



# G93 Series BASOTROL® Combination Automatic Gas Valves

The G93 Series BASOTROL® Gas Valve combines the automatic pilot valve, pressure regulator, and automatic main valve functions in one valve. Typical applications include central heating units, unit heaters, commercial clothes dryers, and similar applications.



Figure 1: G93 Combination Gas Valve

| Features and Benefits   |   |
|---|---|
| <input type="checkbox"/> <b>Bipolar Magnetic Operator Construction</b>              | Provides dependable operation and long life   |
| <input type="checkbox"/> <b>59 kW (200,000 Btu/hr) Regulation Capacity</b>          | Standardizes on one valve   |
| <input type="checkbox"/> <b>Lever-acting or Direct-acting 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 |

# Product Overview

## Application

The G93 valves are suitable for use with natural gas, Liquefied Petroleum (LP) gas, manufactured gas, mixed gas, or LP gas-air mixtures, at pressures up to 35 mbar (0.5 psi) and are suitable for operation over a temperature range of 0 to 68°C (32 to 155°F).

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

## Description

The G93 valves are supplied with a standard magnetic operator and are 100% shutoff valves when the pilot is extinguished. Bipolar construction of the operator 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.

## Valve Constructions

The G93 series is available with 1/2 x 1/2 in. body connections with a 25, 120, or 240 VAC 2-wire magnetic operator. Some models are also available with a 208/240 VAC operator. Refer to the *Ordering Information* section for more information.

Additionally, the G93 series is available with other optional configurations.

### Pressure Connections

The G93 valve is available with 1/8-27 NPT pressure taps when required (see Figure 4). Contact BASO Gas Products for details and ordering information.

## Magnetic Operator Cover Styles

An aluminum magnetic operator cover with conduit hub and 762 mm (30 in.), 18 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 6.35 mm (1/4 in.) quick-connect terminals are also available.

The UL Listed steel operator cover is available with a top conduit hub only.

A plastic magnetic operator cover with 6.35 mm (1/4 in.) 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.

## Pilot Gas

G93 valves are available with internal pilot gas flow.

### Rotor “B” Valve

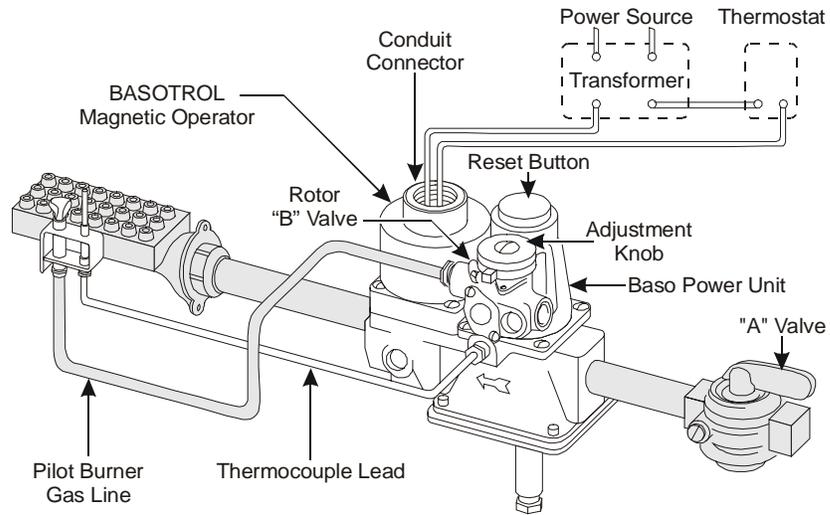
Figure 2 illustrates a typical installation showing a rotor “B” valve.

A rotor “B” valve (for pilot flame) with pilot flow adjuster is available. Various outlet positions are available.

Contact BASO Gas Products for details and ordering.

### Regulator/Pilot Tap Options

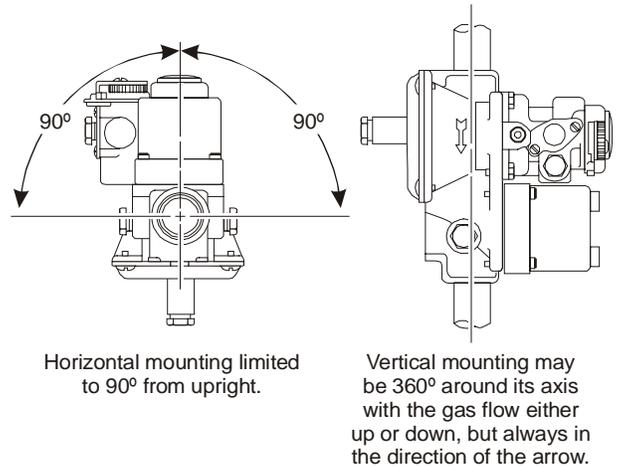
The G93 is designed for various configurations. The lever-acting or direct-acting regulator, and right or left-hand pilot tap options take advantage of space or access limitations.



**Figure 2: Typical Installation Showing Rotor "B" Valve**

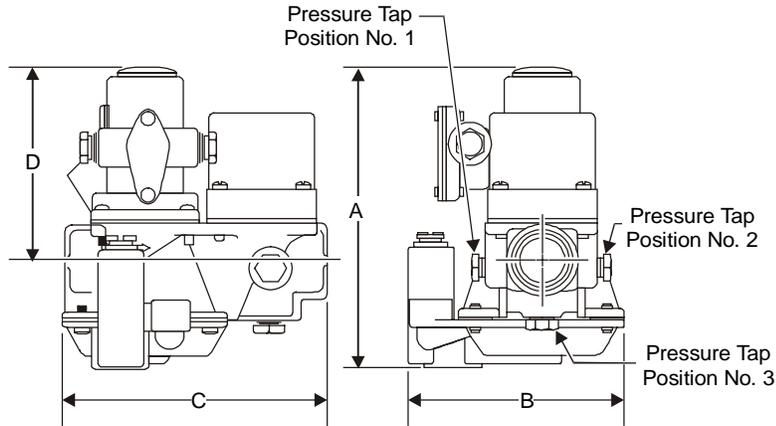
## Mounting

Series G93 valves may be mounted on a horizontal manifold with the magnetic operator pointed 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 3.



**Figure 3: Mounting Positions**

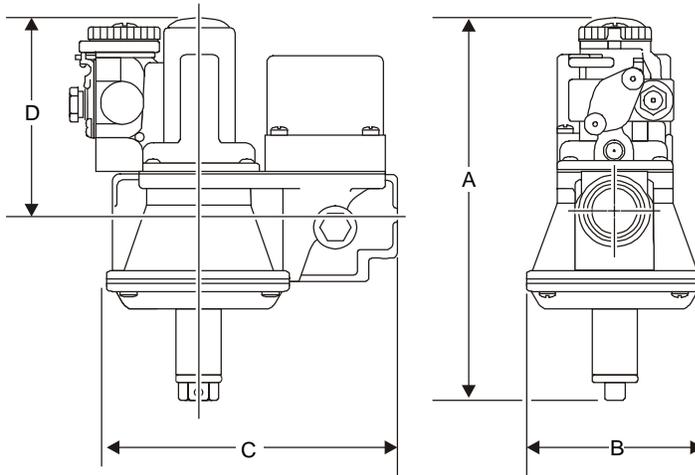
# Dimensions



**Figure 4: Lever-acting Regulator Model Dimensions Showing Optional Pressure Tap Positions**

**Table 1: Dimensions**

| Series Number    | A Height |      | B Width |      | C Length |      | D Height |      |
|------------------|----------|------|---------|------|----------|------|----------|------|
|                  | mm       | in.  | mm      | in.  | mm       | in.  | mm       | in.  |
| Lever-acting G93 | 123      | 4.84 | 87      | 3.42 | 107      | 4.23 | 81       | 3.19 |



**Figure 5: Direct-acting Regulator Model Dimensions**

**Table 2: Dimensions**

| Series Number     | A Height |      | B Width |      | C Length |      | D Height |      |
|-------------------|----------|------|---------|------|----------|------|----------|------|
|                   | mm       | in.  | mm      | in.  | mm       | in.  | mm       | in.  |
| Direct-acting G93 | 144      | 5.66 | 67      | 2.66 | 107      | 4.23 | 81       | 3.19 |

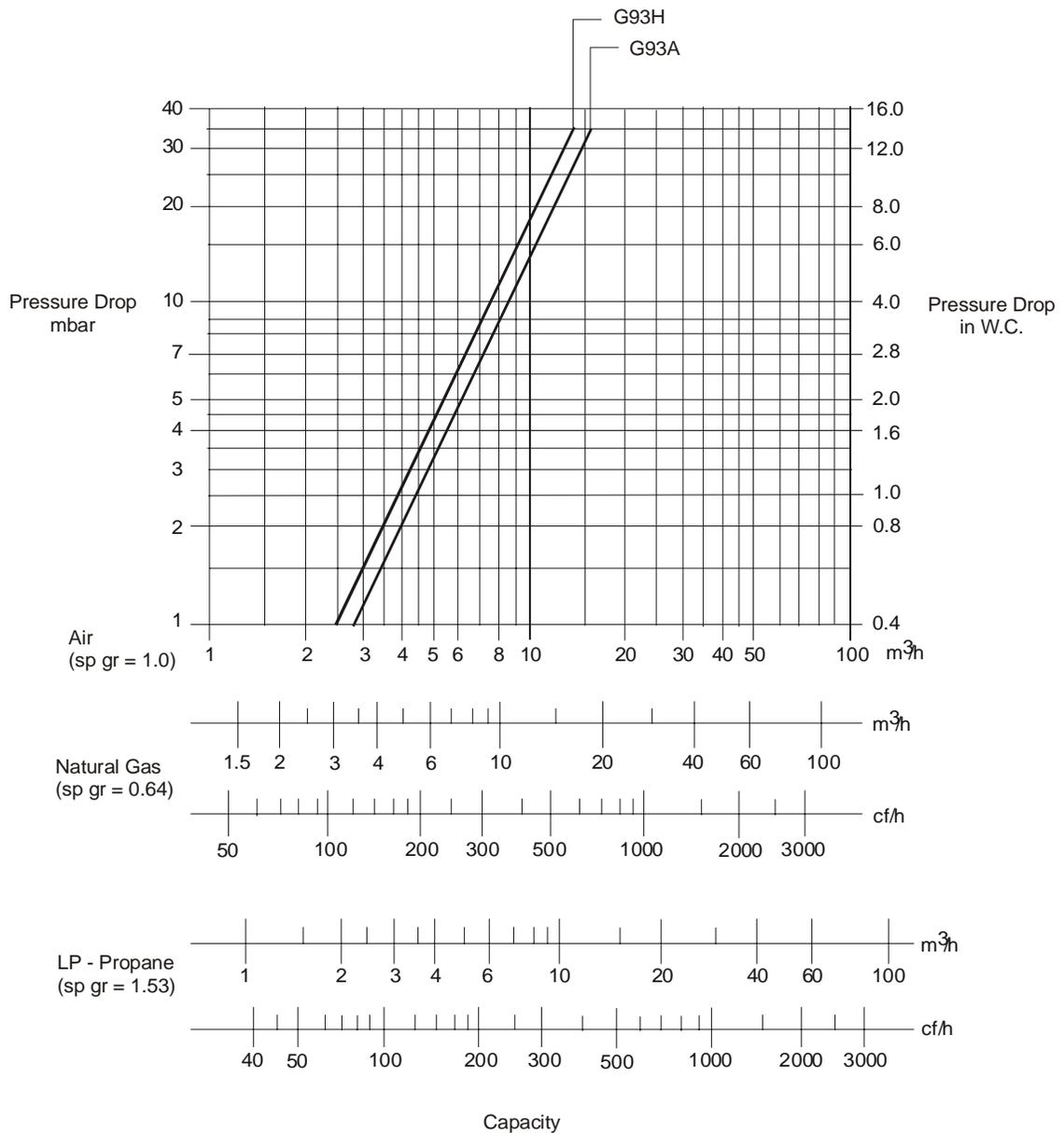
# Range of Regulation

**Table 3: Range of Regulation**

| Model   | Q <sub>MINIMUM</sub> |                   | Q <sub>MAXIMUM</sub> |                   |
|---------|----------------------|-------------------|----------------------|-------------------|
|         | cf/h                 | m <sup>3</sup> /h | cf/h                 | m <sup>3</sup> /h |
| All G93 | 20                   | 0.57              | 200                  | 5.7               |

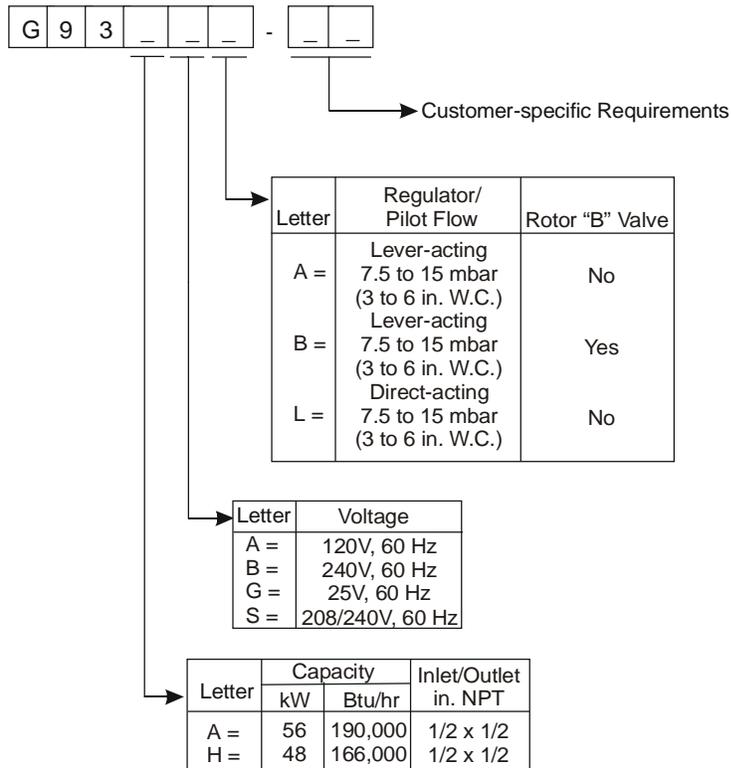
Notes: 1 m<sup>3</sup>/h = 10.67 kW (1 cf/h = 1,000 Btu/hr) natural gas at 0.64 sp gr  
 For LP flow rate, see Figure 6.

# Flow Capacity



**Figure 6: Valve Flow Capacity**

# Ordering Information



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

**Figure 7: Ordering Matrix**

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## Notes

# Technical Data

|  |  |                         |   |
|--|--|-------------------------|---|
| <b>Product</b>                                   | G93 Series BASOTROL Combination Automatic Gas Valve  |                         |   |
| <b>Maximum Operating Pressure</b>                | 35 mbar (0.5 psi)  |                         |   |
| <b>Valve Body</b>                                | Aluminum   |                         |   |
| <b>Permissible Ambient (Surface) Temperature</b> | CSA:   | 0 to 68°C (32 to 155°F) |   |
|  | UL:  | 0 to 52°C (32 to 125°F) |   |
| <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 6.35 mm (1/4 in.) male quick-connect terminals            |                         |   |
| <b>Electrical Rating</b>                         | 25 VAC, 60 Hz, 0.3 ampere draw<br>120 VAC, 60 Hz, 0.05 ampere draw<br>240 VAC, 60 Hz, 0.03 ampere draw<br>208/240 VAC, 60 Hz, 0.037 ampere draw  |                         |   |
| <b>Recommended Thermocouple Lead Lengths</b>     | K15: 305 to 1,220 mm (12 to 48 in.)<br>K16: 305 to 1,830 mm (12 to 72 in.)   |                         |   |
| <b>Wiring Connections</b>                        | 6.35 mm (1/4 in.) male quick-connect terminals, or<br>762 mm (30 in.) lead wires (other lengths are optional)  |                         |   |
| <b>Regulator Adjustment</b>                      | 7.5 to 15 mbar (3 to 6 in. W.C.), lever-acting and direct-acting regulator, natural gas<br>15 to 30 mbar (6 to 12 in. W.C.), lever-acting regulator, LP gas<br>20 to 30 mbar (8 to 12 in. W.C.), direct-acting regulator, LP gas |                         |   |
| <b>Inlet and Outlet Body Connections</b>         | 1/2 x 1/2 in. NPT  |                         |   |
| <b>Types of Gas</b>                              | Natural, Liquefied Petroleum (LP), manufactured, mixed, or LP gas-air mixtures   |                         |   |
| <b>Accessories</b>                               | Conversion Kits:   | Natural gas to LP gas:  | lever-acting regulator Y71GF-4<br>direct-acting regulator Y71GF-3 |
|  |  | LP gas to natural gas:  | lever-acting regulator Y71QH-2<br>direct-acting regulator Y71QH-3 |
| <b>Packaging</b>                                 | Bulk pack supplied to original equipment manufacturer (individual pack optional).  |                         |   |
| <b>Bulk Pack Quantity</b>                        | 32   |                         |   |
| <b>Bulk Pack Weight</b>                          | 23 kg (51 lb)  |                         |   |
| <b>Agency Listing</b>                            | CSA (AGA/CGA) Certificate Number 176835-1061237<br>UL Recognized File Number MH2926  |                         |   |
| <b>Specification Standards</b>                   | ANSI Z21.78 -1997, CGA 6.20 -M97<br>ANSI Z21.78a-1998, CGA 6.20a-M98<br>UL Standard 372 and 429  |                         |   |

*The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult BASO Gas Products. BASO Gas Products shall not be liable for damages resulting from misapplication or misuse of its products.*

Refer to the G93 Series Installation Instructions (24-8711-242) for necessary information on the installation, use, and servicing of this product.



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Printed in U.S.A.