

## Back Pressure Regulators

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pressure regulators

**CRANE**

CRANE Instrumentation & Sampling, Go Regulator  
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## **For Your Safety**

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It is solely the responsibility of the system designer and user to select products suitable for their specific application requirements and to ensure proper installation, operation, and maintenance of these products. When selecting products, the total system design must be considered to ensure safe, trouble-free performance. Material compatibility, product ratings and application details should be considered in the selection. Improper selection or use of products described herein can cause personal injury or property damage.

Contact your authorized GO Regulator sales and service representative for information about additional sizes and special alloys.

## **SAFETY WARNING:**

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GO Regulator products are designed for installation only by professional suitably qualified licensed system installers experienced in the applications and environments for which the products are intended. These products are intended for integration into a system. Where these products are to be used with flammable or hazardous media, precautions must be taken by the system designer and installer to ensure the safety of persons and property. Flammable or hazardous media pose risks associated with fire or explosion, as well as burning, poisoning or other injury or death to persons and/or destruction of property. The system designer and installer must provide for the capture and control of such substances from any vents in the product(s). The system installer must not permit any leakage or uncontrolled escape of hazardous or flammable substances. The system operator must be trained to follow appropriate precautions and must inspect and maintain the system and its components including the product(s) and at regular intervals in accordance with timescales recommended by the supplier to prevent unacceptable wear or failure.

## BP-3 Series

Adjustable Back Pressure Regulators

### Introduction

The BP-3 Series is designed for either liquid or gas service in instrumentation systems. Similar in design to pressure reducing control regulators which regulate outlet pressures, back pressure regulators control the inlet pressure. The many features of this regulator, particularly its precise throttling action, make it ideal for this type of application. In low flow or closed systems, over-pressures often are released by pressure relief valves. This type of relief is on-off with no throttling control. In contrast to relief valves, the back pressure control regulator with its throttling action substantially improves system pressure regulation.



pressure regulators

### Typical Applications

- Analytical instrumentation
- Gas and liquid sampling
- Petrochemical industry
- Air compressors
- Research labs
- Pilot plants

### Technical Data

CONSTRUCTION	316L stainless steel
ADJUSTABLE PRESSURE CONTROL RANGES	0-6, 0-10, 0-25, 0-50, 0-100, 0-250, 0-500, 0-750 & 0-1000 psig
OPERATING TEMPERATURE	-40° F to +500° F (-40° C to +260° C)
C <sub>v</sub> COEFFICIENT	0.2
OPTIONAL VARIOUS ORIFICE SIZES	0.005, 0.01, 0.025, 0.03, 0.04, 0.05, 0.06, 0.095, 0.12, 0.24, and 0.3

### Features & Benefits

- Only 316L stainless steel and PTFE in flow stream
- Bubble tight shutoff
- Gas or liquid service

### Options

- Wetted materials of construction brass, Monel®, Hastelloy® C-276, titanium
- Extra ports
- Panel mount (requires a 1 $\frac{3}{8}$ " mounting hole)
- High purity connections
- Pressure gauges

# Adjustable Back Pressure Regulators

## Maximum Temperature and Control Pressures

SEAT MATERIAL	MAXIMUM TEMPERATURE	@	MAXIMUM CONTROL RANGE
Viton®	250° F (121° C)	@	250 psig (1.72 MPa)
Kalrez®	300° F (148° C)	@	250 psig (1.72 MPa)
High Density PTFE	200° F (93° C)	@	500 psig (3.44 MPa)
Polyimide	500° F (260° C)	@	1000 psig (6.88 MPa)
PEEK™	500° F (260° C)	@	1000 psig (6.88 MPa)
Ceramic Filled PTFE	300° F (148° C)	@	500 psig (3.44 MPa)

Note: Temperatures in excess of 175° F (79° C) require the use of a metal knob or the tamper proof option.

To Order, contact your local Distributor Link below:  
[www.goreg.com/distributor/index.htm](http://www.goreg.com/distributor/index.htm)

Verify that your chosen part number is valid using the GO Wizards at  
[www.goreg.com/products/matrix/index.htm](http://www.goreg.com/products/matrix/index.htm)

## How to Order

For additional configurations, consult the factory. **Standard items in bold.**

**BP3 – 1 A 1 1 D 5 E 1 1 1 A**

**Body Material**

- 1 316L stainless steel, stainless steel backing**
- 2 Brass, stainless steel backing
- 4 Monel®, Inconel® backing
- 5 Hastelloy B®, Inconel® backing**
- 6 Hastelloy® C-276, Inconel® backing
- C 316L stainless steel, Inconel® backing

**Port Configuration**

**A Standard (body “A”)**  
See pg. 28 for port locations.

**Process Port Types**

- 1 ¼” FNPT (¼” FNPT gauge ports)**
- 2 ¼” Tube stub, 2” long (¼” FNPT gauge ports)
- 3 ¼” Sch 80 Pipe stub, 4” long (¼” FNPT gauge ports)
- 4 ¾” FNPT (¼” FNPT gauge ports)**
- 6 ½” Tube stub, 2” long (¼” FNPT gauge ports)
- O ⅛” FNPT (⅛” FNPT gauge ports)
- K ¼” Sch 40 Pipe stub, 4” long (¼” FNPT gauge ports)

**Cavity Finish**

**1 < 25 Ra**

**Actuator Material**

- B Ceramic Filled PTFE**
- C Polyimide (metal knob standard)**
- D Viton®**
- I High density PTFE**
- K Kalrez®**
- Q PEEK™**

**Options**

- A EB33 (oxygen cleaning)**
- B EB5 cleaning**
- D Helium leak test**
- E Pressure test certificate**
- F Certificate of Conformity**
- G CMTR**

**Cap Assembly**

- 1 Standard**
- 4 Panel mount
- 8 Tamper proof
- C Metal knob, panel mount
- E Tamper proof, panel mount**
- G Metal knob
- H ¼” FNPT dome loaded
- L BP-6 Top Works, stainless steel
- O BP-6 Top Works, panel mount, stainless steel

**Diaphragm Facing/Backing Material**

- 1 PTFE / metal backing**
- 6 Tefzel® ring / metal backing
- 7 Viton® / metal backing
- O PTFE / Hastelloy® C-276

**Diaphragm Type**

- 1 Standard diaphragm**
- 4 Vacuum assist spring, standard diaphragm

**Control Range**

- B 0–6 psig**
- C 0–10 psig
- D 0–25 psig**
- E 0–50 psig
- G 0–100 psig
- I 0–250 psig
- J 0–500 psig
- K 0–1000 psig
- W 0–750 psig

**Flow Coefficient (C<sub>v</sub>)**

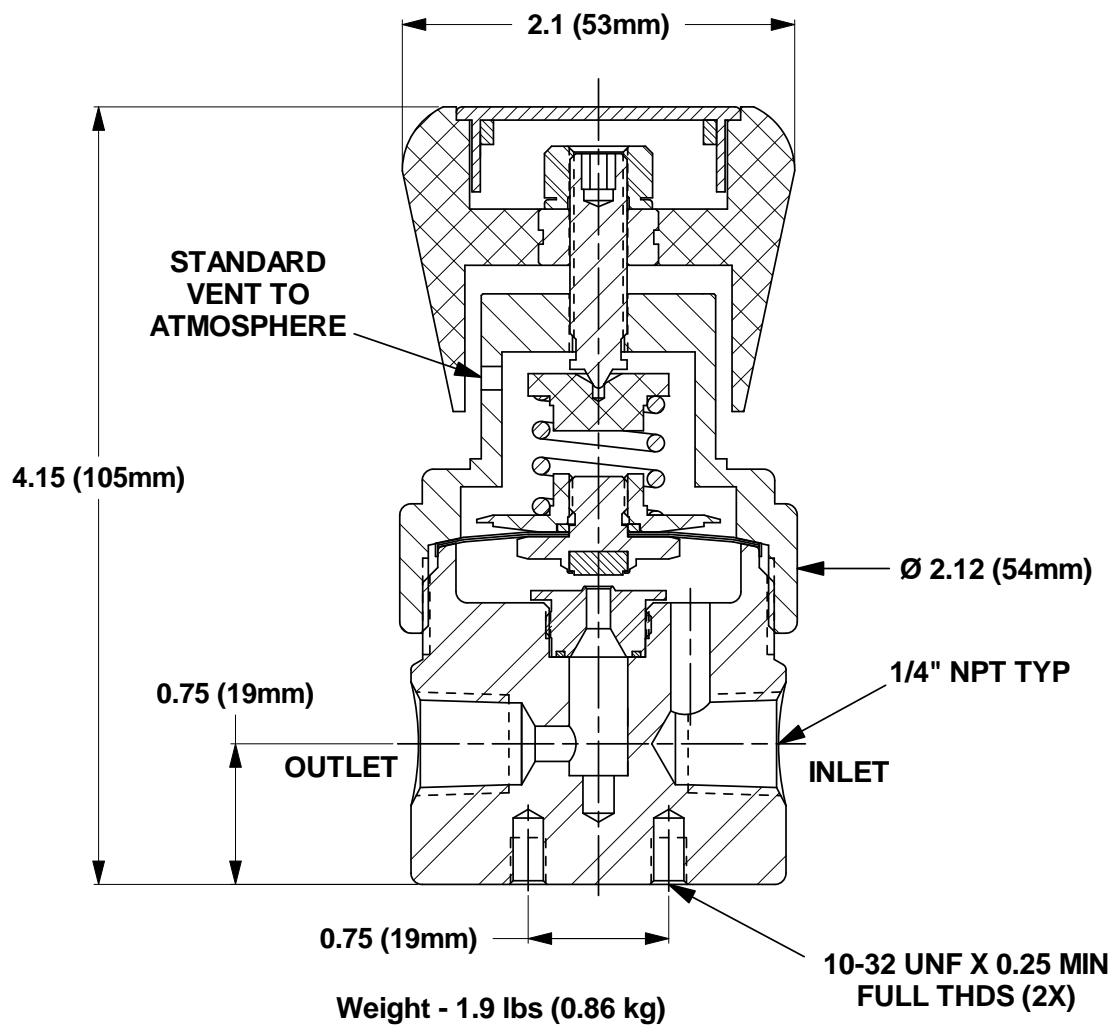
**5 0.2**

NOTE: The choices above represent an abbreviated list of the more commonly ordered options. For a complete listing of all available options, please see the Selection Wizard on the GO website at [www.goreg.com](http://www.goreg.com) or contact the factory.

For flow curve charts, visit <http://www.goreg.com>.

# Adjustable Back Pressure Regulators

## Outline and Mounting Dimensions



## BP-6 Series

### High Flow Back Pressure Regulator

#### Introduction

The BP-6 Series was originally designed as a back pressure regulator for reverse osmosis water purification systems. It may also be easily used in pilot facilities and large instrumentation systems. The standard 316 stainless steel seat assembly, which was intended for long term usage in sea water, can also be useful in various chemical environments. While the stainless steel seat assembly does not offer tight shutoff, it is not normally required in high flow systems. If a more positive shutoff is required a PTFE/stainless steel seal assembly is available.

The BP-6 Series is normally provided in 316 stainless steel construction but other materials are available.



pressure regulators

#### Typical Applications

- Pilot plants
- Large instrumentation systems
- Reverse osmosis water purification systems

#### Technical Data

CONSTRUCTION	316L stainless steel (standard), Monel®, Hastelloy® C-276, or titanium (optional)
ADJUSTABLE STANDARD PRESSURE RANGES	0–100, 0–250, 0–500 and 0–1000 psig
OPERATING TEMPERATURE	–40° F to +500° F (–40° C to +260° C)
Cv COEFFICIENT	3.0
INLET & OUTLET CONNECTIONS	½" FNPT

#### Features & Benefits

- Gas or liquid service
- Sensing with PTFE lined stainless diaphragm
- Metal to metal seat

#### Options

- Soft seat for bubble tight shutoff
- Panel mounting
- Extra ports
- Special welded connections
- Pressure gauges

# High Flow Back Pressure Regulators

## Maximum Temperature and Control Pressures

SEAT MATERIAL	MAXIMUM TEMPERATURE	@	MAXIMUM CONTROL RANGE
PTFE	200° F (93° C)	@	1000 psig (6.88 MPa)
316L stainless steel	500° F (260° C)	@	1000 psig (6.88 MPa)
Monel®	500° F (260° C)	@	1000 psig (6.88 MPa)
Hastelloy® C-276	500° F (260° C)	@	1000 psig (6.88 MPa)
Titanium	500° F (260° C)	@	1000 psig (6.88 MPa)

To Order, contact your local Distributor Link below:  
[www.goreg.com/distributor/index.htm](http://www.goreg.com/distributor/index.htm)

Verify that your chosen part number is valid using the GO Wizards at  
[www.goreg.com/products/matrix/index.htm](http://www.goreg.com/products/matrix/index.htm)

## How to Order

For additional configurations, consult the factory. **Standard items in bold.**

**BP6 – 1 A 5 1 G 0 J 1 1 1 A**

**Body Material**

- 1 316L stainless steel, stainless steel** diaphragm
- 4 Monel®, Inconel® diaphragm
- 6 Hastelloy® C-276, Inconel®** backing
- 7 Titanium, Inconel® backing
- C 316L stainless steel, Inconel® backing

**Port Configuration**

**A Standard (body “A”)**  
See pg. 28 for port locations.

**Process Port Types**

- 5 ½” FNPT (¼” FNPT gauge ports)**
- 6 ½” Tube stub, 2” long (¼” FNPT gauge ports)
- E ¾” Tube stub, 2” long** (¼” FNPT gauge ports)

**Cavity Finish**

**1 < 25 Ra**

**Actuator Material**

- G 316L stainless steel**
- I PTFE
- N Monel®
- P Hastelloy® C-276
- W Titanium

**Options**

- A** EB33 (oxygen cleaning)
- B** EB5 cleaning
- D** Helium leak test
- E** Pressure test certificate
- F** Certificate of Conformity
- G** CMTR

**Cap Assembly**

- 1 T-handle, stainless steel**
- 4 T-handle, panel mount, stainless steel
- L BP-3 Top Works, stainless steel
- O BP-3 Top Works, panel mount, stainless steel

**Diaphragm Facing/Backing Material**

- 1 PTFE / metal backing**
- O PTFE / Hastelloy® C-276

**Diaphragm Type**

**1 Standard diaphragm**

**Control Range**

- G** 0–100 psig
- I 0–250 psig
- J 0–500 psig
- K 0–1000 psig

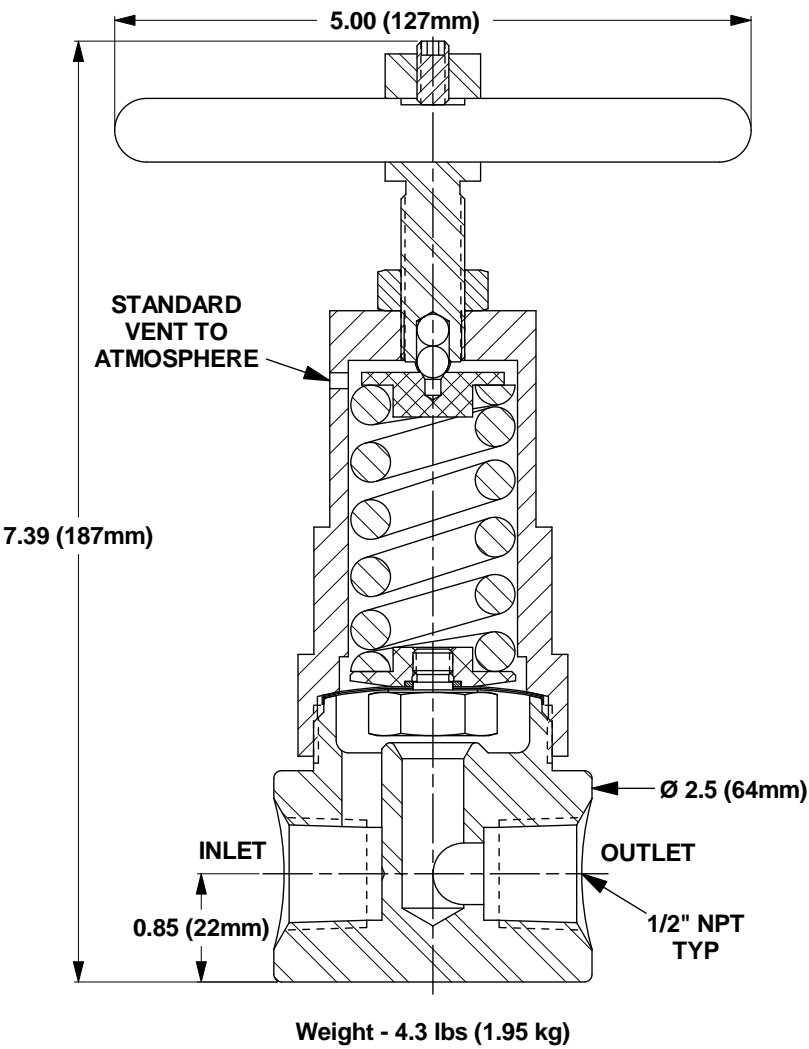
**Flow Coefficient (C<sub>v</sub>)**

**O 3.0**

*NOTE: The choices above represent an abbreviated list of the more commonly ordered options. For a complete listing of all available options, please see the Selection Wizard on the GO website at [www.goreg.com](http://www.goreg.com) or contact the factory.*

# High Flow Back Pressure Regulators

## Outline and Mounting Dimensions





## BP-8 Series

High Flow Back Pressure Regulators

### Introduction

This series is designed to control back pressure at low to moderate pressure ranges with relatively high flow. While designed primarily for instrumentation systems and similar to the PR-7, the BP-8 is also suitable for pilot plant, research and development activities. Special diaphragm and spring combinations give the user a selection of pressure ranges that are near atmospheric. The glass filled PTFE / stainless steel seat assembly gives tight shut off even at lower flows for most applications.

The 316 stainless steel body assembly provides service for most chemical environments and brass models are available for those applications not requiring that type of corrosion resistance. If special requirements demand other materials of construction, please contact the factory.



pressure regulators

### Typical Applications

- Instrumentation systems
- Pilot plants
- Air compressors

### Technical Data

CONSTRUCTION	316L stainless steel or brass (standard) Monel® or Hastelloy® C-276 (optional)
ADJUSTABLE STANDARD PRESSURE RANGES	0–10, 0–25, 0–50, 0–100, 0–250, and 0–500 psig
OPERATING TEMPERATURE	–40° F to +250° F (–40° C to +121° C)
C <sub>v</sub> COEFFICIENT	1.2 (standard) 0.40 and 0.70 (optional)
INLET & OUTLET CONNECTIONS	¼" FNPT

### Features & Benefits

- Pressure control of large flows
- Standard stainless steel diaphragm, PTFE faced

### Options

- Panel mounting
- Extra ports
- ⅜" FNPT, ½" FNPT, ¼" tube weld, ¼" pipe weld, ½" tube weld

# High Flow Back Pressure Regulators

## Maximum Temperature and Control Pressures

SEAT MATERIAL	MAXIMUM TEMPERATURE	@	MAXIMUM CONTROL RANGE
Viton®	250° F (121° C)	@	250 psig (1.72 MPa)
Glass filled PTFE	250° F (121° C)	@	500 psig (3.44 MPa)
PEEK™	500° F (260° C)	@	500 psig (3.44 MPa)

Temperatures in excess of 175° F (80° C) require the use of a T-handle or the tamper proof option.

To Order, contact your local Distributor Link below:

[www.goreg.com/distributor/index.htm](http://www.goreg.com/distributor/index.htm)

Verify that your chosen part number is valid using the GO Wizards at

[www.goreg.com/products/matrix/index.htm](http://www.goreg.com/products/matrix/index.htm)

## How to Order

For additional configurations, consult the factory. **Standard items in bold.**

**BP8 – 1 A 1 1 L 9 G 1 1 1 A**

**Body Material** \_\_\_\_\_

- 1 316L stainless steel, stainless steel diaphragm**
- 2 Brass, stainless steel diaphragm
- 4 Monel®, Inconel® diaphragm
- 6 Hastelloy® C-276, Inconel® diaphragm
- C 316L stainless steel, Inconel® diaphragm

**Port Configuration** \_\_\_\_\_

- A Standard (body “A”)**  
See pg. 28 for port locations.

**Process Port Types** \_\_\_\_\_

- 1 ¼” FNPT (¼” FNPT gauge ports)**
- 2 ¼” Tube stub, 2” long (¼” FNPT gauge ports)
- 3 ¼” Sch 80 pipe stub, 4” long (¼” FNPT gauge ports)
- 4 ¾” FNPT (¼” FNPT gauge ports)
- 5 ½” FNPT (¼” FNPT gauge ports)
- 6 ½” Tube stub, 2” long (¼” FNPT gauge ports)
- K ¼” Sch 40 pipe stub, 4” long (¼” FNPT gauge ports)

**Cavity Finish** \_\_\_\_\_

- 1 < 25 Ra**

**Actuator Material** \_\_\_\_\_

- D Viton®**
- L Glass filled PTFE®**
- Q PEEK™**

**Options**

- A** EB33 (oxygen cleaning)
- B** EB5 cleaning
- D** Helium leak test
- E** Pressure test certificate
- F** Certificate of Conformity
- G** CMTR

**Cap Assembly**

- 1 Standard, stainless steel**
- 2 T-handle, stainless steel
- 3 T-handle, panel mount, stainless steel
- 4 Panel mount, stainless steel
- 5 Captured vent, aluminum
- 6 Captured vent, panel mount, aluminum
- 7 Captured vent, stainless steel
- 8 Tamper-proof, stainless steel
- G Metal knob
- H ¼” NPT dome-loaded, stainless steel

**Diaphragm Facing/Backing Material**

- 1 PTFE / metal backing**
- 2 PTFE / Viton®
- 6 Tefzel ring / metal backing
- 0 PTFE / Hastelloy® C-276

**Diaphragm Type**

- 1 Standard diaphragm**

**Control Range**

- C** 0–10 psig
- D** 0–25 psig
- E** 0–50 psig
- G** 0–100 psig
- I** 0–250 psig
- J** 0–500 psig

**Flow Coefficient (C<sub>v</sub>)**

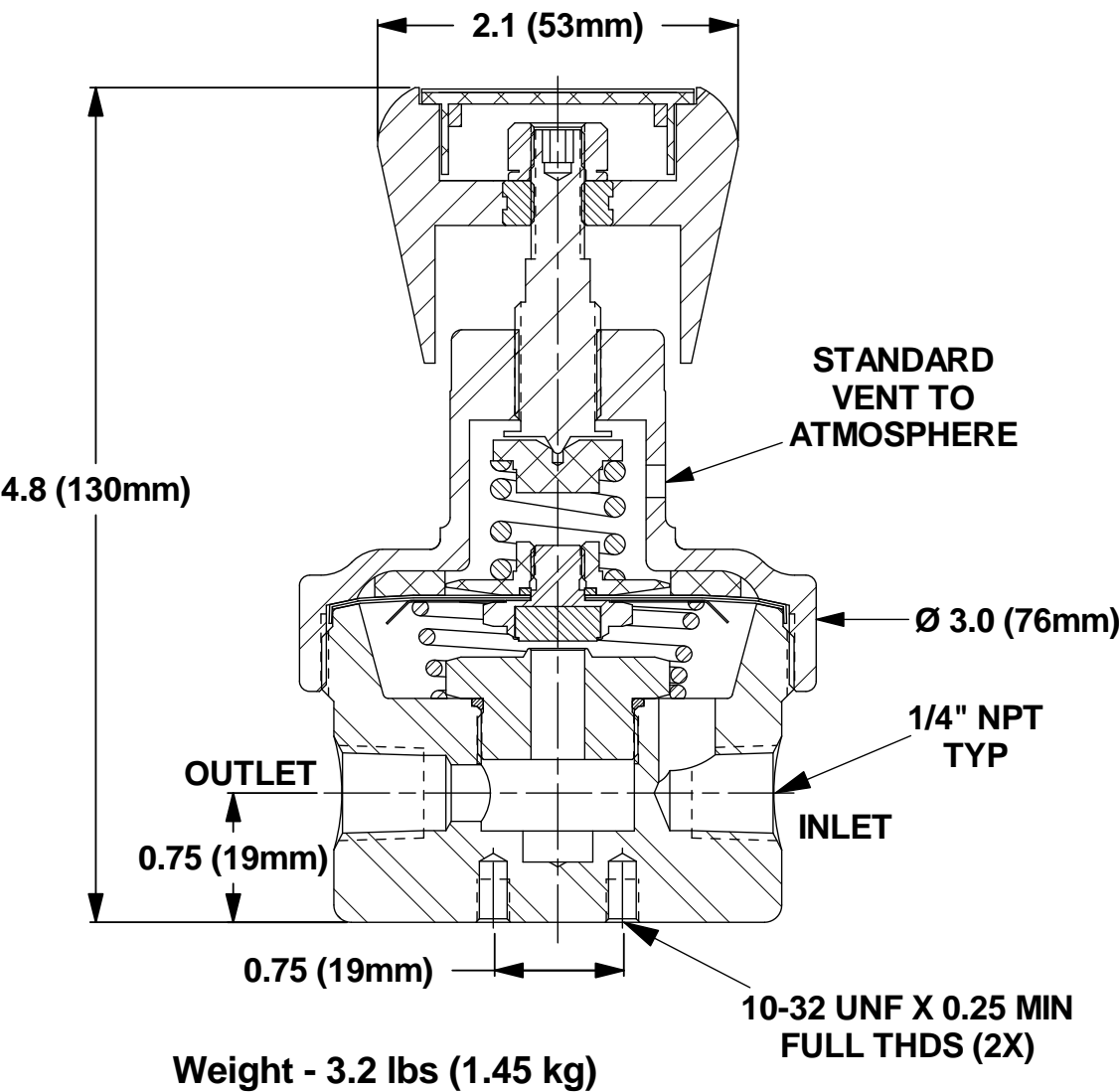
- 9 1.2**
- K** 0.7
- L** 0.4

**NOTE:** The choices above represent an abbreviated list of the more commonly ordered options. For a complete listing of all available options, please see the Selection Wizard on the GO website at [www.goreg.com](http://www.goreg.com) or contact the factory.

For flow curve charts, visit <http://www.goreg.com>.

# High Flow Back Pressure Regulators

## Outline and Mounting Dimensions



## BP-8LF Series

High Sensitivity Back Pressure Regulators

### Introduction

The BP-8LF Series back pressure regulator is designed to furnish precise low back pressure control in analytical instrumentation. With the combination of the large diaphragm sensing area of the BP-8 Series Regulator and the low flow seat assembly of the BP-3 Series pressure regulator, pressure control down to 10 inches of water is easily obtainable.



pressure regulators

### Typical Applications

- Analytical instrumentation
- Gas and liquid sampling
- Research labs

### Technical Data

CONSTRUCTION	316L stainless steel (standard) Monel® or Hastelloy® C-276 (optional)
ADJUSTABLE STANDARD PRESSURE RANGES	0–6, 0–25, 0–50, 0–75, 0–125, 0–250 & 0–500 psig
OPERATING TEMPERATURE	–40° F to +500° F (–40° C to +260° C)
C <sub>v</sub> COEFFICIENT	0.2 (standard) 0.03, 0.05, 0.06, 0.12, 0.24, 0.3, 0.095, 0.025, 0.04, 0.005, 0.01 (optional)
INLET & OUTLET CONNECTIONS	¼" FNPT

### Features & Benefits

- Sensitive pressure control
- Low pressure adjustability
- Standard PTFE / Viton® diaphragm

### Options

- PTFE / stainless steel diaphragm

# High Sensitivity Back Pressure Regulators

## Maximum Temperature and Control Pressures

SEAT MATERIAL	MAXIMUM TEMPERATURE	@	MAXIMUM CONTROL RANGE
Viton®	250° F (121° C)	@	250 psig (1.72 MPa)
Kalrez®	300° F (148° C)	@	250 psig (1.72 MPa)
High density PTFE	200° F (93° C)	@	500 psig (3.44 MPa)
Polyimide	500° F (260° C)	@	500 psig (3.44 MPa)
Ceramic Filled PTFE	300 F (148° C)	@	500 psig (3.44 MPa)

Temperatures in excess of 175° F (80° C) require the use of a T-handle or the tamper proof option.

To Order, contact your local Distributor Link below:  
[www.goreg.com/distributor/index.htm](http://www.goreg.com/distributor/index.htm)

Verify that your chosen part number is valid using the GO Wizards at  
[www.goreg.com/products/matrix/index.htm](http://www.goreg.com/products/matrix/index.htm)

## How to Order

For additional configurations, consult the factory. **Standard items in bold.**

**BP8L – 1 A 1 1 D 5 D 1 2 1 A**

**Body Material**

- 1** 316L stainless steel, stainless steel diaphragm
- 2 Brass, stainless steel diaphragm
- 4 Monel®, Inconel® diaphragm
- C 316L stainless steel, Inconel® diaphragm

**Port Configuration**

- A** Standard (body “A”)  
See pg. 28 for port locations.

**Process Port Types**

- 1** ¼” FNPT (¼” FNPT gauge ports)
- 4 ⅜” FNPT (¼” FNPT gauge ports)
- 5 ½” FNPT (¼” FNPT gauge ports)

**Cavity Finish**

- 1** < 25 Ra

**Actuator Material**

- B** Ceramic Filled PTFE
- C** Polyimide
- D** Viton®
- I** High density PTFE
- K** Kalrez®

**Options**

- A** EB33 (oxygen cleaning)
- B** EB5 cleaning
- D** Helium leak test
- E** Pressure test certificate
- F** Certificate of Conformity
- G** CMTR

**Cap Assembly**

- 1** Standard, stainless steel
- 2 T-handle, stainless steel
- 3 T-handle, panel mount, stainless steel
- 4 Panel mount, stainless steel
- 7 Captured vent, stainless steel
- 8 Tamper-proof, stainless steel
- 9 Fine adjust, ½” panel mount, stainless steel

**Diaphragm Facing/Backing Material**

- 1** PTFE / metal backing
- 2 **PTFE / Viton®**
- 5 Viton® / metal backing
- 6 Tefzel® ring / metal backing

**Diaphragm Type**

- 1** Standard diaphragm

**Control Range**

- B** 0– psig
- D** 0–25 psig
- E** 0–50 psig
- F** 0–75 psig
- H** 0–125 psig
- I** 0–250 psig
- J** 0–500 psig

**Flow Coefficient (C<sub>v</sub>)**

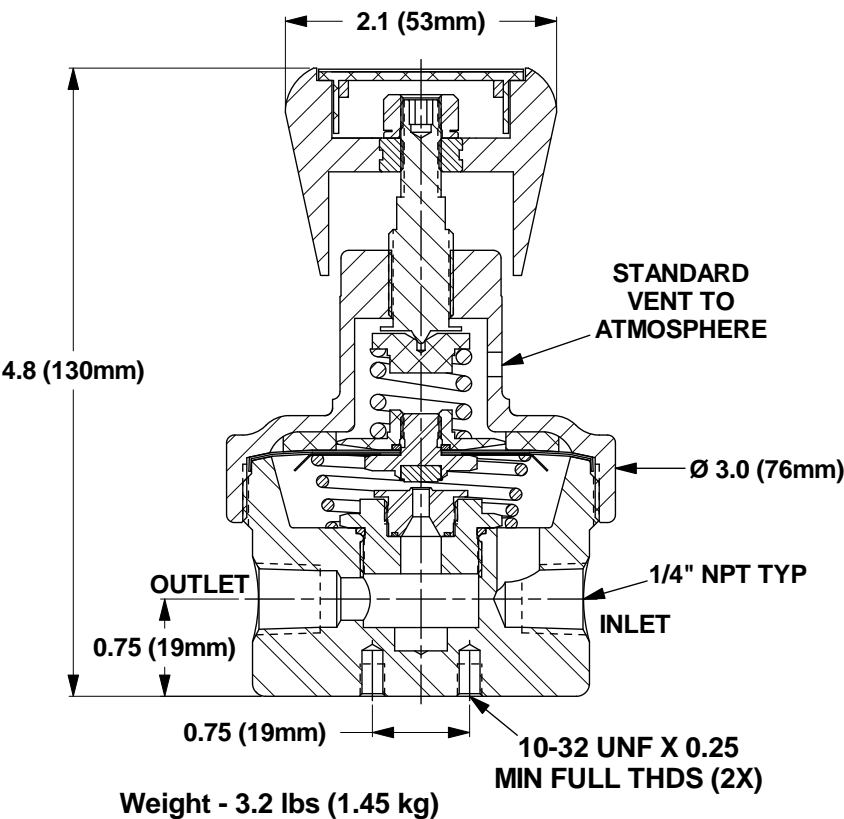
- 5** 0.2

**NOTE:** The choices above represent an abbreviated list of the more commonly ordered options. For a complete listing of all available options, please see the Selection Wizard on the GO website at [www.goreg.com](http://www.goreg.com) or contact the factory.

For flow curve charts, visit <http://www.goreg.com>.

# High Sensitivity Back Pressure Regulators

## Outline and Mounting Dimensions



## CBP-3 Series

Compact Stainless Steel Back Pressure Regulators

### Introduction

The CBP-3 Series is a compact back pressure regulator with some of the time proven features of the BP-3 Series and new features evolving the compact size. This regulator is designed to allow the construction of compact sophisticated analytical instrumentation where the optimum in back pressure control is required. Standard features allow service in many varied applications including corrosive fluids and with the optional features available, the user can tailor this regulator to virtually any application requiring small to moderate flow rates.



pressure regulators

### Typical Applications

- Analytical instrumentation
- Gas and liquid sampling
- Petrochemical industry
- Air compressors
- Research labs
- Pilot plants

### Technical Data

CONSTRUCTION	316L stainless steel
ADJUSTABLE STANDARD PRESSURE RANGES	0–10, 0–25, 0–50, 0–100, 0–250 & 0–500 psig
OPERATING TEMPERATURE	–40° F to +500° F (–40° C to +260° C)
C <sub>v</sub> COEFFICIENT	0.2 (standard) 0.005, 0.01, 0.025, 0.03, 0.04, 0.05, 0.06, 0.095, 0.12, 0.24, 0.3 (optional)
INLET & OUTLET CONNECTIONS	1/8" FNPT

### Features & Benefits

- Gas or liquid service
- Bubble tight shutoff
- Compact size
- Tefzel® or Kalrez® in flow stream

### Options

- Panel mount (requires a 1 3/8" mounting hole)
- Extra ports
- Special welded connections
- Pressure gauges

# Compact Stainless Steel Back Pressure Regulators

## Maximum Temperature and Control Pressures

SEAT MATERIAL	MAXIMUM TEMPERATURE	@	MAXIMUM CONTROL RANGE
Viton®	250° F (121° C)	@	250 psig (1.72 MPa)
Kalrez®	300° F (148° C)	@	250 psig (1.72 MPa)
Tefzel®	175° F (80° C)	@	500 psig (3.44 MPa)
Polyimide	500° F (260° C)	@	500 psig (3.44 MPa)

To Order, contact your local Distributor Link below:

[www.goreg.com/distributor/index.htm](http://www.goreg.com/distributor/index.htm)

Verify that your chosen part number is valid using the GO Wizards at

[www.goreg.com/products/matrix/index.htm](http://www.goreg.com/products/matrix/index.htm)

## How to Order

For additional configurations, consult the factory. **Standard items in bold.**

**CBP-3 – 1 A O 1 K 5 E 1 1 1 A**

**Body Material** ———— **1 316L stainless steel**

**Port Configuration** ———— **A Standard (body “A”)**  
See pg. 28 for port locations.

**Process Port Types** ———— **2 ¼” Tube stub, 2” long (¼” FNPT gauge ports)**  
**O ⅛” FNPT (⅛” FNPT gauge ports)**

**Cavity Finish** ———— **1 < 25 Ra**

**Actuator Material** ———— **A Tefzel®**  
**C Polyimide**  
**D Viton®**  
**K Kalrez®**  
**Q PEEK™**

**Options**  
**A** EB33 (oxygen cleaning)  
**B** EB5 cleaning  
**D** Helium leak test  
**E** Pressure test certificate  
**F** Certificate of Conformity  
**G** CMTR

**Cap Assembly**  
**1 Standard, aluminum**  
4 Panel mount, aluminum  
8 Tamper-proof, aluminum  
9 Fine adjust, ½” panel mount, aluminum  
0 Fine adjust, 1⅜” panel mount, aluminum  
E Tamper-proof, panel mount, aluminum

**Diaphragm Facing/Backing/O-ring Material**  
**1 Tefzel® seal ring / stainless steel / PTFE**  
2 Tefzel® seal ring / Inconel® / PTFE  
3 PTFE facing / Viton® / Viton®  
7 Tefzel® seal ring / stainless steel / Viton®  
H Tefzel® seal ring / Inconel® / Viton®

**Diaphragm Type**  
**1 Standard, Nylon diaphragm slip ring (170° F max. temp)**  
2 Standard, Polyimide diaphragm slip ring (high temp. service)

**Control Range**  
**C** 0–10 psig  
**D** 0–25 psig  
**E** 0–50 psig  
**G** 0–100 psig  
**I** 0–250 psig  
**J** 0–500 psig

**Flow Coefficient (C<sub>v</sub>)**  
**5 0.2**

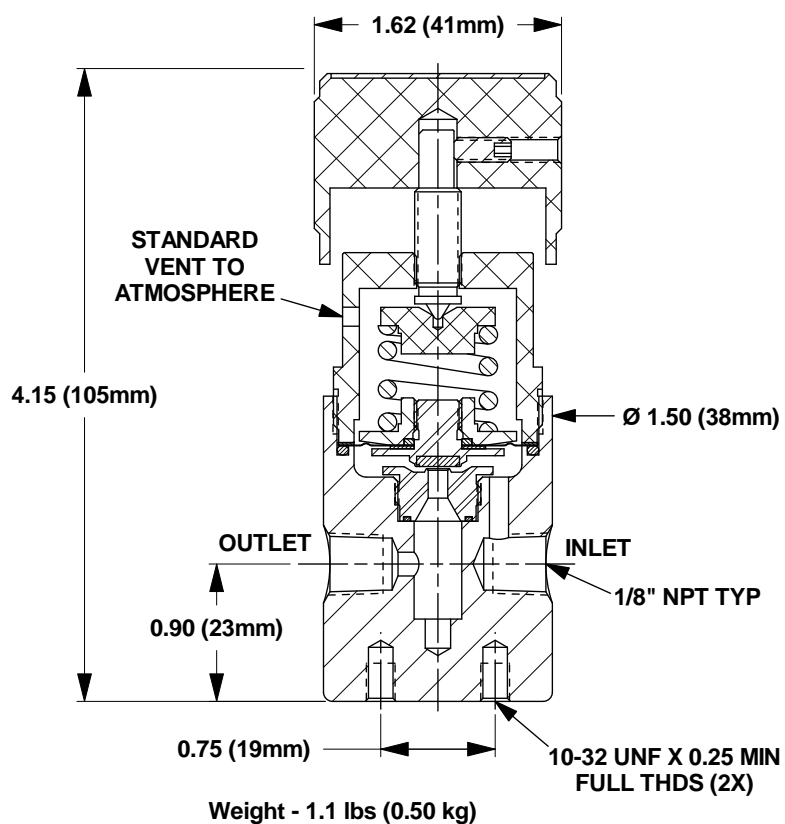
**NOTE:** The choices above represent an abbreviated list of the more commonly ordered options. For a complete listing of all available options, please see the Selection Wizard on the GO website at [www.goreg.com](http://www.goreg.com) or contact the factory.

For flow curve charts, visit <http://www.goreg.com>.



# Compact Stainless Steel Back Pressure Regulators

## Outline and Mounting Dimensions



## LB-1 Series

Ultra-miniature Back Pressure Regulators

### Introduction

The LB-1 is an ultra-miniature back pressure regulator that employs many of the same features found in the time-tested design of the CBP-3 & BP-3 Series back pressure regulators. Designed for surface, panel or manifold mounting, the LB-1 offers the utmost in versatility to the systems designer. It's low internal volume of less than 3cc makes the LB-1 the perfect choice for systems that require rapid purge cycles. Standard features permit using this regulator in a wide variety of services, including corrosive fluids. The LB-1 can be tailored to virtually any application by choosing the optional features. This regulator is designed to allow the construction of compact and sophisticated analytical instrumentation where the optimum in back pressure control is required and space is at a premium.



pressure regulators

### Typical Applications

- Instrumentation systems requiring rapid purge cycles
- Systems with limited space availability
- Analytical instrumentation
- Gas and liquid sampling
- Research labs

### Features & Benefits

- Gas or liquid service
- 316L stainless steel body with better than 25 Ra finish in diaphragm cavity
- Bubble tight shutoff

### Technical Data

CONSTRUCTION	316L stainless steel, aluminum, brass, or Monel®
ADJUSTABLE STANDARD PRESSURE RANGES	0–10, 0–25, 0–50, 0–100, 0–250 and 0–500 psig
OPERATING TEMPERATURE	–40° F to +500° F (–40° C to +260° C)
C <sub>v</sub> COEFFICIENT	0.2

# Ultra-miniature Back Pressure Regulators

## Maximum Temperature and Control Pressures

SEAT MATERIAL	MAXIMUM TEMPERATURE	@	MAXIMUM CONTROL RANGE
Viton®	250° F (121° C)	@	250 psig (1.72 MPa)
Kalrez®	300° F (148° C)	@	250 psig (1.72 MPa)
Tefzel®	175° F (80° C)	@	500 psig (3.44 MPa)
Polyimide	500° F (260° C)	@	500 psig (3.44 MPa)
PEEK™	500° F (260° C)	@	500 psig (3.44 MPa)

To Order, contact your local Distributor Link below:  
[www.goreg.com/distributor/index.htm](http://www.goreg.com/distributor/index.htm)

Verify that your chosen part number is valid using the GO Wizards at  
[www.goreg.com/products/matrix/index.htm](http://www.goreg.com/products/matrix/index.htm)

## How to Order

For additional configurations, consult the factory. **Standard items in bold.**

**LB1 – 1 A 0 1 D 5 E 1 1 1 A**

**Body Material**

- 1** 316L stainless steel
- 2 Brass
- 3 Aluminum
- 4 Monel®

**Port Configuration**

- A** Standard (body “A”)  
See pg. 29 for port locations.

**Process Port Types**

- 0** 1/8" FNPT (all ports)
- 1 Surface mount
- A** 1/16" FNPT (all ports)
- B 1/8" FNPT inlets; 1/16" FNPT outlets

**Cavity Finish**

- 1** < 25 Ra

**Actuator Material**

- A** Tefzel®
- C Polyimide
- D** Viton® (0–250 psig max.)
- K Kalrez® (0–250 psig max.)
- Q PEEK™

**Options**

- A** EB33 (oxygen cleaning)
- B** EB5 cleaning
- D** Helium leak test
- E** Pressure test certificate
- F** Certificate of Conformity
- G** CMTR

**Cap Assembly**

- 1** Hand knob (0–100 psig max.)
- 2 T-handle
- 3 T-handle, panel mount
- 4 Handle knob, panel mount (1–100 psig max.)
- 8 Tamper-proof

**Diaphragm Facing/Backing/O-ring Material**

- 1** Tefzel® seal ring / stainless steel / PTFE
- 2 Tefzel® seal ring / Inconel® / PTFE
- 3 PTFE facing / Viton® / Viton®
- 7 Tefzel® seal ring / stainless steel / Viton®
- H Tefzel® seal ring / Inconel® / Viton®

**Diaphragm Type**

- 1** Standard, Nylon diaphragm slip ring (170° F max. temp)
- 2** Standard, Polyimide diaphragm slip ring (high temp. service)

**Control Range**

- C** 0–10 psig
- D** 0–25 psig
- E** 0–50 psig
- G 0–100 psig
- I 0–250 psig
- J 0–500 psig

**Flow Coefficient (C<sub>v</sub>)**

- 1** 0.03
- 2** 0.05
- 3 0.06
- 4 0.12
- 5** **0.2**
- 6 0.24
- 7 0.3
- A 0.095
- C 0.025
- E 0.04
- I 0.005
- J 53

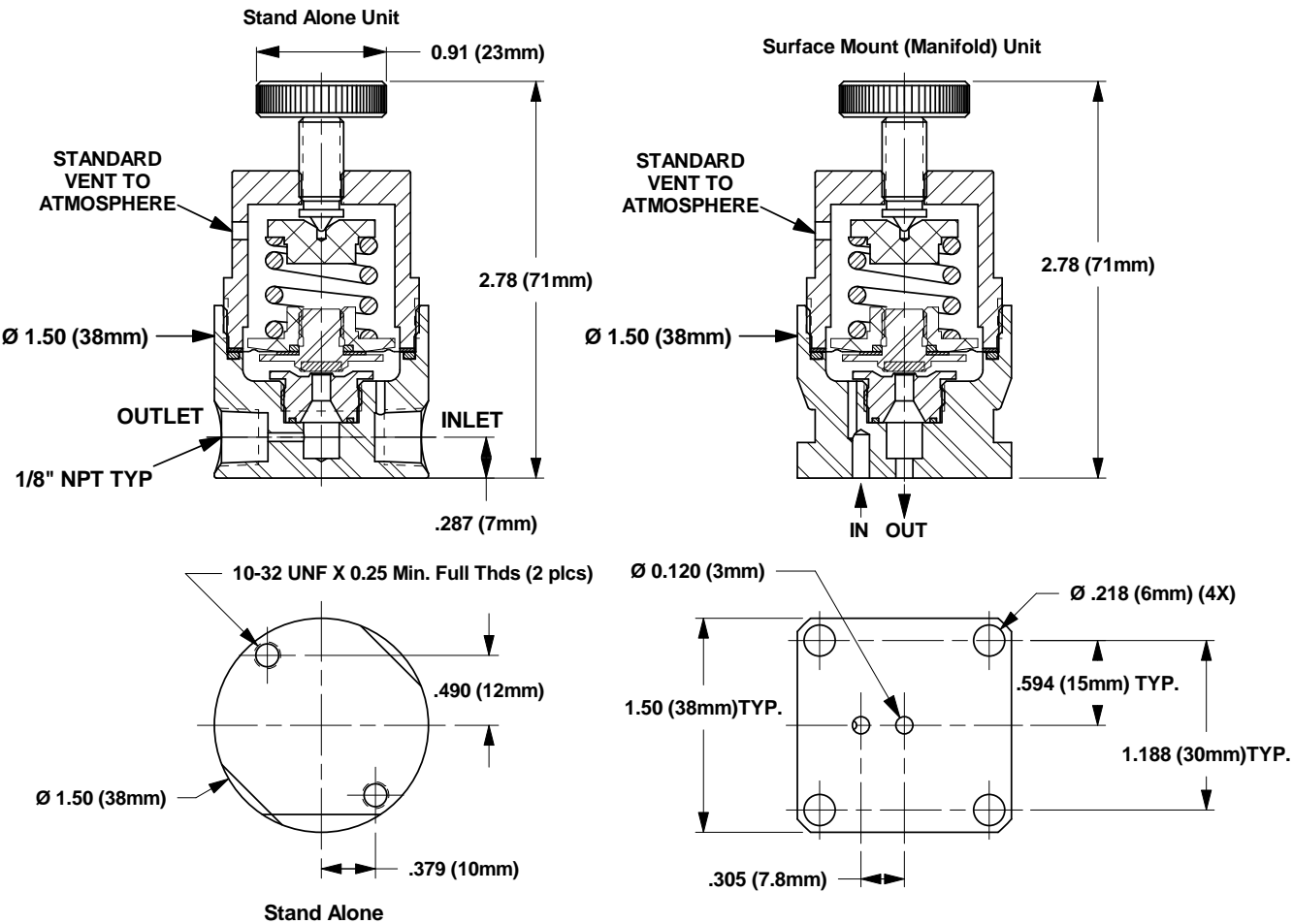
**NOTE:** The choices above represent an abbreviated list of the more commonly ordered options. For a complete listing of all available options, please see the Selection Wizard on the GO website at [www.goreg.com](http://www.goreg.com) or contact the factory.

For flow curve charts, visit <http://www.goreg.com>.

# Ultra-miniature Back Pressure Regulators

## Outline and Mounting Dimensions

Weight - 0.75 lbs (0.34 kg)



## SBPR Series

Subatmospheric Back Pressure Regulators

### Introduction

The SBPR Series subatmospheric back pressure regulator is designed to provide precise upstream vacuum control. One example of this could be to introduce a sample gas at a positive pressure into a vacuum chamber. Downstream from this chamber would be the SBPR and a vacuum pump. The positive pressure will build up in the chamber causing the SBPR to open and allow the chamber to return to the vacuum desired. The SBPR will then close and the process will repeat. The large diameter diaphragm aided by a vacuum assist spring, provides the user with optimum sensitivity for subatmospheric pressure control.



pressure regulators

### Typical Applications

- Analytical instrumentation
- Gas and liquid sampling
- Research labs

### Technical Data

CONSTRUCTION	316L stainless steel or brass (standard) Monel® and Hastelloy® C-276 (optional)
ADJUSTABLE PRESSURE CONTROL RANGES	1–30 psia (27.7 in. H <sub>2</sub> O to 15.3 psig)
OPERATING TEMPERATURE	–40° F to +300° F (–40° C to +148° C)
C <sub>v</sub> COEFFICIENT	0.2
INLET/OUTLET CONNECTIONS	¼" FNPT

### Features & Benefits

- Subatmospheric or positive back pressure control
- Large diaphragm for sensitive pressure control

### Options

- Extra ports
- Panel mount (requires a 1⅜" mounting hole)
- Pressure gauges
- Optional welded connections
- Smaller orifice sizes available: 0.005, 0.03

# Subatmospheric Back Pressure Regulators

## Maximum Temperature and Control Pressures

SEAT MATERIAL	MAXIMUM TEMPERATURE	@	MAXIMUM CONTROL RANGE
Viton®	250° F (121° C)	@	1–30 psia
Kalrez®	300° F (148° C)	@	1–30 psia
Teflon®	200° F (93° C)	@	1–30 psia

Temperatures in excess of 175° F (80° C) require the use of a T-handle or the tamper proof option.

To Order, contact your local Distributor Link below:  
[www.goreg.com/distributor/index.htm](http://www.goreg.com/distributor/index.htm)

Verify that your chosen part number is valid using the GO Wizards at  
[www.goreg.com/products/matrix/index.htm](http://www.goreg.com/products/matrix/index.htm)

## How to Order

For additional configurations, consult the factory. **Standard items in bold.**

**SBPR – 1 A 1 1 D 5 A 1 1 1 A**

**Body Material**

- 1** 316L stainless steel, stainless steel diaphragm
- 2 Brass, stainless steel diaphragm
- 4 Monel®, Inconel® diaphragm
- 6** Hastelloy® C-276, Inconel® diaphragm
- 4 316L stainless steel, Inconel® diaphragm

**Port Configuration**

- A** Standard (body “A”)  
See pg. 28 for port locations.

**Process Port Types**

- 1** ¼” FNPT (¼” FNPT gauge ports)
- 2** ¼” Tube (¼” FNPT gauge ports)
- 4** ⅜” FNPT (¼” FNPT gauge ports)
- 5** ½” FNPT (¼” FNPT gauge ports)

**Cavity Finish**

- 1** < 25 Ra

**Actuator Material**

- D** Viton®
- I** PTFE
- K** Kalrez®

**Options**

- A** EB33 (oxygen cleaning)
- B** EB5 cleaning
- D** Helium leak test
- E** Pressure test certificate
- F** Certificate of Conformity
- G** CMTR

**Cap Assembly**

- 1** Standard, stainless steel
- 2** T-handle, stainless steel
- 3** T-handle, panel mount, stainless steel
- 4** Panel mount, stainless steel
- 5** Captured vent, aluminum
- 6** Captured vent, panel mount, aluminum
- 7** Captured vent, stainless steel
- 8** Tamper-proof, stainless steel
- 9** Fine adjust, ½” panel mount, stainless steel
- 0** Fine adjust, 1⅜” panel mount, stainless steel
- C** Captured vent, panel mount, stainless steel
- E** Tamper-proof, panel mount, stainless steel
- H** ¼” NPT dome loaded, stainless steel

**Diaphragm Facing/Backing Material**

- 1** PTFE / metal backing
- 2** PTFE / Viton®
- 0** PTFE / Hastelloy® C-276

**Diaphragm Type**

- 1** Standard diaphragm

**Control Range**

- A** 1–30 psia

**Flow Coefficient (C<sub>v</sub>)**

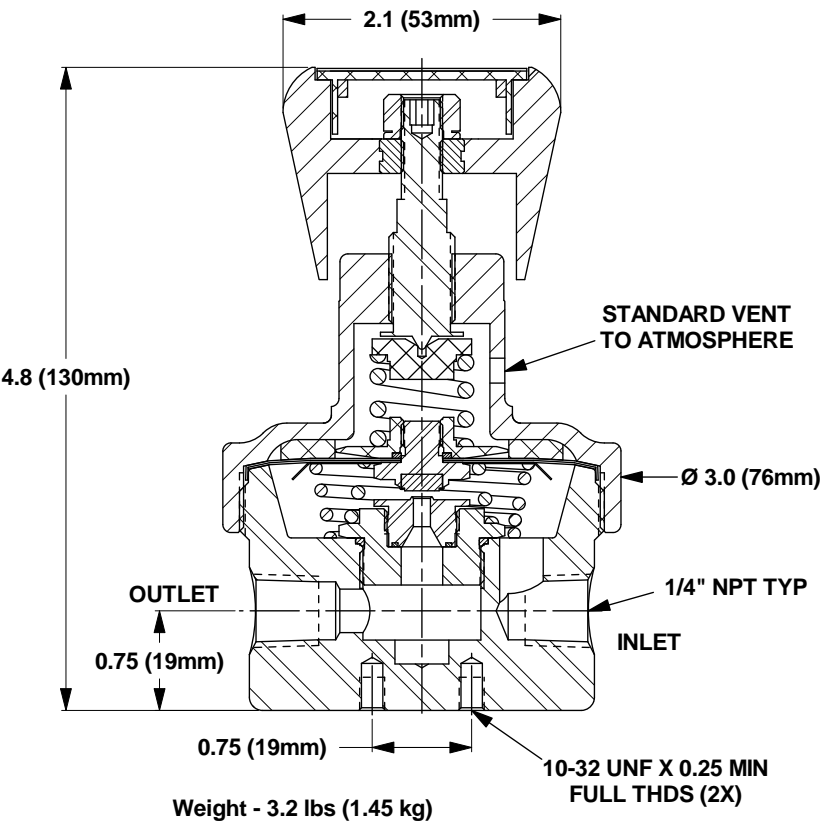
- 1** 0.03
- 5** 0.2
- I** 0.005

**NOTE:** The choices above represent an abbreviated list of the more commonly ordered options. For a complete listing of all available options, please see the Selection Wizard on the GO website at [www.goreg.com](http://www.goreg.com) or contact the factory.

For flow curve charts, visit <http://www.goreg.com>.

# Subatmospheric Back Pressure Regulators

## Outline and Mounting Dimensions



## BP-60 Series

High Pressure Back Pressure Regulators

### Introduction

The BP-60 Series is the counterpart of the PR-50 pressure reducing series for systems that are higher in pressure and low to moderate flows. This regulator has a diaphragm for maximum sensitivity in providing relief at high pressures. The PTFE stainless seat assembly provides good shutoff in most applications. For economy purposes the cap assembly and knob are of aluminum construction as in the PR-50 companion unit. Good sensitivity and a wide selection of control ranges make this regulator an excellent selection in many research and pilot plant facilities.



pressure regulators

### Typical Applications

- Sampling Systems
- Pilot plants
- Research labs

### Technical Data

CONSTRUCTION	316L stainless steel or brass (alloy 360) Monel® and Hastelloy® C-276 (optional)
ADJUSTABLE PRESSURE CONTROL RANGES	0–500, 0–1000 and 0–2000 psig
OPERATING TEMPERATURE	–40° F to +350° F (–40° C to +175° C)
C <sub>v</sub> COEFFICIENT	0.04
INLET/OUTLET CONNECTIONS	¼" FNPT

### Features & Benefits

- Designed for moderate flow applications
- Diaphragm sensing with nylon, PTFE or stainless steel diaphragm
- Bubble tight shutoff

### Options

- Various Cv's available – 0.005, 0.01, 0.025, 0.09
- Panel mounting
- ⅜" FNPT, AN 10050-4, SAE J514 or MS 33649 connections



# High Pressure Back Pressure Regulators

## Maximum Temperature and Control Pressures

### PTFE Diaphragm Backing

ACTUATOR MATERIAL	MAXIMUM TEMPERATURE	@	MAXIMUM CONTROL RANGE
Tefzel®	175° F (80° C)	@	2000 psig (13.76 MPa)
Ceramic Filled PTFE	175° F (80° C)	@	2000 psig (13.76 MPa)
PTFE	175° F (80° C)	@	2000 psig (13.76 MPa)
Polyimide	350° F (176° C)	@	2000 psig (13.76 MPa)
PEEK™	350° F (176° C)	@	2000 psig (13.76 MPa)

To Order, contact your local Distributor Link below:  
[www.goreg.com/distributor/index.htm](http://www.goreg.com/distributor/index.htm)

Verify that your chosen part number is valid using the GO Wizards at  
[www.goreg.com/products/matrix/index.htm](http://www.goreg.com/products/matrix/index.htm)

## How to Order

For additional configurations, consult the factory. **Standard items in bold.**

**BP60 – 1 A 1 1 C E J 1 2 1 A**

**Body Material**

- 1** 316L stainless steel
- 2 Brass
- 4 Monel®
- 6** Hastelloy® C-276

**Port Configuration**

**A** Standard (body “A”)  
See pg. 28 for port locations.

**Process Port Types**

- 1** ¼” FNPT (¼” FNPT gauge ports)
- 2 ¼” Tube stub, 2” long (¼” FNPT gauge ports)
- 4** ⅜” FNPT (¼” FNPT gauge ports)
- 6 ½” Tube stub, 2” long (¼” FNPT gauge ports)
- 7 AN 10050-4 (¼” FNPT gauge ports)
- 8 SAE J514 (¼” FNPT gauge ports)
- 9 M/S 33649 (¼” FNPT gauge ports)

**Cavity Finish**

- 1** < 25 Ra
- 5** < 25 Ra with 10-32 mounting holes

**Actuator Material**

- A** Tefzel®
- B Ceramic Filled PTFE
- C** Polyimide
- I PTFE
- Q** PEEK™

**Options**

- A** EB33 (oxygen cleaning)
- B** EB5 cleaning
- D** Helium leak test
- E** Pressure test certificate
- F** Certificate of Conformity
- G** CMTR

**Cap Assembly**

- 1** Standard, aluminum
- 4 Panel mount, aluminum
- 5 Captured vent, aluminum

**Diaphragm Facing/Backing Material**

	FACING	BACKING	O-RING	ACTUATOR
<b>1</b>	SS	PTFE	Viton®	SS
<b>2</b>	none	PTFE	PTFE	SS
<b>7</b>	Inconel®	PTFE	Viton®	Monel®
<b>8</b>	Inconel®	PTFE	PTFE	Monel®
<b>O</b>	Hastelloy® C-276	PTFE	PTFE	Hastelloy® C-276
<b>A</b>	Hastelloy® C-276	PTFE	Viton®	Hastelloy® C-276
<b>Q</b>	SS	PTFE	PTFE	SS
<b>S</b>	SS	PTFE	PTFE/ Kalrez®	SS (max. 450° F)
<b>T</b>	SS	PTFE	Kalrez®	SS (max. 450° F)
<b>V</b>	Inconel®	PTFE	PTFE	Monel®
<b>W</b>	Hastelloy® C-276	PTFE	PTFE	Hastelloy® C-276

**Diaphragm Type**

- 1** Standard diaphragm

**Control Range**

- J** 1–500 psig
- K 1–1000 psig
- L 1–2000 psig

**Flow Coefficient (C<sub>v</sub>)**

- C** 0.025
- E** **0.04**
- G** 0.09
- I** 0.005
- J** 0.01

**NOTE:** The choices above represent an abbreviated list of the more commonly ordered options. For a complete listing of all available options, please see the Selection Wizard on the GO website at [www.goreg.com](http://www.goreg.com) or contact the factory.

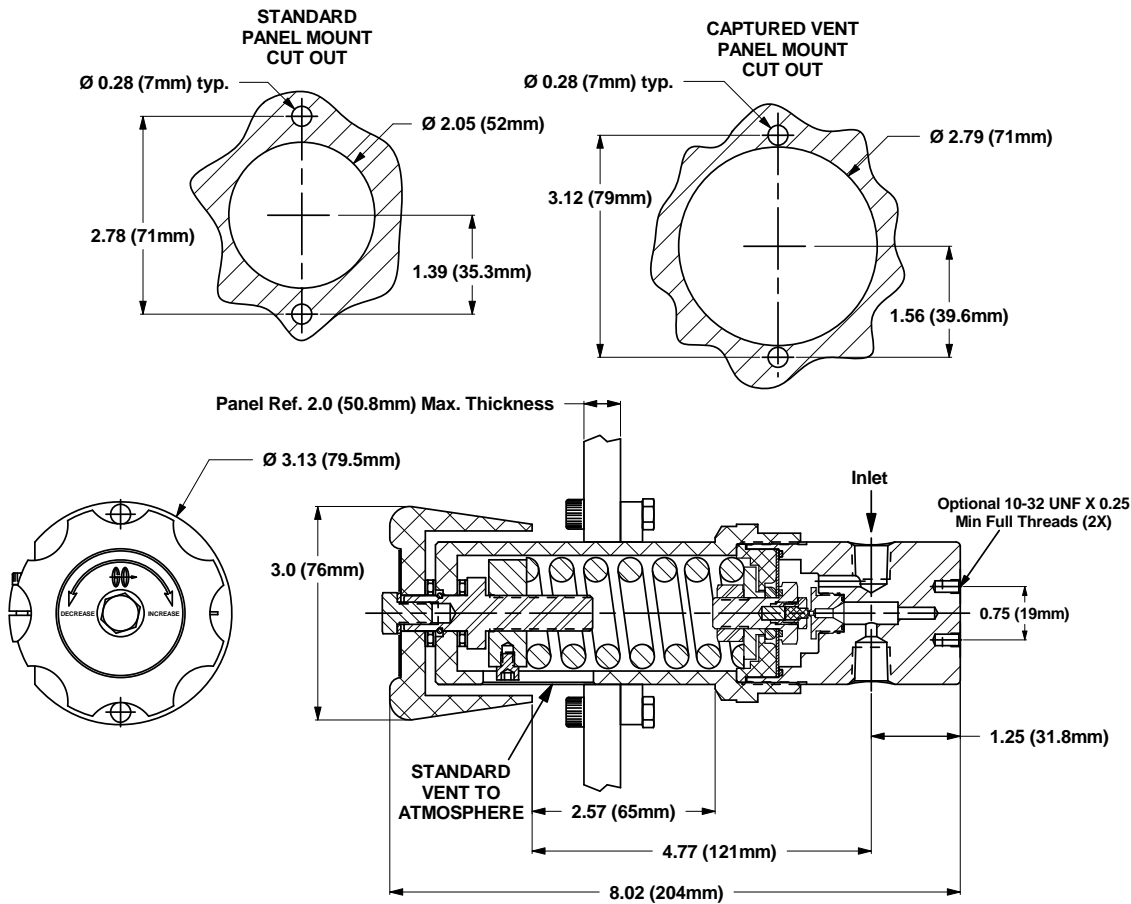
For flow curve charts, visit <http://www.goreg.com>.

# High Pressure Back Pressure Regulators

## Outline and Mounting Dimensions

### Outline and Mounting Dimensions

Weight = 4.4 lbs (2.0 kg)



## BP-66 Series

High Pressure Back Pressure Regulators (10,000 psig)

### Introduction

The BP-66 Series is the counterpart of the PR-57 pressure reducing series for systems that are higher in pressure and low to moderate flows. This regulator has piston sensing to provide relief at high pressures. The Polyimide/stainless seat assembly provides good shutoff in most applications. For economy purposes the cap assembly and knob are of aluminum construction as in the PR-57 companion unit. Good sensitivity and a selection of control ranges make this regulator an excellent selection in many research and pilot plant facilities.



pressure regulators

### Typical Applications

- Pilot plants
- Research labs

### Technical Data

CONSTRUCTION	316L stainless steel (standard) Monel® and titanium (optional)
ADJUSTABLE PRESSURE CONTROL RANGES	0–2000, 0–4000, 0–6000, 0–7500 and 0–10,000 psig
OPERATING TEMPERATURE	–40° F to +350° F (–40° C to +177° C)
C <sub>v</sub> COEFFICIENT	0.04 (standard) 0.01 and 0.12 (optional)
INLET/OUTLET CONNECTIONS	¼" FNPT (standard) AN 10050-4, SAE J514, MS 33649, or ⅜" FNPT (optional)

### Features & Benefits

- Spring-loaded piston sensor
- Gas and liquid service
- Viton® seals (other elastomers optional)

### Options:

- Panel mounting
- Monel® and titanium body construction
- Cv of 0.01 or 0.12
- AN 10050-4, SAE J514, MS 33649 or ⅜" FNPT connections

# High Pressure Back Pressure Regulators (10,000 psig)

## Maximum Temperature and Control Pressures

SEAT MATERIAL	MAXIMUM TEMPERATURE	@	MAXIMUM CONTROL RANGE
Polyimide	350° F (177° C)	@	10,000 psig (68.8 MPa)
PEEK™	350° F (177° C)	@	10,000 psig (68.8 MPa)

To Order, contact your local Distributor Link below:  
[www.goreg.com/distributor/index.htm](http://www.goreg.com/distributor/index.htm)

Verify that your chosen part number is valid using the GO Wizards at  
[www.goreg.com/products/matrix/index.htm](http://www.goreg.com/products/matrix/index.htm)

## How to Order

For additional configurations, consult the factory. **Standard items in bold.**

**BP66 – 1 A 1 1 C E N 1 5 1 A**

**Body Material**

- 1 316L stainless steel**
- 4 Monel®
- 7 Titanium

**Port Configuration**

- A Standard (body “A”)**  
See pg. 28 for port locations.

**Process Port Types**

- 1 ¼” FNPT (¼” FNPT Gauge Ports)**
- 2 ¼” Tube stub, 2” long (¼” FNPT gauge ports)**
- 4 ¾” FNPT (¼” FNPT gauge ports)**
- 6 ½” Tube stub, 2” long (¼” FNPT gauge ports)**
- 7 AN 10050-4 (¼” FNPT gauge ports)**
- 8 SAE J514 (¼” FNPT gauge ports)**
- 9 M/S 33649 (¼” FNPT gauge ports)**

**Cavity Finish**

- 1 < 25 Ra**
- 5 < 25 Ra with 10-32 mounting holes**

**Actuator Material**

- C Polyimide**
- Q PEEK™

**Options**

- A EB33 (oxygen cleaning)**
- B EB5 cleaning**
- D Helium leak test**
- E Pressure test certificate**
- F Certificate of Conformity**
- G CMTR**

**Cap Assembly**

- 1 Standard, aluminum**
- 4 Panel mount, aluminum
- 5 Captured vent, aluminum
- 6 Captured vent, panel mount, aluminum
- 7 Captured vent, stainless steel
- F Stainless steel

**Piston Material**

- 5 Stainless steel with standard Viton® cavity o-ring**
- 6 Stainless steel with optional PTFE cavity o-ring
- B Monel®
- S Titanium

**Piston Type**

- 1 Standard**

**Control Range**

- L 0–2000 psig**
- N 0–4000 psig**
- O 0–6000 psig**
- P 0–7500 psig**
- Q 0–10,000 psig**

**Flow Coefficient (C<sub>v</sub>)**

- 4 0.12**
- E 0.04**
- J 0.01**

**NOTE:** The choices above represent an abbreviated list of the more commonly ordered options. For a complete listing of all available options, please see the Selection Wizard on the GO website at [www.goreg.com](http://www.goreg.com) or contact the factory.

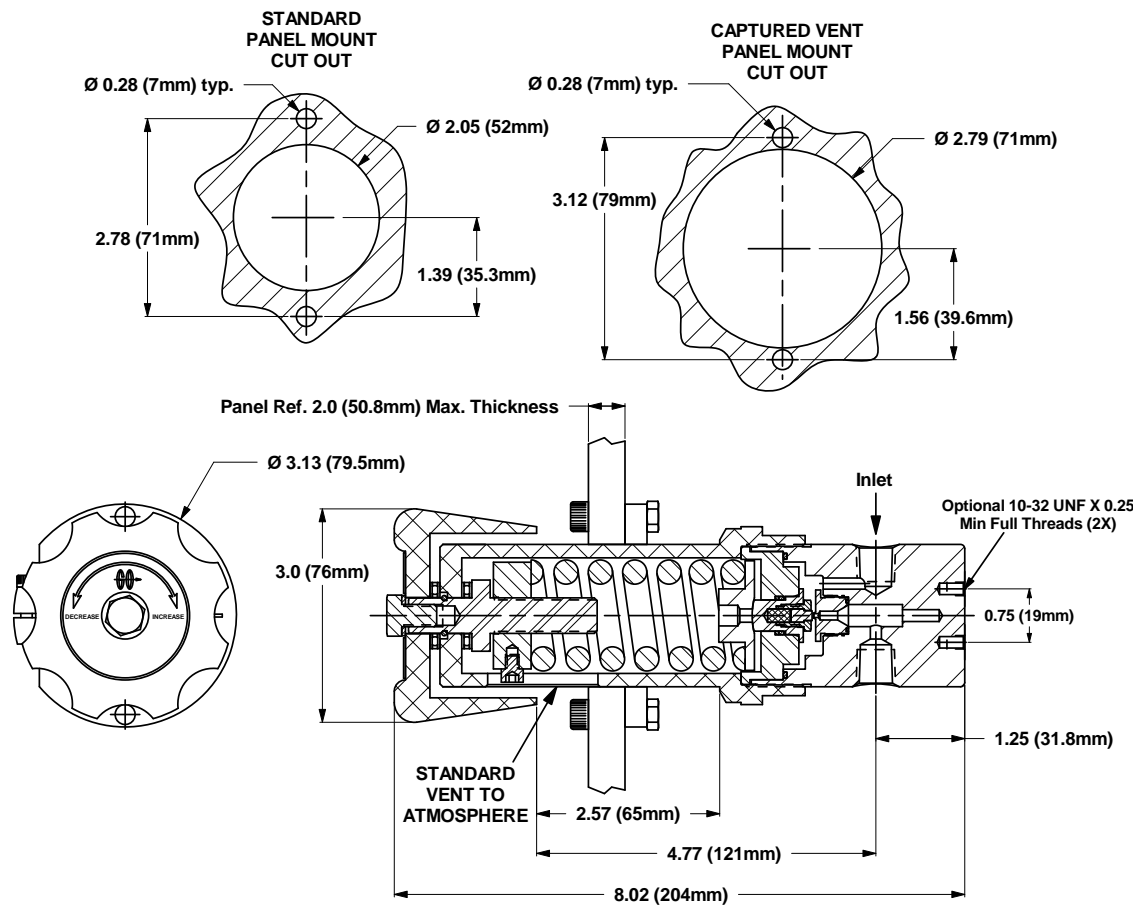
For flow curve charts, visit <http://www.goreg.com>.

# High Pressure Back Pressure Regulators (10,000 psig)

## Outline and Mounting Dimensions

### Outline and Mounting Dimensions

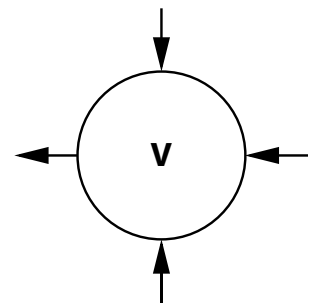
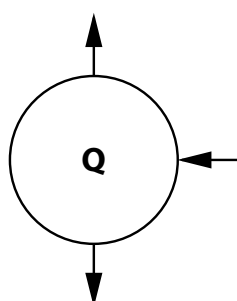
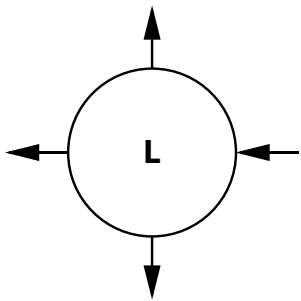
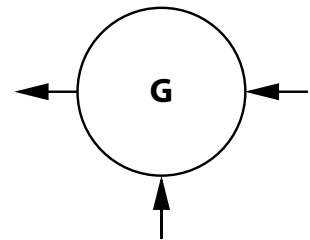
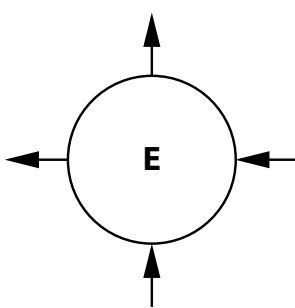
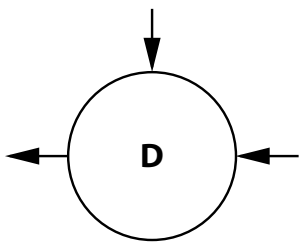
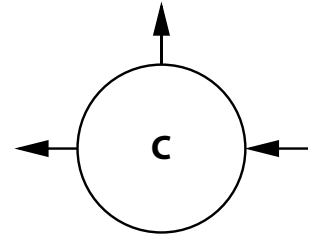
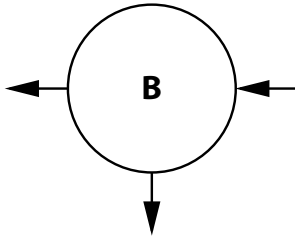
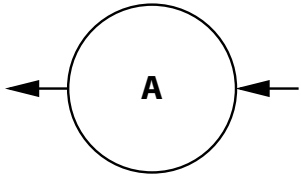
Weight = 4.4 lbs (2.0 kg)



# Porting Options for LB-1 and MR

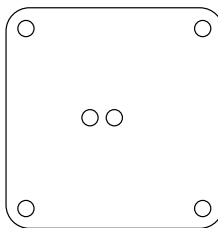
Arrow pointing toward body is inlet, arrow pointing away from body is outlet.

Location of ports from top view



## **SURFACE MOUNT STYLES**

requires "Surface Mount" port type connections



**#1**

Center port is outlet, all other ports are inlets.

Location of ports from bottom view

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Hastelloy C® is a registered trademark of Haynes International.  
Monel® and Inconel® are registered trademarks of Special Metals Corporation.  
PEEK™ is a trademark of Victrex PLC.*

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