    | Main and Pilot |
| C =    | Top Adjust: 6 to 12 in. W.C. (15 to 30 mbar [1.5 to 3.0 kPa])     | Main and Pilot |
| H =    | Bottom Adjust: 3 to 6 in. W.C. (7.5 to 15 mbar [0.75 to 1.5 kPa]) | Main and Pilot |
| K =    | Bottom Adjust: 8 to 12 in. W.C. (20 to 30 mbar [2.0 to 3.0 kPa])  | Main and Pilot |
| Q =    | None  | Main and Pilot |

| Letter | Voltage     |
|--------|-------------|
| A =    | 120V, 60 Hz |
| B =    | 240V, 60 Hz |
| G =    | 25V, 60 Hz  |

| Letter | Natural Gas Capacity @ 1 in. W.C. (2.5 mbar [0.25 kPa]) Pressure Drop |    | Inlet/Outlet      |
|--------|---|----|-------------------|
|        | Btu/hr  | kW |                   |
| A =    | 190,000   | 56 | 1/2 x 1/2 in. NPT |
| H =    | 190,000   | 56 | 1/2 x 1/2 in. NPT |
| J =    | 190,000   | 56 | 1/2 x 3/4 in. NPT |
| *S =   | 190,000   | 56 | 1/2 x 1/2 Rp      |

\*Not CSA Recognized

The presence of a particular construction in this information does not guarantee its availability. Consult BASO Gas Products for available constructions.

Figure 5: Ordering Matrix

## Technical Specifications

|  |   |   |   |   |
|--|---|---|---|---|
| <b>Product</b>                                   | G96 Series BASOTROL Dual Operator Valve   |   |   |   |
| <b>Rated Inlet Pressure</b>                      | 0.5 psi (35 mbar [3.5 kPa])   |   |   |   |
| <b>Permissible Ambient (Surface) Temperature</b> | -20 to 175°F (-29 to 79°C) nitrile diaphragm<br>-40 to 175°F (-40 to 79°C) silicone diaphragm   |   |   |   |
| <b>Available Magnetic Operator Cover Styles</b>  | Aluminum side conduit hub<br>Aluminum top conduit hub<br>Aluminum top without conduit hub<br>Aluminum side outlet with eyelet<br>Steel top conduit hub<br>Plastic with 1/4 in. (6.35 mm) male quick-connect terminals                 |   |   |   |
| <b>Electrical Rating</b>                         | 25 VAC, 60 Hz, 0.3 ampere draw for each operator<br>120 VAC, 60 Hz, 0.05 ampere draw for each operator<br>240 VAC, 60 Hz, 0.03 ampere draw for each operator  |   |   |   |
| <b>Regulator Adjustment Range</b>                | Bottom Adjust Regulators:   | 3 to 6 in. W.C. (7.5 to 15 mbar [0.75 to 1.5 kPa])<br>8 to 12 in. W.C. (20 to 30 mbar [2.0 to 3.0 kPa]) | Top Adjust Regulators:                          | 3 to 6 in. W.C. (7.5 to 15 mbar [0.75 to 1.5 kPa])<br>6 to 12 in. W.C. (15 to 30 mbar [1.5 to 3.0 kPa]) |
| <b>Inlet Pipe Size</b>                           | 1/2 in. NPT   |   |   |   |
| <b>Outlet Pipe Size</b>                          | 1/2 or 3/4 in. NPT  |   |   |   |
| <b>Pilot Outlet</b>                              | 1/8 in. NPT, 1/4 in. cc also available  |   |   |   |
| <b>Wiring Connections</b>                        | 1/4 in. (6.35 mm) male quick-connect or 30 in. (762 mm) lead wires (other lengths are optional)   |   |   |   |
| <b>Types of Gas</b>                              | Natural or Liquefied Petroleum (LP)   |   |   |   |
| <b>Accessories</b>                               | Conversion Kits   | Natural Gas to LP Gas:  | Top Adjust Regulator<br>Bottom Adjust Regulator | Y71GF-4<br>Y71GF-3  |
|  |   | LP Gas to Natural Gas:  | Top Adjust Regulator<br>Bottom Adjust Regulator | Y71QH-2<br>Y71QH-3  |
|  |   | Non-Regulation:   | Top or Bottom Adjust Regulator                  | Y71AA-5   |
| <b>Packaging</b>                                 | Bulk pack supplied to original equipment manufacturer (individual pack optional).   |   |   |   |
| <b>Bulk Pack Quantity</b>                        | 32 per carton (G96HGA and G96JGA bulk pack quantity is 20 per carton)   |   |   |   |
| <b>Bulk Pack Weight</b>                          | 49 lb (22 kg) per carton (G96HGA and G96JGA weight is 30 lb [14 kg] per carton)   |   |   |   |
| <b>Agency Listings</b>                           | CSA Certificate Number 229521-1656041 (excludes G96SHA)<br>Australian Gas Association Certificate Number 3495 (top adjust models only [excludes G96HAC and G96HBA])<br>AGA Regulator Adjustable, Class 2, Grade 20; Automatic Class 3 |   |   |   |
| <b>Specifications Standards</b>                  | ANSI Z21.21, CSA 6.5<br>ANSI Z21.78, CSA 6.20<br>AS 4624  |   |   |   |

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 G96 Series BASOTROL® Dual Operator Valve Installation Instructions (BASO-INS-G96) for necessary information on the installation, use, and servicing of this product.



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