



Back Pressure Regulators

Instrument / Analyzer Products

*Catalog 4510/USA
January 2006*



ABP1 Series Back Pressure Regulator

Parker Hannifin Corporation's Veriflo Division presents the ABP1 Series back pressure regulator.

The ABP1 is a versatile design for the control of inlet, upstream or back pressure in an instrument or analyzer system. The materials of construction of this regulator make it suitable for applications where corrosive media and or environments are present.



Features

- ▶ Standard Hastelloy C-22® diaphragm for superior strength and corrosion resistance.
- ▶ Convolute diaphragm provides outlet pressure stability with changes in flow.
- ▶ O₂ cleaned.
- ▶ Integral diaphragm stop provides an additional safety measure.

Specifications

Materials of Construction

Wetted

| | |
|--------------------------|-----------------------------|
| Body | 316L Stainless Steel |
| Seal Choices | PTFE, Fluorocarbon, Kalrez® |
| Seat O-Ring w/Seal | Fluorocarbon, PTFE |
| Seat & Holder | 316L Stainless Steel |
| Diaphragm | PTFE-lined Hastelloy C-22® |
| Diaphragm Assy | 316L Stainless Steel, PTFE |
| Outboard Gasket | PTFE |
| Screen | 316L Stainless Steel |

Non-wetted

| | |
|---------------|--|
| Cap | 303 Stainless Steel |
| Cap nut | 316L Stainless Steel |
| Knob | ABS Plastic (Black) Optional Metal Knob (Black) |

Operating Conditions

| | |
|---------------------------------------|---|
| Control pressure | 1-25 psig (2 barg) 2-50 psig (3.5 barg), 3-100 psig (7 barg) 10-250 psig (17 barg), 20-500 psig (35 barg) |
| Max. temperature of flow media: | -15°F to 400°F (-26°C to 204°C) |

Note: Metal knob option required for higher temperature applications.

Functional Performance

| | |
|-----------------------------|--|
| Design proof pressure | 750 psig (52 barg) |
| Design burst pressure | 1,500 psig (103 barg) |
| Flow capacity | C _v 0.3 Optional 0.1 C _v and 0.06 C _v (SEMI Flow Coefficient Test# F-32-0998) |
| Maximum Inboard Design | |
| Leak Rate | Bubble Tight |

Internal Volume

5.9cc

Standard Connections

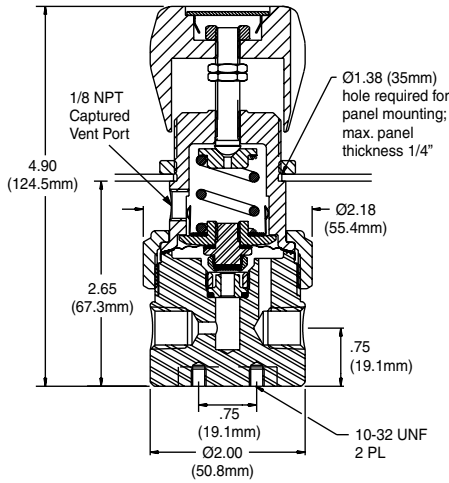
1/8" or 1/4" female pipe threads (NPTF)

Approximate Weight

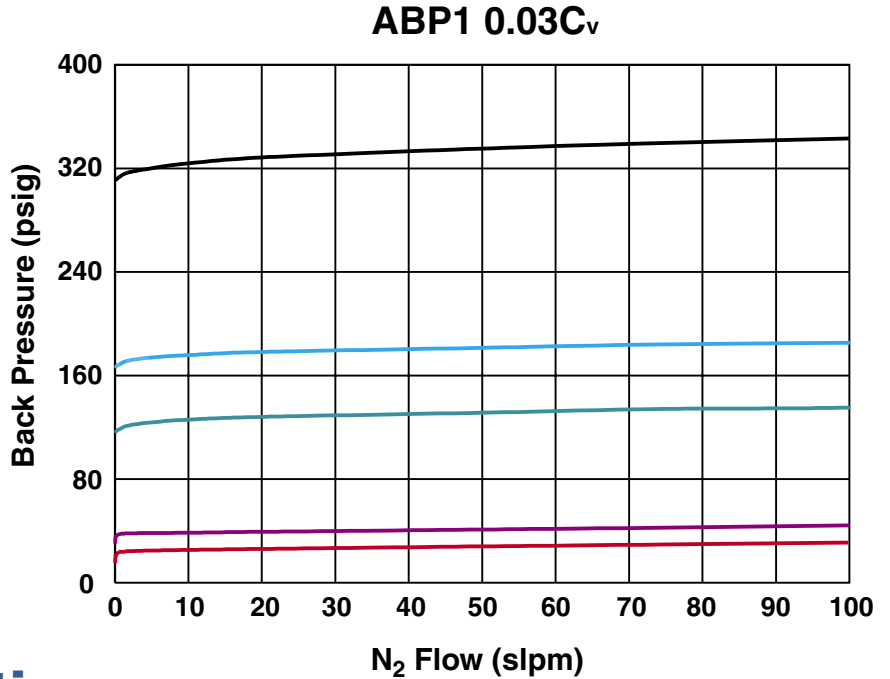
2.3 lbs (1.0 kgm)

Hastelloy C-22® is a registered trademark of Haynes International, Inc. Kalrez® is a registered trademark of DuPont Company.

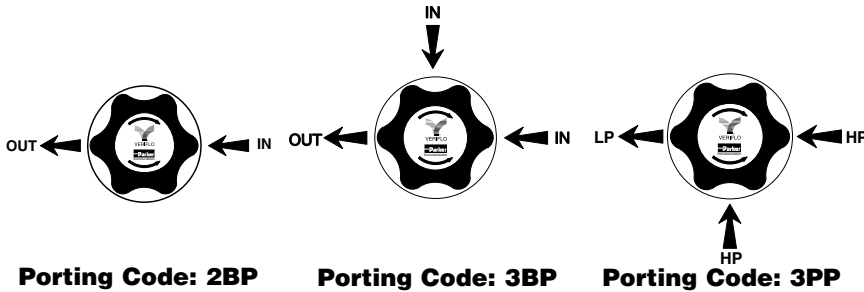
Dimensional Data



Flow Curve



Porting Configurations



Ordering Information

| | | | | | | | |
|-----------------------------|--|--|---|--|--|---|---|
| ABP1 | S | T | 3 | 3BP | 01 | 4 | PM |
| Basic Series ABP1 | Materials S 316L Stainless Steel (Other materials available upon request) | Seat Materials T PTFE V Fluorocarbon K Kalrez® | Pressure Range 1 1-25 psig 2 2-50 psig 3 3-100 psig 4 10-250 psig 5 20-500 psig | Porting 2BP 2 Ports 3BP 3 Ports 3PB 3 Ports (outlet through bottom) 3PP 3 Ports | Inlet Gauge* 03 0-30 psig OL 0-60 psig 01 0-100 psig 4 0-400 psig 6 0-600 psig X No Gauge * Stainless Steel gauges only. | Port Style 2 1/8" NPTF 4 1/4" NPTF | Optional Features DO Dome Load M Metal Knob (Black) PM Panel Mount 06 0.06C _v 1 .1C _v |

ABP3 Series Back Pressure Regulator

Parker Hannifin Corporation's Veriflo Division presents the ABP3 Series. This regulator is designed to provide precise inlet, upstream or back pressure control with corrosive media and environments. The large convoluted diaphragm provides the user greater sensitivity of outlet pressures.



Features

- ▶ Larger diaphragm provides more sensitive pressure adjustments.
- ▶ Standard Hastelloy C-22[®] diaphragm is superior in strength and corrosion resistance, which minimizes the hazards of a rupture.
- ▶ Panel mount standard.
- ▶ Convoluted diaphragm provides outlet pressure stability with changes in flow.
- ▶ O₂ cleaned.
- ▶ Integral stop mechanism limits the travel of the diaphragm and will also provide an additional measure of safety to the user.

Specifications

Materials of Construction

Wetted

| | |
|-----------------------|---|
| Body | 316L Stainless Steel, |
| Seal Choices | PTFE, Fluorocarbon, Kalrez [®] |
| Outboard O-Ring | PTFE, Fluorocarbon, Teflon [®] |
| Diaphragm | Hastelloy C-22 [®] |
| Diaphragm Assy | 316L Stainless Steel, PTFE |
| Seat & Holder | 316L Stainless Steel |
| Seat O-Ring | Fluorocarbon |
| Screen | 316L Stainless Steel |

Non-wetted

| | |
|---------------|-----------------------------|
| Cap | Nickel Plated Brass |
| Cap nut | Nickel Plated Brass |
| Knob | ABS Plastic (Black) |
| | Optional Metal Knob (Black) |

Operating Conditions

| | |
|--------------------------------------|------------------------|
| Control pressure | 1-5 psig (.07-.3 barg) |
| | 1-30 psig (.07-2 barg) |
| | 2-60 psig (.2-4 barg) |
| Max. temperature of flow media | -15°F to 400°F |
| | (-26°C to 204°C) |

Note: Metal knob option required for higher temperature applications.

Functional Performance

| | |
|-----------------------------|--|
| Design proof pressure | 90 psig (6 barg) |
| Design burst pressure | 180 psig (12.4 barg) |
| Flow capacity | C _v = 0.3 |
| | Optional .06 C _v and , 0.1 C _v |
| | (SEMI Flow coefficient Test #F-32-0998) |

Maximum Inboard Design

| | |
|-----------------|--------------|
| Leak Rate | Bubble Tight |
|-----------------|--------------|

Internal Volume

13.8 cc

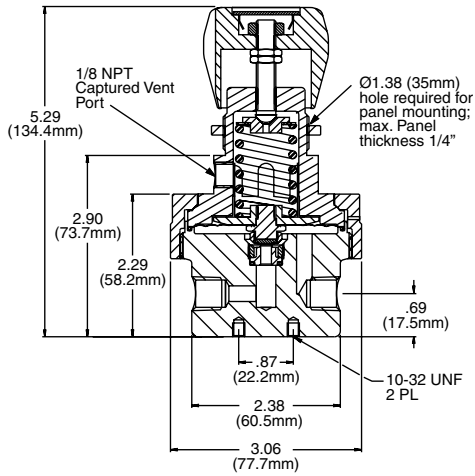
Standard Connections

1/8", or 1/4", female pipe threads (NPT)

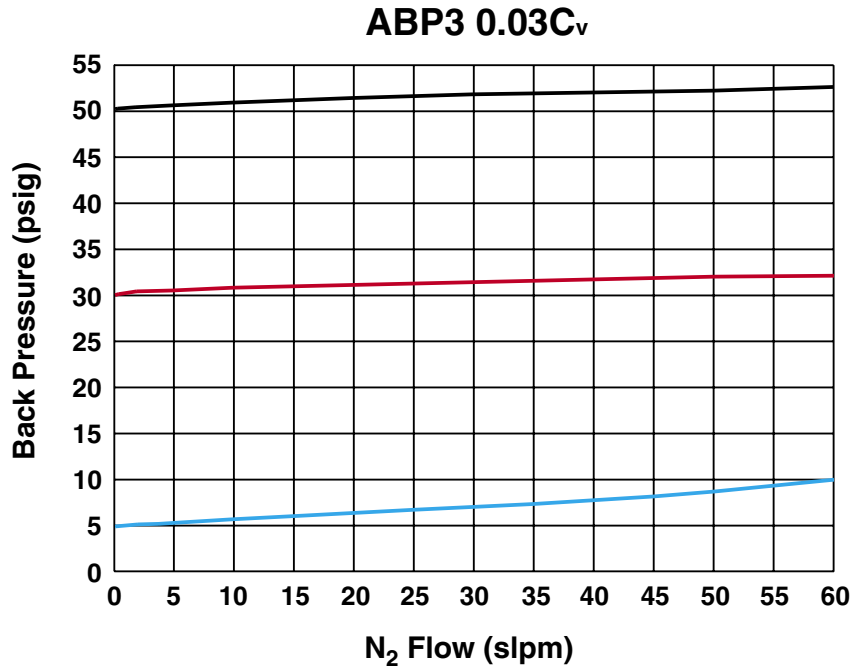
Approximate Weight

4.2 lbs (1.9 kg)

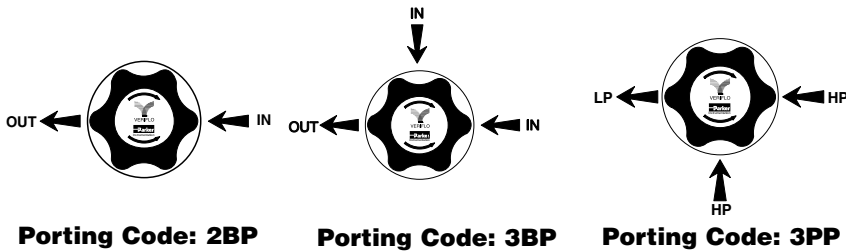
Dimensional Data



Flow Curve



Porting Configurations



Ordering Information

| | | | | | | | |
|--|---|----------|---|---|---|---|-----------|
| ABP3 | S | T | 2 | 3BP | 03 | 4 | 06 |
| Basic Series ABP3 | Materials S 316L Stainless Steel (Other materials available upon request.) | | Pressure Range 1 1-5 psig 2 1-30 psig 3 2-60 psig | Porting 2BP 2 Ports 3BP 3 Ports 3PP 3 Ports | Inlet Gauge* 05 0-15 psig 03 0-30 psig OL 0-60 psig 01 0-100 psig X No Gauge <small>* Stainless Steel gauges only.</small> | Optional Features DO Dome Load 06 0.06C _v 1 .1C _v M Metal Knob (Black) | |
| Seat Materials K Kalrez® T PTFE V Fluorocarbon | | | | Port Style 2 1/8" NPTF 4 1/4" NPTF | | Note: All units are standard with threaded caps (bonnets) and nuts for panel mounting. | |

BPR50 Series Back Pressure Regulator

Parker Hannifin Corporation's Veriflo Division presents the BPR50. The BPR50 is a piston style back pressure regulator designed to control upstream or back pressures. The BPR50 can be used with high pressure corrosive and non-corrosive liquids and gases at pressures up to 2,000 psig.



Note: Optional "T" Bar Handle shown

Features

- ▶ 316L Stainless Steel construction
- ▶ Gas or Liquid Service
- ▶ Flow coefficient of 0.45 C_v
- ▶ Simple construction makes maintenance easy
- ▶ Adjustable pressures from 100 to 1,200 psig and 200 to 2000 psig
- ▶ Panel mountable
- ▶ O₂ cleaned

Specifications

Materials of Construction

Wetted

| | |
|-------------------|-----------------------------------|
| Body | 316L Stainless Steel |
| Seal | Glass filled PTFE, optional PCTFE |
| Seal Holder | 316L Stainless Steel |
| O-ring | Fluorocarbon, optional Kalrez® |
| Piston | 316L Stainless Steel |
| Gasket | PTFE |
| Spring | Stainless Steel |

Non-wetted

| | |
|--------------------|----------------------|
| Cap | Nickel plated Brass |
| Broach Stem | 316L Stainless Steel |
| T Bar Handle | Nickel Plated Brass |

Operating Conditions

| | |
|--------------------------------------|--------------------------------|
| Control pressure | 100-1,200 psig (7 - 83 barg) |
| | 200-2,000 psig (14 - 138 barg) |
| Max. temperature of flow media | -15°F to 400°F |
| | (-26°C to 204°C) |

Functional Performance

| | |
|-----------------------------|---|
| Design Burst pressure | 6,000 psig (414 barg) |
| Design Proof pressure | 3,000 psig (276 barg) |
| Flow capacity | $C_v = .45$ |
| | (SEMI Flow Coefficient Test #F-32-0998) |
| Maximum Inboard Design | |
| Leak Rate | Bubble Tight |
| Maximum Liquid Flow | 20 lpm (5 gpm) |
| Hysteresis | 20 psig (1.4 barg) |
| Sensitivity | 0.5 psig (.03 barg) |

Internal Volume

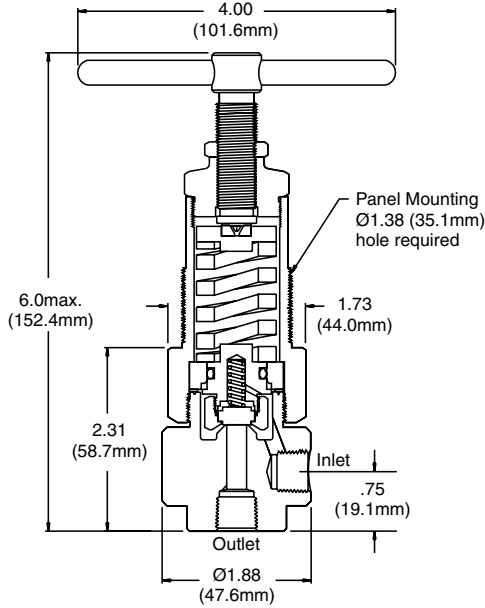
5 cc

Approximate Weight

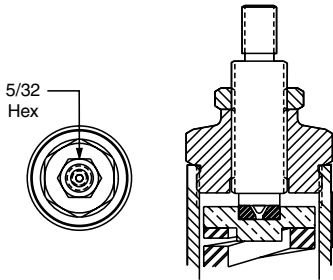
2.2 lbs. (1.0 kg)

Dimensional Data

BPR50 with Optional T Bar Handle Actuation Device

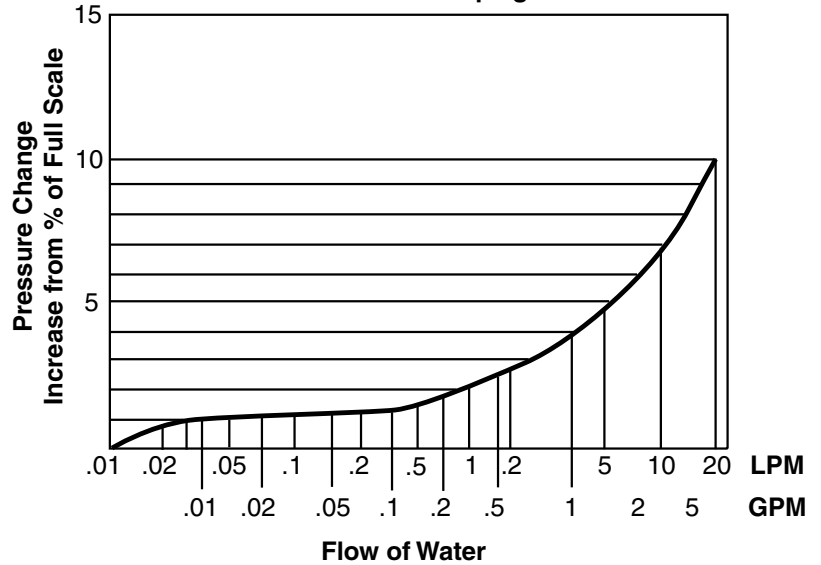


BPR50 with Standard Broach Stem Actuation Device

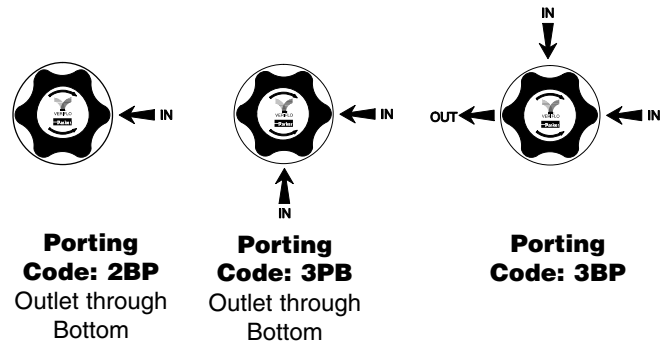


Flow Curve

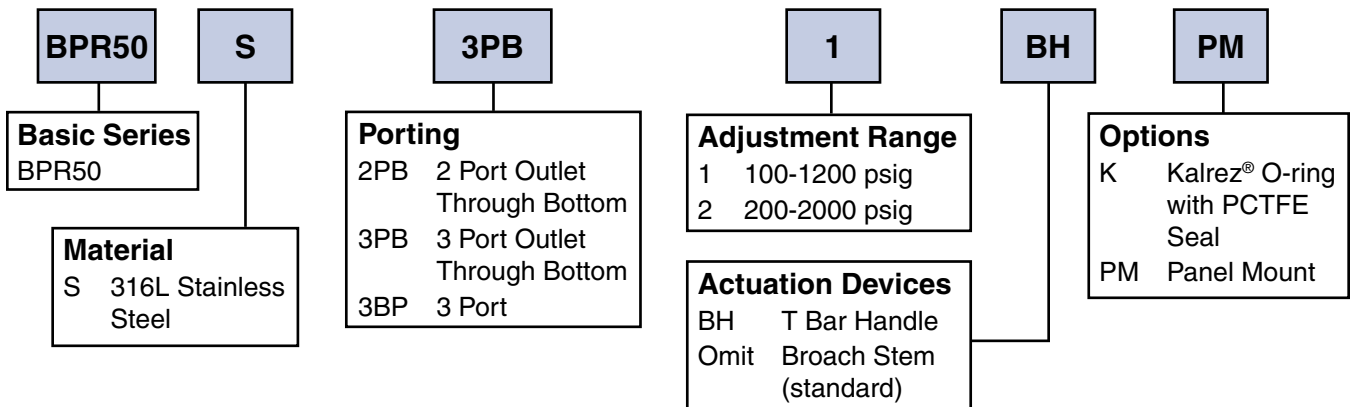
Range: 100-1200 psig
200-2000 psig



Porting Configurations



Ordering Information





Parker Hannifin Corporation
Veriflo Division
250 Canal Boulevard
Richmond, CA 94804-0034
Telephone: 510.235.9590
Fax: 510.232.7396
www.veriflo.com

Catalog 4510, 01/06