GO REGULATOR

Back Pressure Regulators

Index

pressure regulators

GO Regulator
405 Centura Court • PO Box 4866 (29305) • Spartanburg, SC 29303
Phone (864) 574-7966 Fax (864) 574-5608
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GO REGULATOR

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.

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_V 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 Teflon® 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 1⅜″ mounting hole)
- High purity connections
- Pressure gauges

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Adjustable Back Pressure Regulators

Maximum Temperature and Control Pressures

SEAT MATERIAL	MAXIMUM TEMPERATURE	@	MAXIMUM CONTROL RANGE
Viton®	250° F (121° C)	@	250 psig (1.71 MPa)
Kalrez®	300° F (148° C)	@	250 psig (1.72 MPa)
High Density Teflon®	200° F (93° C)	@	500 psig (5.16 MPa)
Polyimide	500° F (260° C)	@	1000 psig (6.88 MPa)
PEEK™	500° F (260° C)	@	1000 psig (6.88 MPa)

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

How to Order

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

BP3 – 1 A 1 1 D 5 E 1 1 1

Body Material
- **1 316L stainless steel**
- **2** Brass
- **4** Monel®
- **5** Hastelloy B®
- **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)
- **3** ¼″ Sch 80 Pipe stub, 4″ long (¼″ FNPT gauge ports)
- **4** ⅜″ FNPT (¼″ FNPT gauge ports)
- **6** ½″ Tube stub, 2″ long (¼″ FNPT gauge ports)
- **0** 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** CF Teflon®
- **C** Polyimide (metal knob standard)
- **D Viton®**
- **I High density Teflon®**
- **K** Kalrez®
- **Q** PEEK™

Flow Coefficient (C_v)
- **5 0.2**

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

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

Diaphragm Facing/Backing Material
- **1 Teflon® / stainless steel**
- **6** Tefzel® ring / stainless steel
- **7** Viton® / stainless steel
- **8** Teflon® / Inconel®
- **9** Teflon® / Hastelloy B®
- **0** Teflon® / Hastelloy® C-276
- **A** Teflon® / Tantalum

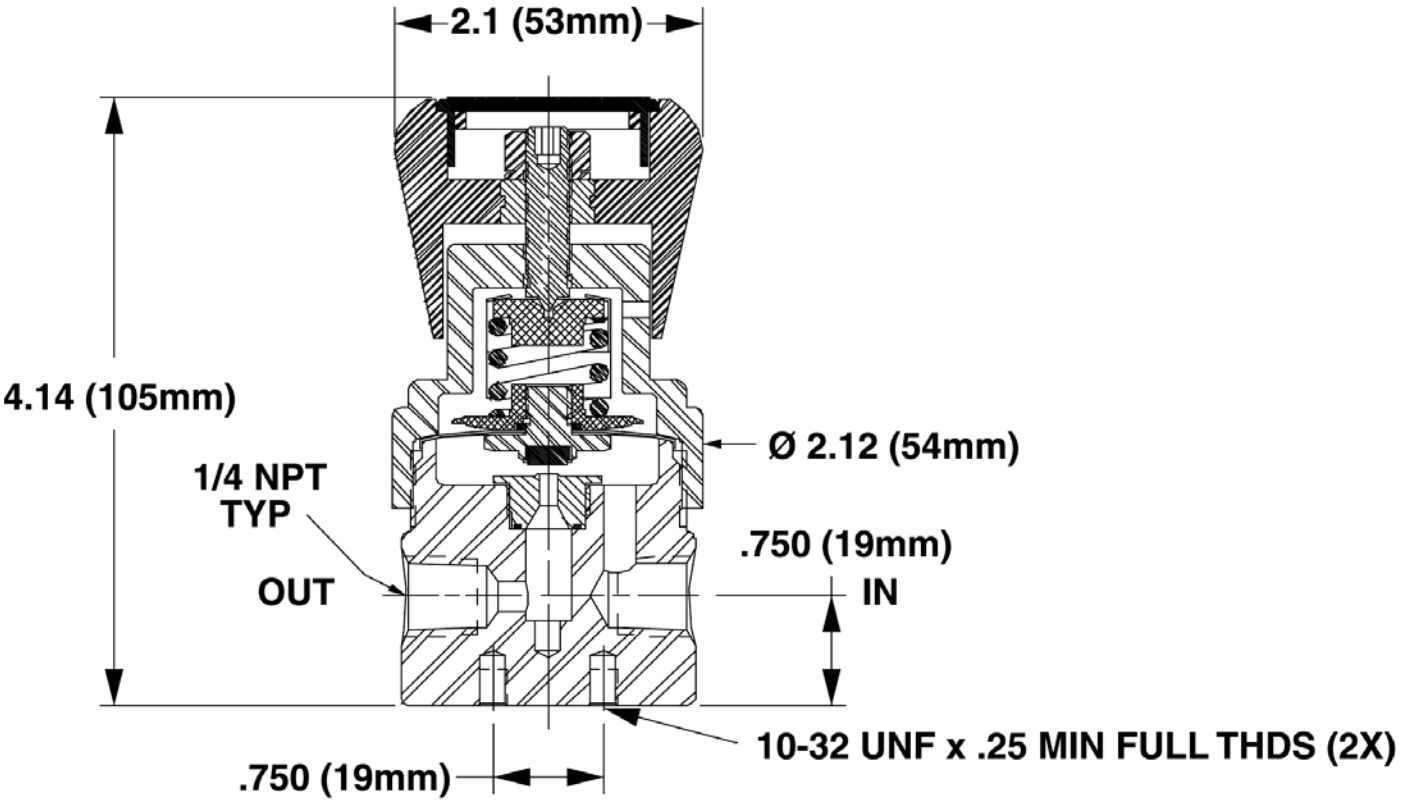
Cap Assembly
- **1 Standard**
- **4** Panel mount
- **8** Tamper proof
- **C** Metal knob, panel mount
- **E** Tamper proof, panel mount
- **G** Metal knob
- **H** ¼″ FNPT dome loaded
- **L** BP-6 Top Works, stainless steel
- **O** BP-6 Top Works, panel mount, stainless steel

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 or contact the factory.

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

Adjustable Back Pressure Regulators

Outline and Mounting Dimensions



Weight - 1.9 lbs (0.86 kg)

GO REGULATOR

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 seat assembly, which was intended for long term usage in sea water, can also be useful in various chemical environments. While the stainless seat assembly does not offer tight shutoff, it is not normally required in high flow systems. If a more positive shutoff is required a Teflon®/stainless seat assembly is available.

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

pressure regulators

Typical Applications

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

Features & Benefits

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

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

Options

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

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High Flow Back Pressure Regulators

Maximum Temperature and Control Pressures

SEAT MATERIAL	MAXIMUM TEMPERATURE	@	MAXIMUM CONTROL RANGE
Teflon®	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)

How to Order

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

BP6 – 1 A 5 1 G 0 J 1 1 1

Body Material
- **1 316L stainless steel**
- **4** Monel®
- **6** Hastelloy® C-276
- **7** Titanium

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** Teflon®
- **N** Monel®
- **P** Hastelloy® C-276
- **W** Titanium

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 Teflon® / stainless steel**
- **8** Teflon® / Inconel®
- **0** Teflon® / Hastelloy® C-276
- **A** Teflon® / Tantalum

Diaphragm Type
- **1 Standard diaphragm**

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

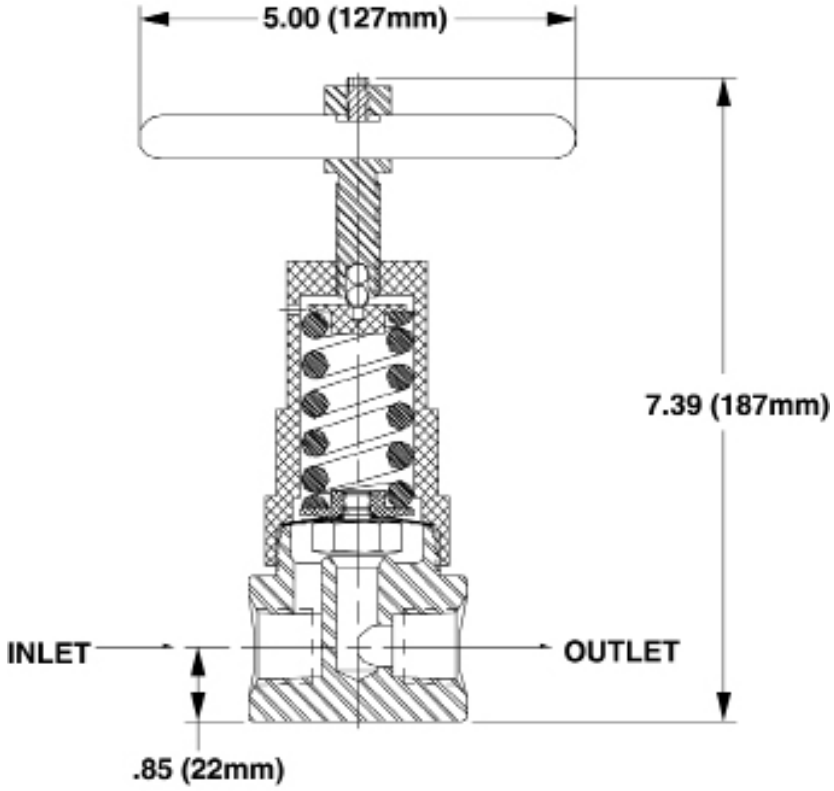
Flow Coefficient (C_v)
- **0 3.0**

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 or contact the factory.

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

High Flow Back Pressure Regulators

Outline and Mounting Dimensions



Weight - 4.3 lbs (1.95 kg)

GO REGULATOR

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 Teflon® / stainless 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.

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_V 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, Teflon® faced

Options

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

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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 Teflon®	250° F (121° 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.

How to Order

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

BP8 – 1 A 1 1 L 9 G 1 1 1

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)
- **3** ¼″ Sch 80 pipe stub, 4″ long (¼″ FNPT fauge ports)
- **4** ⅜″ 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 Teflon®**

Flow Coefficient (C_v)
- **9 1.2**
- **K** 0.7
- **L** 0.4

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

Diaphragm Type
- **1 Standard diaphragm**

Diaphragm Facing/Backing Material
- **1 Teflon® / stainless steel**
- **2** Teflon® / Viton®
- **6** Tefzel® ring / stainless steel
- **8** Teflon® / Inconel®
- **0** Teflon® / Hastelloy® C-276

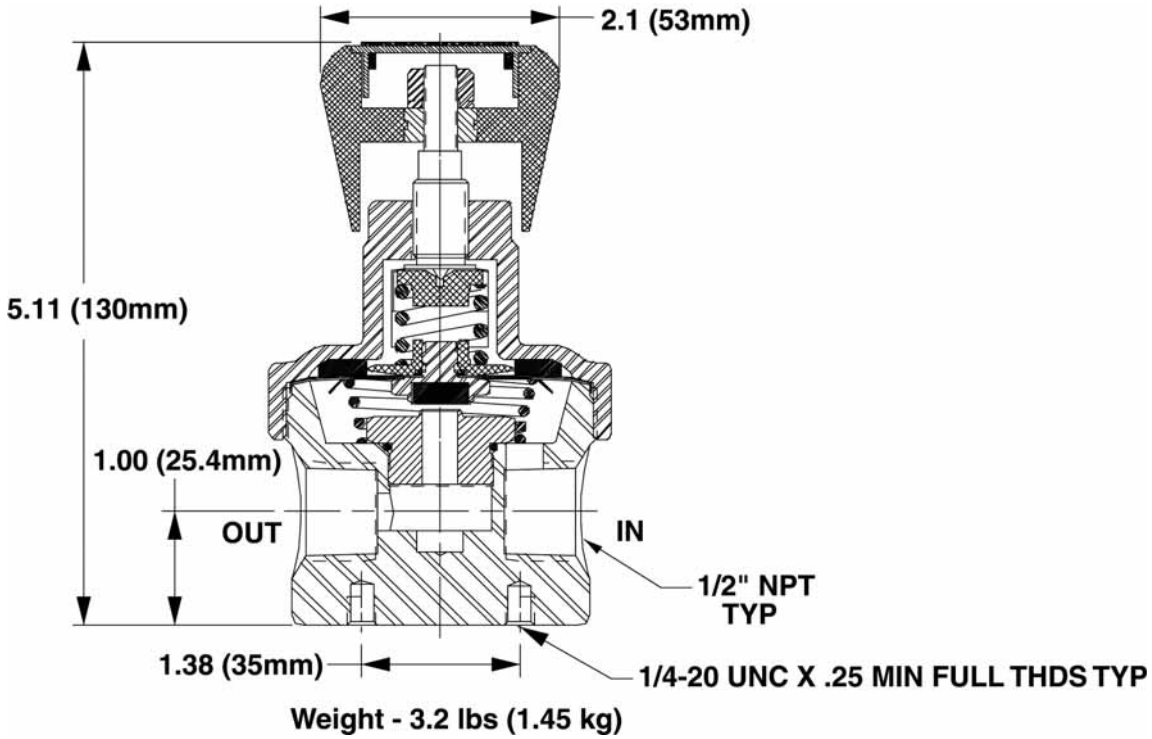
Cap Assembly
- **1 Standard, stainless steel**
- **2** T-handle, stainless steel
- **3** T-handle, panel mount, stainless steel
- **4** Panel mount, stainless steel
- **5** Captured vent, aluminum
- **6** Captured vent, panel mount, aluminum
- **7** Captured vent, stainless steel
- **8** Tamper-proof,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

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 or contact the factory.

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

High Flow Back Pressure Regulators

Outline and Mounting Dimensions



GO REGULATOR

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.

Typical Applications

- Analytical instrumentation
- Gas and liquid sampling
- Research labs

Features & Benefits

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

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_V 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

Options

- Teflon® / stainless steel diaphragm

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High Sensitivity Back Pressure Regulators

Maximum Temperature and Control Pressures

SEAT MATERIAL	MAXIMUM TEMPERATURE	@	MAXIMUM CONTROL RANGE
Viton®	250° F (121° C)	@	500 psig (5.16 MPa)
Kalrez®	300° F (148° C)	@	500 psig (5.16 MPa)
High density Teflon®	200° F (93° C)	@	500 psig (5.16 MPa)
Polyimide	500° F (260° C)	@	500 psig (5.16 MPa)

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

How to Order

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

BP8L – 1 A 1 1 D 5 D 1 2 1

Body Material
- **1 316L stainless steel**
- **2** Brass
- **4** Monel®

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)
- **5** ½″ FNPT (¼″ FNPT gauge ports)
- **6** ½″ tube stub, 2″ long (¼″ FNPT gauge ports)

Cavity Finish
- **1 < 25 Ra**

Actuator Material
- **B** CF Teflon®
- **C** Polyimide
- **D Viton®**
- **I High density Teflon®**
- **K** Kalrez®

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

Diaphragm Facing/Backing Material
- **1** Teflon® / stainless steel
- **2 Teflon® / Viton®**
- **5** Viton® / stainless steel
- **6** Tefzel® ring / stainless steel
- **7** Tefzel® ring / Hastelloy® C-276
- **8** Teflon® / Inconel®
- **0** Teflon® / Hastelloy® C-276

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

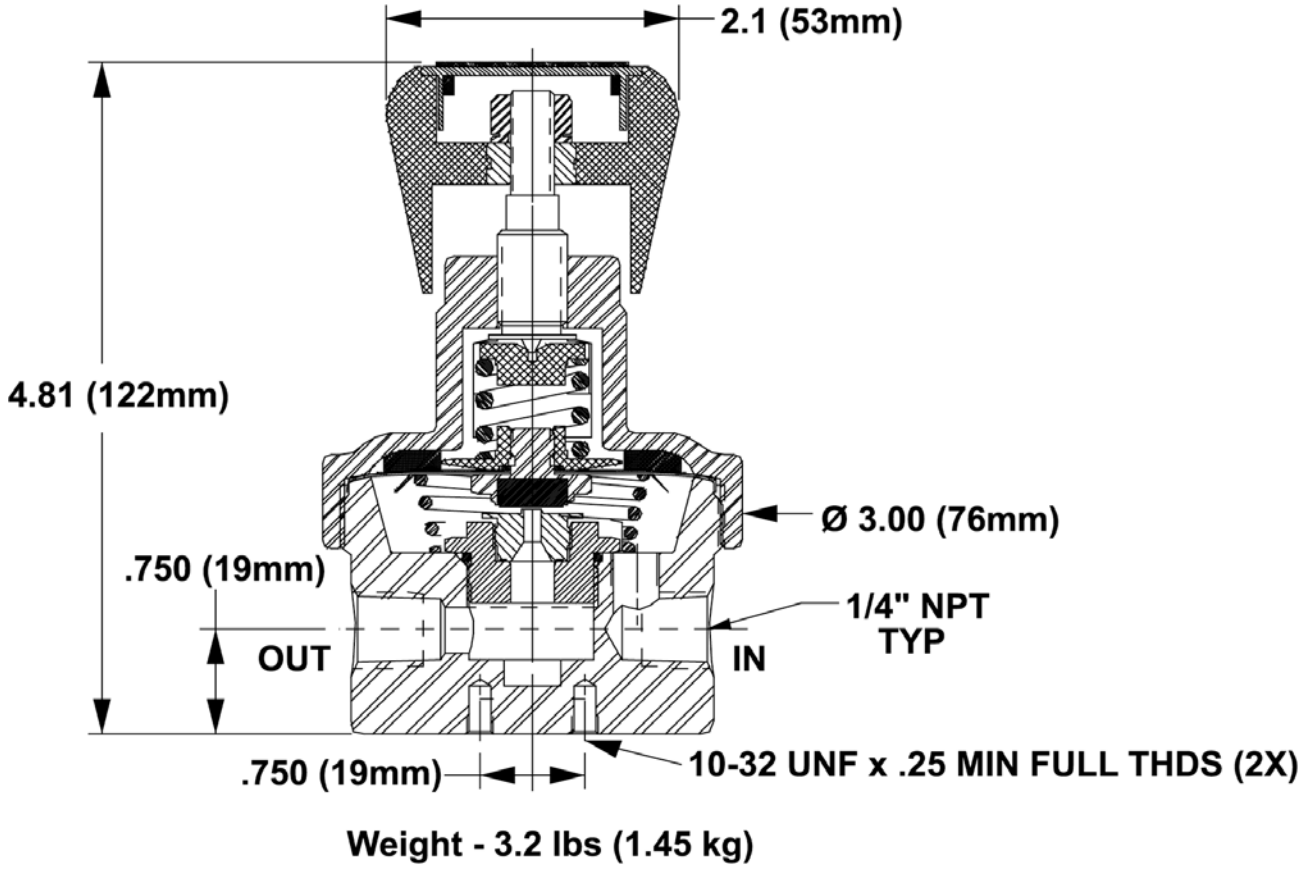
Flow Coefficient (C_v)
- **5 0.2**

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 or contact the factory.

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

High Sensitivity Back Pressure Regulators

Outline and Mounting Dimensions



Weight - 3.2 lbs (1.45 kg)

GO REGULATOR

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.

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_V 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	⅛″ FNPT

Features & Benefits

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

Options

- Panel mount (requires a 1⅜″ mounting hole)
- Extra ports
- Special welded connections
- Pressure gauges

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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)

How to Order

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

CBP-3 – 1 A 0 1 K 5 E 1 1 1

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)
- **0 ⅛″ FNPT (⅛″ FNPT gauge ports)**

Cavity Finish
- **1 < 25 Ra**

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

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 / Teflon®**
- **2** Tefzel® seal ring / Inconel® / Teflon®
- **3** Teflon® 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

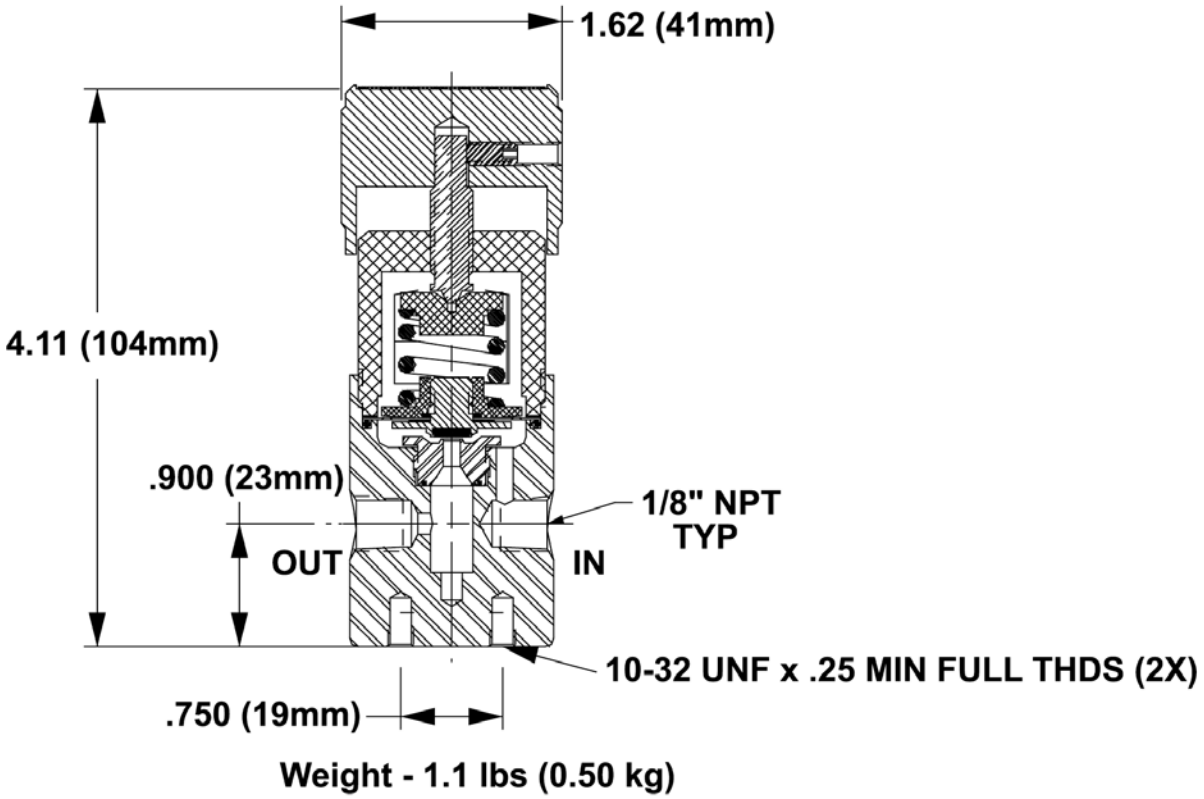
Flow Coefficient (C_v)
- **5 0.2**

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 or contact the factory.

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

Compact Stainless Steel Back Pressure Regulators

Outline and Mounting Dimensions



Weight - 1.1 lbs (0.50 kg)

GO REGULATOR

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.

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
- Electro-polished 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_V COEFFICIENT	0.2

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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)

How to Order

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

LB1 – 1 A 0 1 D 5 E 1 1 1

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** ⅛″ FNPT (all ports)
- **1** Surface mount
- **A** 1⁄16″ FNPT (all ports)
- **B** ⅛″ 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™

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 or contact the factory.

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 / Teflon®**
- **2** Tefzel® seal ring / Inconel® / Teflon®
- **3** Teflon® 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

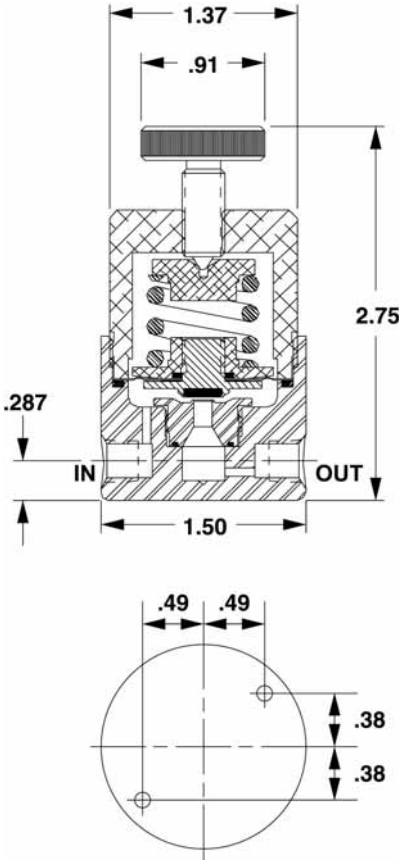
Flow Coefficient (C_v)
- **1** 0.03
- **2** 0.05
- **3** 0.06
- **4** 0.12
- **5 0.2**
- **6** 0.24
- **7** 0.3
- **A** 0.095
- **C** 0.025
- **E** 0.04
- **I** 0.005
- **J** 53

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

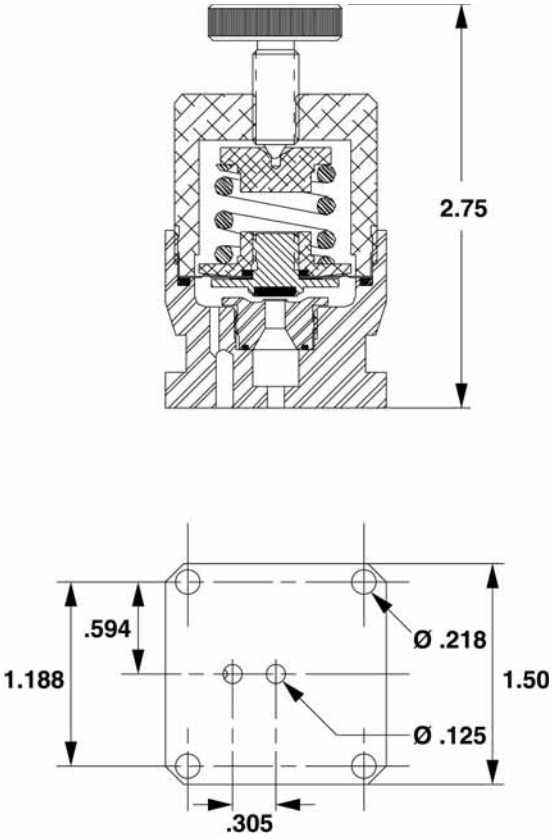
Ultra-miniature Back Pressure Regulators

Outline and Mounting Dimensions

Stand Alone Unit



Surface Mount (Manifold) Unit



GO REGULATOR

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.

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_2O to 15.3 psig)
OPERATING TEMPERATURE	–40° F to +300° F (–40° C to +148° C)
C_V 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

pressure regulators

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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.

How to Order

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

SBPR – 1 A 1 1 I 5 A 1 1 1

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 (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 Teflon®**
- **K** Kalrez®

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 Teflon® / stainless steel**
- **2** Teflon® / Viton®
- **8** Teflon® / Inconel®
- **0** Teflon® / Hastelloy® C-276

Diaphragm Type
- **1 Standard diaphragm**

Control Range
- **A 1–30 psia**

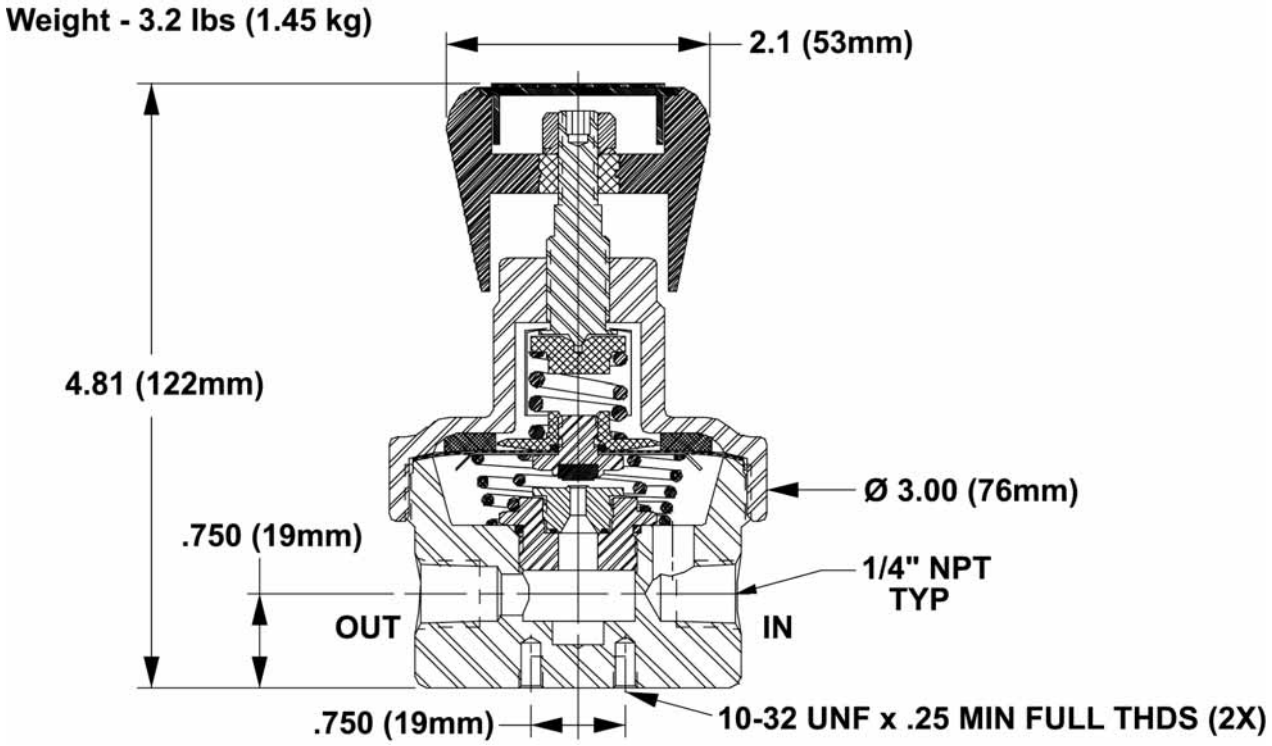
Flow Coefficient (C_v)
- **1** 0.03
- **5 0.2**
- **I** 0.005

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 or contact the factory.

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

Subatmospheric Back Pressure Regulators

Outline and Mounting Dimensions



GO REGULATOR

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 Teflon® 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.

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_V COEFFICIENT	0.04
INLET/OUTLET CONNECTIONS	¼" FNPT

Features & Benefits

- Designed for moderate flow applications
- Diaphragm sensing with nylon, Teflon® 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

pressure regulators

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High Pressure Back Pressure Regulators

Maximum Temperature and Control Pressures

Nylon Diaphragm Backing

SEAT MATERIAL	MAXIMUM TEMPERATURE	@	MAXIMUM CONTROL RANGE
Tefzel®	175° F (80° C)	@	1000 psig (6.89 MPa)
Teflon®	175° F (80° C)	@	1000 psig (6.89 MPa)
Polyimide	175° F (80° C)	@	2000 psig (13.76 MPa)
PEEK™	175° F (80° C)	@	2000 psig (13.76 MPa)

Teflon® Diaphragm Backing

SEAT MATERIAL	MAXIMUM TEMPERATURE	@	MAXIMUM CONTROL RANGE
Tefzel®	175° F (80° C)	@	2000 psig (13.76 MPa)
Teflon®	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)

How to Order

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

BP60 – 1 A 1 1 C E J 1 2 1

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** CF Teflon®
- **C Polyimide**
- **I** Teflon®
- **Q** PEEK™

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

Diaphragm Facing/Backing Material

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

Diaphragm Type
- **1 Standard diaphragm**

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

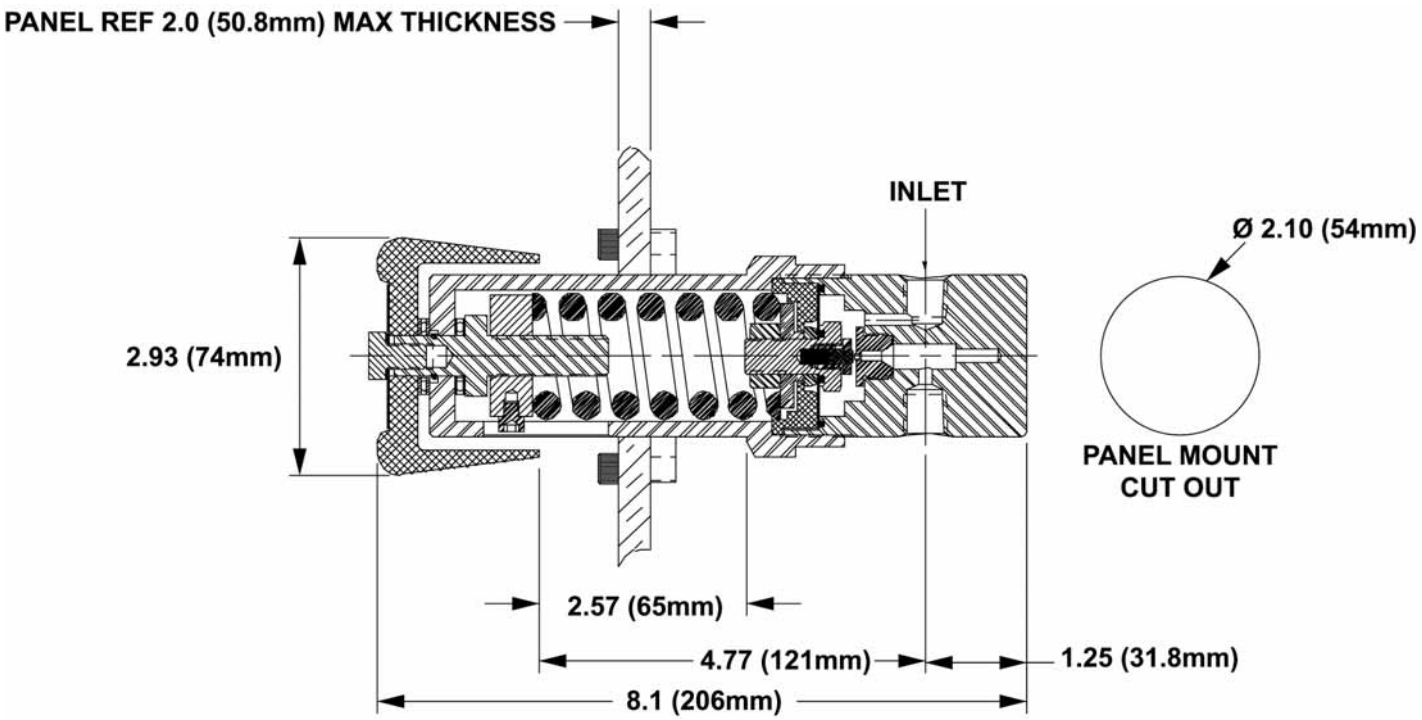
Flow Coefficient (C_v)
- **C** 0.025
- **E 0.04**
- **G** 0.09
- **I** 0.005
- **J** 0.01

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 or contact the factory.

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

High Pressure Back Pressure Regulators

Outline and Mounting Dimensions



GO REGULATOR

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.

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_V 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

pressure regulators

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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)

How to Order

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

BP66 – 1 A 1 1 C E N 1 5 1

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** 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
- **C Polyimide**
- **Q** PEEK™

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 Teflon® 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

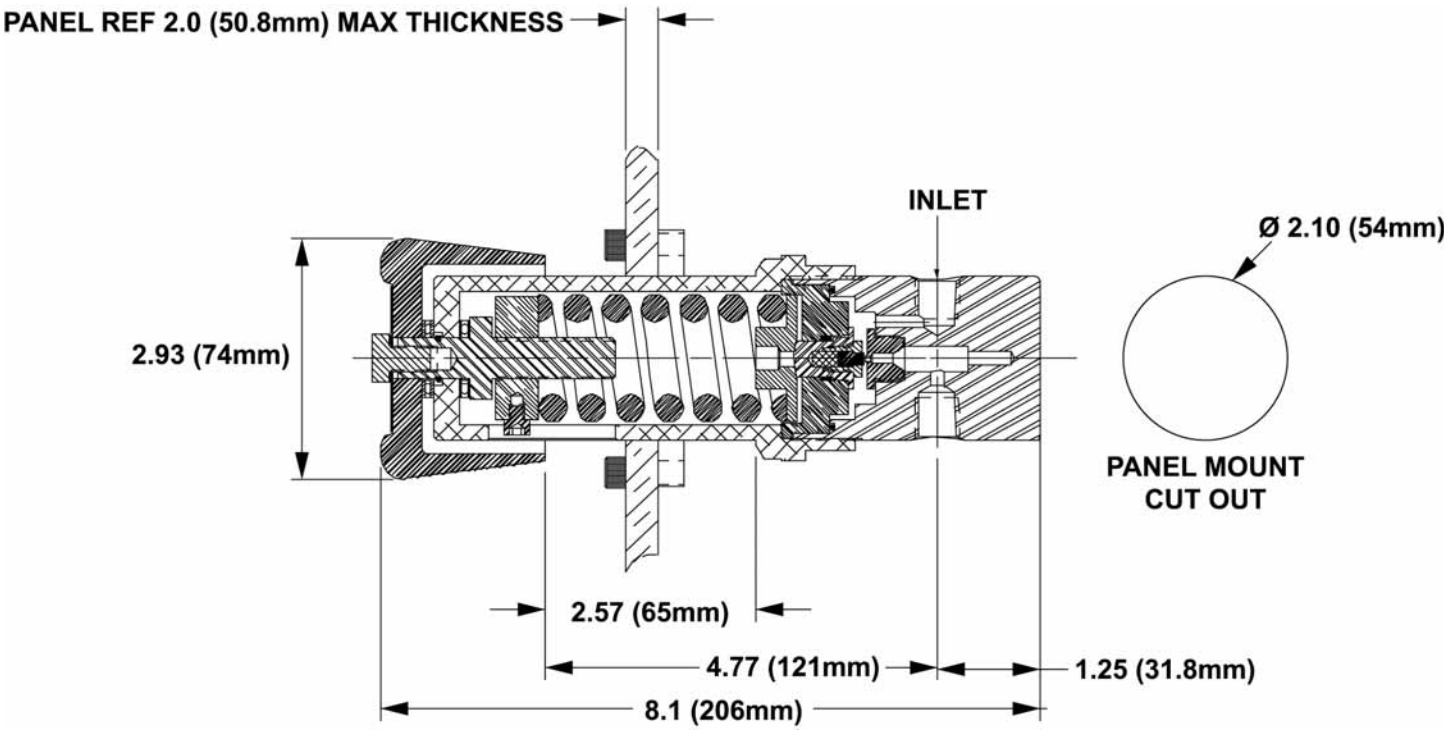
Flow Coefficient (C_v)
- **4** 0.12
- **E 0.04**
- **J** 0.01

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 or contact the factory.

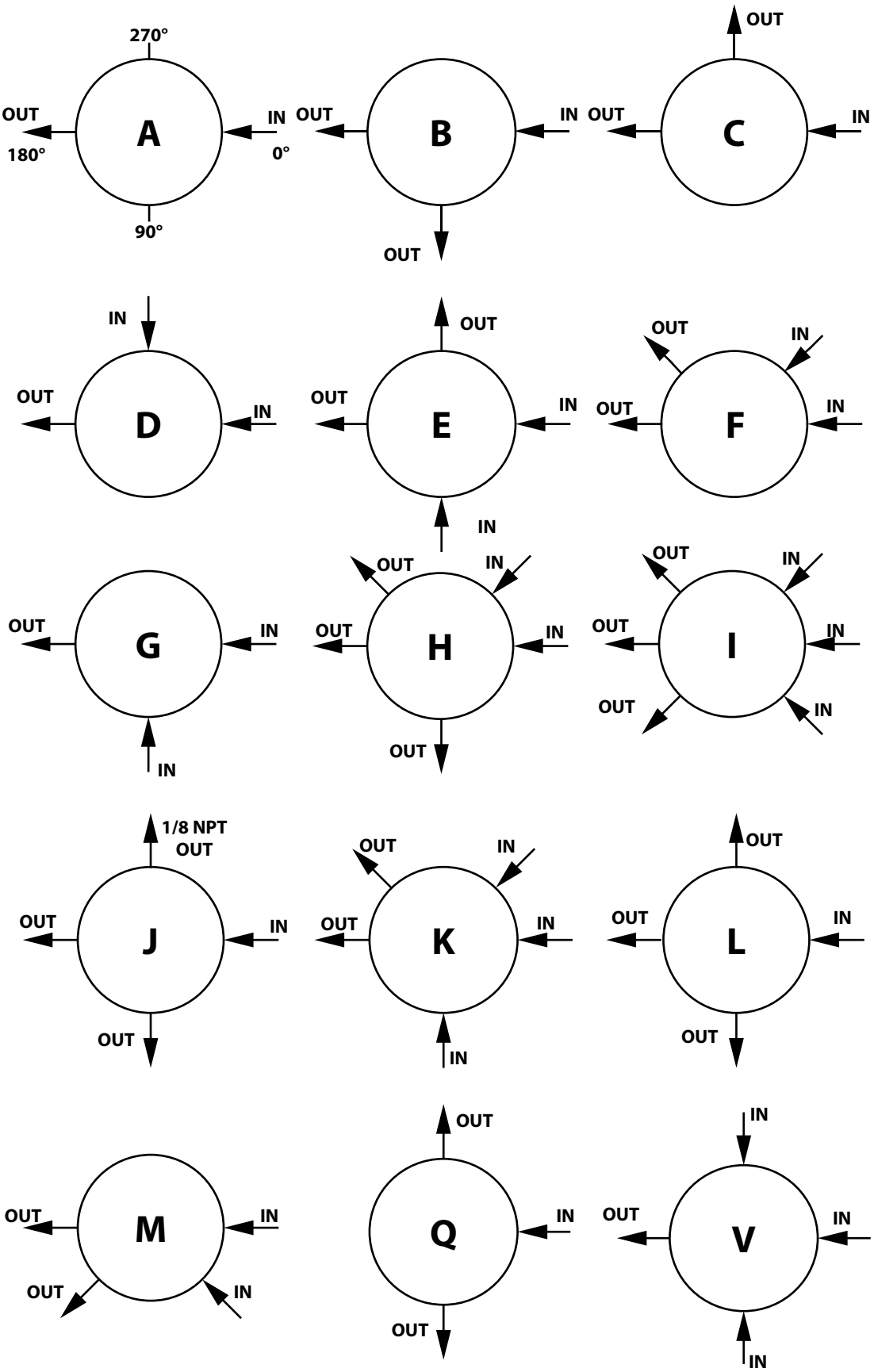
For flow curve charts, visit http://www.goreg.com.

High Pressure Back Pressure Regulators (10,000 psig)

Outline and Mounting Dimensions



Port Locations (Back Pressure Regulators)

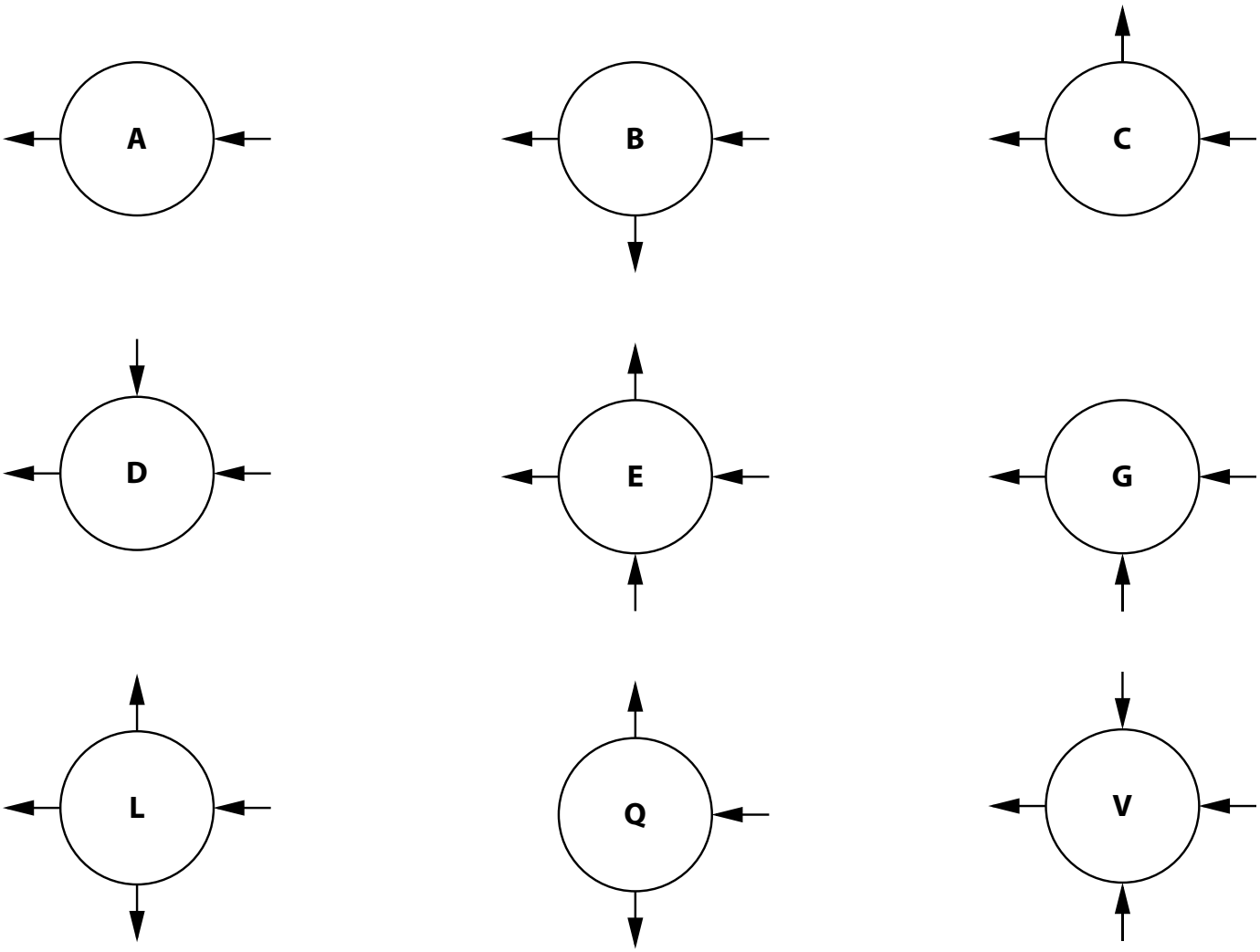


LOCATION OF PORTS FROM TOP VIEW

Porting Options for LB-1 Back Pressure Valve

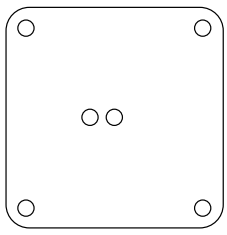
Arrow pointing toward body is inlet, arrow pointing away from body is outlet.

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

For Your Safety

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. 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.

Notes

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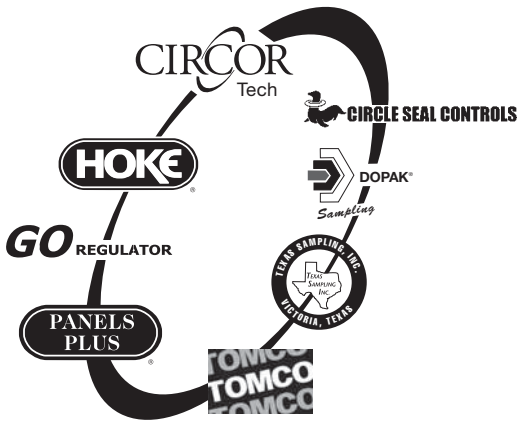

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CIRCOR Instrumentation Technologies

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CIT markets primarily to the petrochemical, refining, power generation, food and beverage, semiconductor, and pharmaceutical industries, and to OEM's. CIT separates itself from the competition by offering highly engineered components manufactured to exacting standards and a variety of custom options.