



BACK PRESSURE REGULATORS

Instrument/Analyzer Products

Catalog 4510/USA
April 2003



BACK PRESSURE REGULATORS

Instrument/Analyzer Products

Catalog 4510/USA
April 2003

table of contents

ABP1 Series	1 - 2
ABP3 Series	3 - 4
BPR50 Series	5 - 6



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



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.
- ▶ Convoluted diaphragm provides outlet pressure stability with changes in flow.
- ▶ Integral diaphragm stop provides an additional safety measure.
- ▶ Meets NACE Standard MR0175.

materials of construction

Wetted

Body 316L Stainless Steel, Monel[®]
or Hastelloy C-22[®]
Seat Teflon[®], Viton[®] or Kalrez[®]
Seals Teflon[®]
Diaphragm Hastelloy C-22[®]

Nonwetted

Cap 303 Stainless Steel
Cap nut 316L Stainless Steel
Knob ABS Plastic (Black)

operating conditions

Control pressure 0-25 psig (0-1.7 barg)
0-50 psig (0-3.5 barg), 0-100 psig (0-7.0 barg)
0-250 psig (0-17.2 barg), 0-500 psig (0-35.0 barg)

Max temperature of flow media:
. -40°F to 400°F (-40°C to 204°C)

functional performance

Design proof pressure 0-25: 37.5 psig
0-50: 75 psig, 0-100: 150 psig, 0-250: 375 psig,
0-500: 750 psig
Design burst pressure 0-25: 75 psig
0-50: 150 psig, 0-100: 300 psig,
0-250: 750 psig, 0-500: 1500 psig
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 < 2 x 10⁸ scc/sec HE

internal volume

5.9cc

standard connections

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

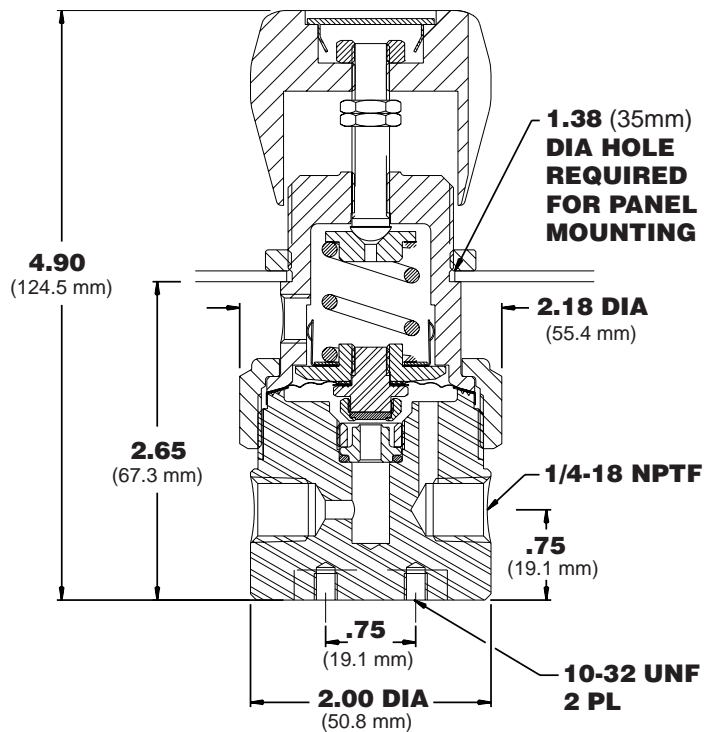
approximate weight

2.2 lbs (1.0 kgm)

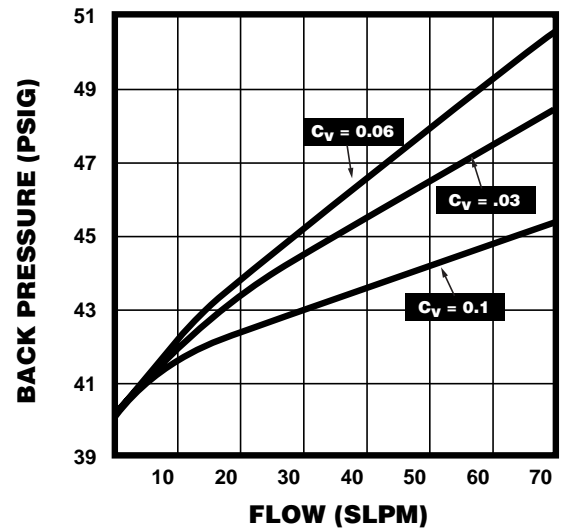


ABP1 Series

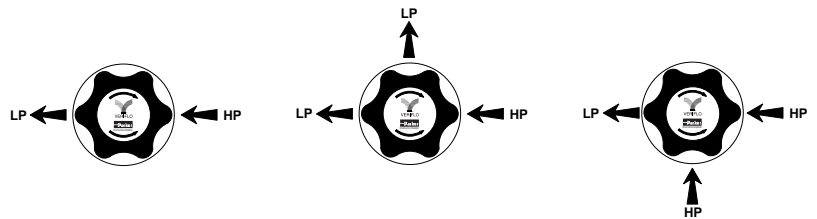
Cross Sectional Drawings



Flow Curve



Porting Configurations



Porting Code: 2BP

Porting Code: 3BP

Porting Code: 3PP

Order Information

<p>BASIC SERIES ABP1</p> <p>MATERIALS S = 316L Stainless Steel M = Monel® H = Hastelloy C-22®</p> <p>SEAT MATERIALS* T = Teflon® V = Viton® K = Kalrez®</p> <p>PRESSURE RANGE 1 = 0 - 25 psig 2 = 0 - 50 psig 3 = 0 - 100 psig 4 = 0 - 250 psig 5 = 0 - 500 psig</p> <p>PORTING 2BP = 2 Ports 3BP = 3 Ports 3PB = 3 Ports (Outlet through bottom) 3PP = 3 Ports</p>	<p>ABP1 S T 3 3BP 01 4 PM</p>	<p>OPTIONAL FEATURES DO = Dome Loaded M = Metal Knob PM = Panel Mount 06 = 0.06 Cv 1 = .1 Cv</p> <p>PORT STYLE 2 = 1/8" NPTF 4 = 1/4" NPTF</p> <p>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</p>
--	---	---

* See temperature ratings under operating conditions.

Hastelloy C-22® is a registered trademark of Haynes International, Inc.
Monel® is a registered trademark of International Nickel Company.
Kalrez® and Teflon® are registered trademarks of DuPont Company.
Viton® registered is a trademark of DuPont Dow Elastomers.



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

- ▶ Oversized 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.
- ▶ Convoluted diaphragm provides outlet pressure stability with changes in flow design.
- ▶ Integral stop mechanism limits the travel of the diaphragm and will also provide an additional measure of safety to the user.
- ▶ Meets NACE standard MR-01-75.

materials of construction

Wetted

Body 316L Stainless Steel,
Hastelloy C-22[®], Nickel Plated Brass
Seat Teflon[®], Viton[®], Kalrez[®]
Seals Teflon[®]
Diaphragm Hastelloy C-22[®]
Seat Holder 316L Stainless Steel

Non-Wetted

Cap Nickel Plated Brass
Cap nut Nickel Plated Brass
Knob 6061-T6 Aluminum

operating conditions

Control pressure 0-5 psig (0-.3 barg)
0-30 psig (0-2 barg)
0-60 psig (0-4 barg)
Temperature of flow media:
. -40°F to 150°F (-40°C to 66°C)

functional performance

Design proof pressure 90 psig (6 barg)
Design burst pressure 180 psig (12.4 barg)

Flow capacity $C_v = 0.3$ (.06, 0.1 optional)
(SEMI Flow coefficient Test #F-32-0998)

Maximum Inboard Design
Leak Rate $< 2 \times 10^{-8}$ scc/sec HE

internal volume

13.8 cc

standard connections

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

Standard Ra 15 - 20 Micro Inch
(.38 to .5 Micro meter or less)

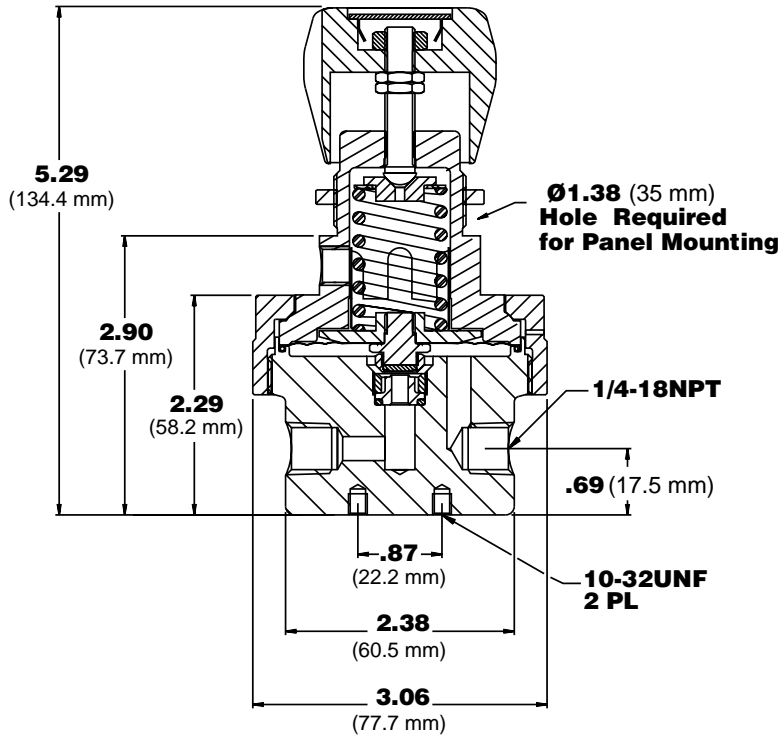
approximate weight

4.2 lbs (1.9 kg)

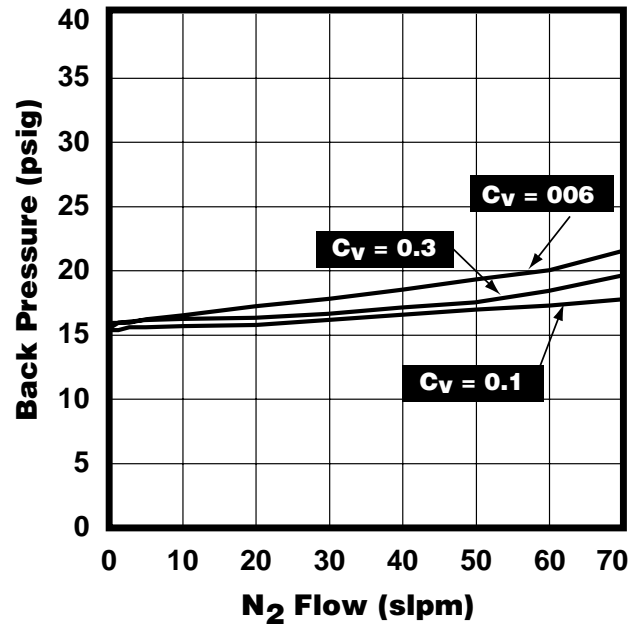


ABP3 Series

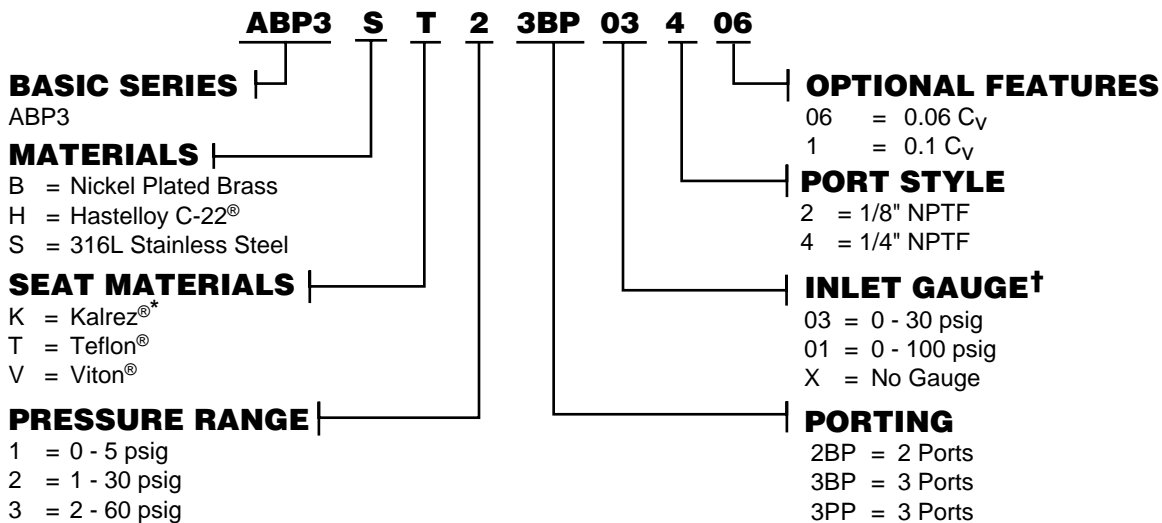
Dimensional Drawing



Flow Curve



Ordering Information



* Kalrez® seats available with Hastelloy C-22® or Stainless Steel nozzles only
 † Stainless Steel gauges only

Note: All units are standard with threaded caps (bonnets) and nuts for panel mounting.

Hastelloy C-22® is a registered trademark of Haynes International, Inc. Kalrez®, and Teflon® are registered trademarks of DuPont Company. Viton® is a registered trademark of DuPont Dow Elastomers.



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.



features

- ▶ "VeriClean," Veriflo's custom low sulfur high purity 316L Stainless Steel which enhances corrosion resistance.
- ▶ Adjustable pressures from 100 to 1,200 psig and 200 to 2000 psig.
- ▶ Panel mountable.
- ▶ Simple construction makes maintenance easy.

materials of construction

Wetted

Body "VeriClean", Veriflo's high purity type 316L Stainless Steel
Seal Glass filled Teflon®, optional PCTFE
O-ring Viton®, optional Kalrez®
Piston 316L Stainless Steel

Non-Wetted

Cap. Nickel plated Brass

operating conditions

Maximum supply pressure 2,000 psig (138 barg)
Adjustable outlet pressure 100-1,200 psig (6.8-82.8 barg)
200-2,000 psig (13.8 - 138 barg)
Temperature . . . -40°F to +150°F (-40°C to +66°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 Liquid Flow 20 lpm (5 gpm)
Hysteresis 20 psig (1.37 barg)
Sensitivity 0.5 psig (.03 barg)

internal volume

5 cc

surface finishes

Standard Ra 15-20 micro in
(.38 to .5 micro) meter or less

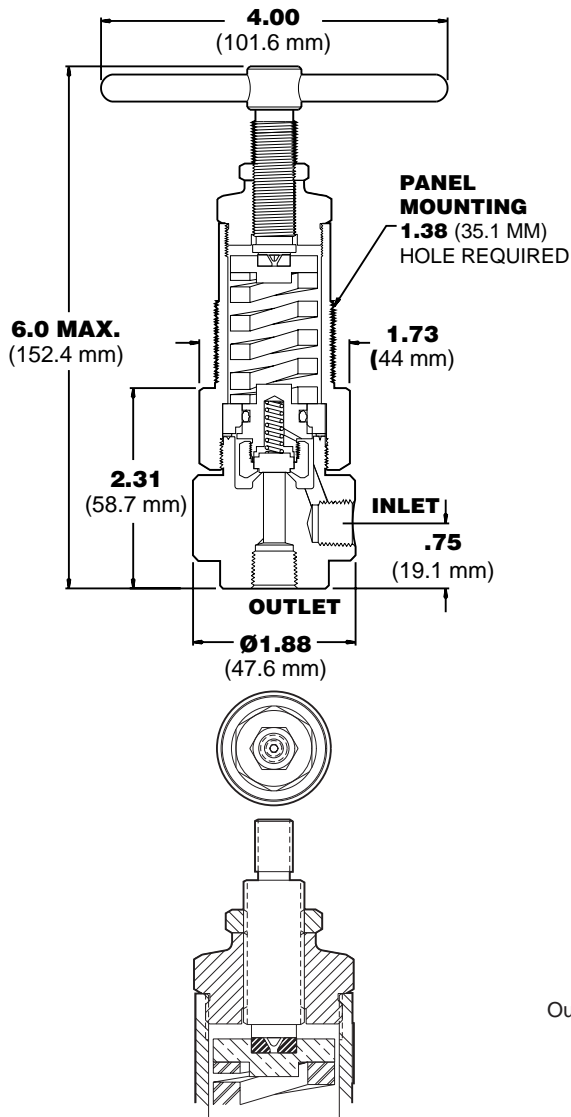
approximate weight

3 lbs. (1.3 kg)



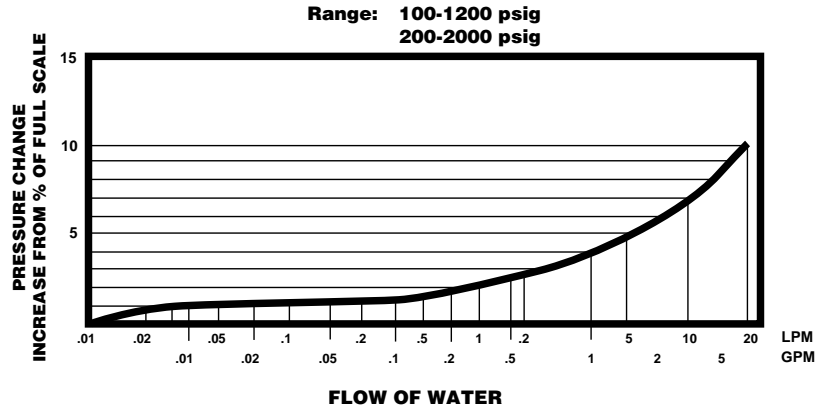
BPR50 Series

Cross Sectional Drawing

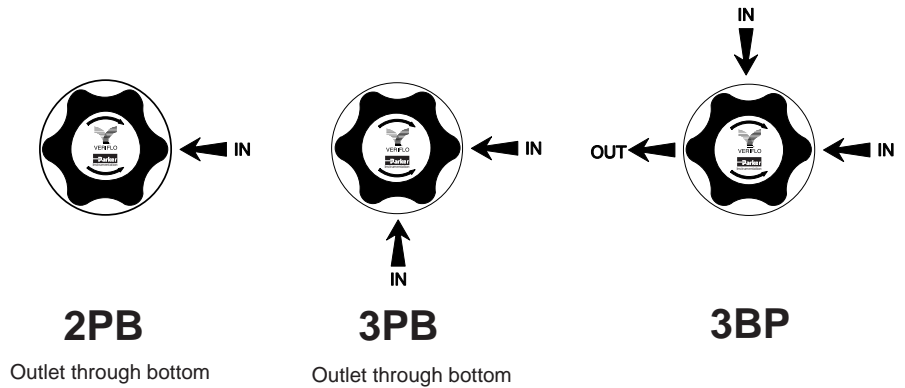


BPR50 with Broach Stem

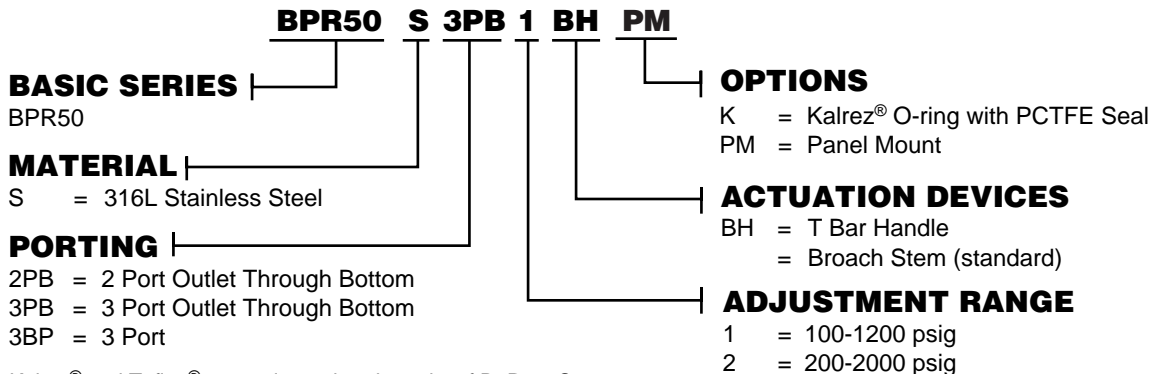
Flow Curve



Porting Configurations



Ordering Information



Kalrez® and Teflon® are registered trademarks of DuPont Company.
Viton® is a registered trademark of DuPont Dow Elastomers.





Parker Hannifin Corporation

Veriflo Division
250 Canal Boulevard
Richmond, CA 94804-0034
Telephone 510.235.9590
Fax 510.232.7396
<http://www.veriflo.com>

Catalog: 4510
LitPN: 25000172
Revision: 0 • 4/03

