



Phone (toll-free): (888) 380-9660
Phone (local): (973) 340-9955
Fax: (973) 340-9933
Web: www.straval.com

20 Bushes Lane
Elmwood Park, NJ 07407

Model BPS-09-Npt-EX

Back Pressure Reducing Valve



- Spring diaphragm operated
- 1/4"-2" NPT THD
- Control pressures to 80 PSI (5.2 Bar)

- Hastelloy, Monel, Titanium, A20

Features

- **Pressure-containing parts** made from solid bar stock materials — unlike castings which have wall thickness variations.
- **Body:** Hastelloy, Monel, Titanium, A20.
- **Trim:** Hastelloy, Monel, Titanium, A20.
- **Teflon-Viton composite reinforced diaphragm** is designed for much greater main valve travel than models designed with stainless steel diaphragms. When a Teflon diaphragm is ordered, the Teflon film on the wetted side provides good corrosion resistance for a wide range of fluids and gases including steam. Viton is the elastomeric seal on the non-wetted side. Max temperature rating is 350 °F. Special elastomers are also available. Other diaphragm materials are available.
- **Right-angle porting** is the standard piping arrangement which allows the valve to be self-draining.
- **Stainless Steel Bypass Valve** model is also available.

Applications

This valve is used for back pressure control applications such as maintaining constant pump discharge pressures, bypassing excessive pressures from various types of process equipment, and wherever a constant pressure must be maintained in a process or piping system. Valve can be used for non-corrosive or mildly corrosive fluids, depending on the materials selected. When liquids or gases contain debris or other solid matter which might cause internal clogging or improper operation of the valve, a strainer with a fine wire mesh should be installed before the inlet of the valve. Exotic Alloy in-line strainer fittings or Exotic Alloy basket strainers can be purchased from Stra-Val. For gas or air service, a soft-seated version with Teflon or other engineering plastics is available to improve seating performance.

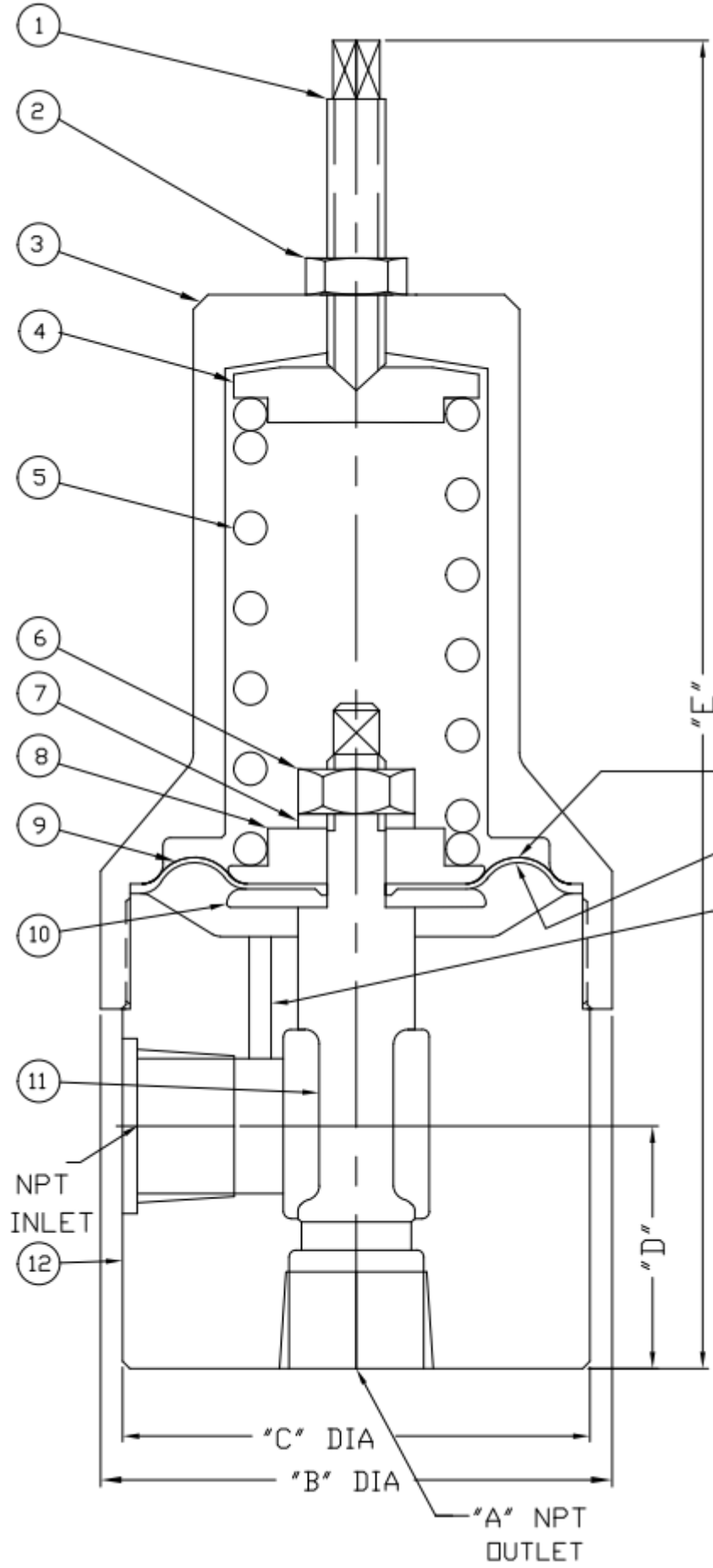
Principle of Operation

This is a direct-acting valve with an adjustable spring operating against a flexible elastomeric diaphragm subjected to the inlet pressure of the valve. Increasing the spring compression will increase the system or line pressure to be maintained. Reducing the spring compression will reduce the system or line pressure to be maintained. An increase in system pressure beyond the set point will cause the main valve to open and relieve the excess pressure.

MATERIAL LIST & SPECIFICATION

1	ADJUSTING SCREW
2	LOCK NUT
3	SPRING CHAMBER
4	SPRING PUSHER
5	SPRING
6	LOCK NUT
7	LOCK WASHER
8	SPRING FOLLOWER
9	DIAPHRAGM
10	DIAPHR. DISC
*	11 MAIN VALVE
12	BODY

* ALTERNATE ELASTOMERS AVAILABLE



VITON LAYER THIS SIDE
 TEFLON FILM THIS SIDE
 INTERNAL SENSING PORT

DIMENSIONS

A (NPT)	B	C	D	E
3/8	2.75	2.50	1.31	7.50
1/2	2.75	2.50	1.31	8.25
3/4	4.00	4.50	1.50	11.50
1	4.00	4.50	2.00	12.38
1 1/4	4.50	4.00	3.44	13.25
1 1/2	4.50	4.00	3.56	16.56
2	5.00	4.50	4.13	17.25

PH 973-340-9955
 FX 973-340-9933
 21 COLUMBUS AVE
 GARFIELD, N.J. 07026



MATL SEE ABOVE	TITLE	REV
SCALE NONE	BACK PRESSURE REDUCING VALVE MODEL 3/8"-2" BPS-9	
DATE 07/07/2008	DWG NO	
DRWN WD	BPS-09NPT	

Material List and Specification

#	Item	Materials
1.	Adjusting screw	ST. Steel & Upgrade
2.	Lock nut	ST. Steel & Upgrade
3.	Spring chamber	ST. Steel & Upgrade
4.	Spring pusher	ST. Steel & Upgrade
5.	Spring	ST. Steel & Upgrade
6.	Lock nut	ST. Steel & Upgrade
7.	Lock washer	ST. Steel & Upgrade
8.	Spring follower	ST. Steel & Upgrade
9.	Diaphragm	TFE / Viton
10.	Diaphragm disc.	Hastelloy, Monel, Titanium, A20
11.	Main valve	Hastelloy, Monel, Titanium, A20
12.	Body	Hastelloy, Monel, Titanium, A20

- Alternate elastomers available
- Max inlet pressure 75 PSI (5.2 Bar) based on diaphragm rated press. Diaphragm min burst pressure at ambient temp is 300 psi (20 bar)

Dimensions (NPT)

A	B	C	D	E
1/4	2.75	2.50	1.00	6.25
3/8	2.75	2.50	1.13	6.50
1/2	2.75	2.50	1.31	8.25
3/4	2.75	2.50	1.50	9.50
1	4.00	4.50	2	12.38
1-1/4	4.50	4	3.44	13.25
1-1/2	4.50	4.00	3.56	16.56
2	5.00	4.50	4.13	17.25

Note: Dimensions are approximate and are subject to change without notice. Request certified dimensions before final product installation.

1/4" BPS09-02T-EX

Max inlet pressure 150 psi (10 barg) Rated press 300 psi(20 bar)
 Multiple Spring Ranges from:2-80 psig (0.138-5.52 barg) Select spring from pricing page

3/8" BPS09-03T-EX

Max inlet pressure 150 psi (10 barg) Rated press 300 psi(20 bar)
 Multiple Spring Ranges from:2-80 psig (0.138-5.52 barg) Select spring from pricing page

1/2" BPS09-05T-EX

Max inlet pressure 150 psi (10 barg) Rated press 300 psi(20 bar)
 Multiple Spring Ranges from:2-80 psig (0.138-5.52 barg) Select spring from pricing page

3/4" BPS09-07T-EX

Max inlet pressure 150 psi (10 barg) Rated press 300 psi(20 bar)

Multiple Spring Ranges from:2-80 psig (0.138-5.52 barg) Select spring from pricing page

1" BPS09-10T-EX

Max inlet pressure 150 psi (10 barg) Rated press 300 psi(20 bar)

Multiple Spring Ranges from:2-125 psig (0.138-8.62 barg) Select spring from pricing page

1 1/4" BPS09-12T-EX

Max inlet pressure 150 psi (10 barg) Rated press 300 psi(20 bar)

Multiple Spring Ranges from:2-125 psig (0.138-8.62 barg) Select spring from pricing page

1 1/2" BPS09-15T-EX

Max inlet pressure 150 psi (10 barg) Rated press 300 psi(20 bar)

Multiple Spring Ranges from:2-125 psig (0.138-8.62 barg) Select spring from pricing page

2" BPS09-20T-EX

Max inlet pressure 150 psi (10 barg) Rated press 300 psi(20 bar)

Multiple Spring Ranges from:2-125 psig (0.138-8.62 barg) Select spring from pricing page

The spring ranges listed above are not achievable with one spring, but are compressed to show overall product capability. Select a specific spring range in the pricing pages or specify a set pressure when ordering.