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20 Bushes Lane  
Elmwood Park, NJ 07407

## Model BPS-09-Npt

### Stainless Steel Back Pressure Bypass Valve



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

- Stainless steel (Various Exotic Alloys model can be found on this page)

## Features

- **Pressure-containing parts** made from solid bar stock materials — unlike castings which have wall thickness variations.
- **Body:** Standard materials are stainless steel type 303SS and 316SS.
- **Trim: Stainless steel** for main valve is standard. Teflon sealing option is also available for air or gas service.
- **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.
- **Special Alloys Bypass Valve** (e.g. Monel, titanium, and Hastelloy) 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. In-line strainer fittings or 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

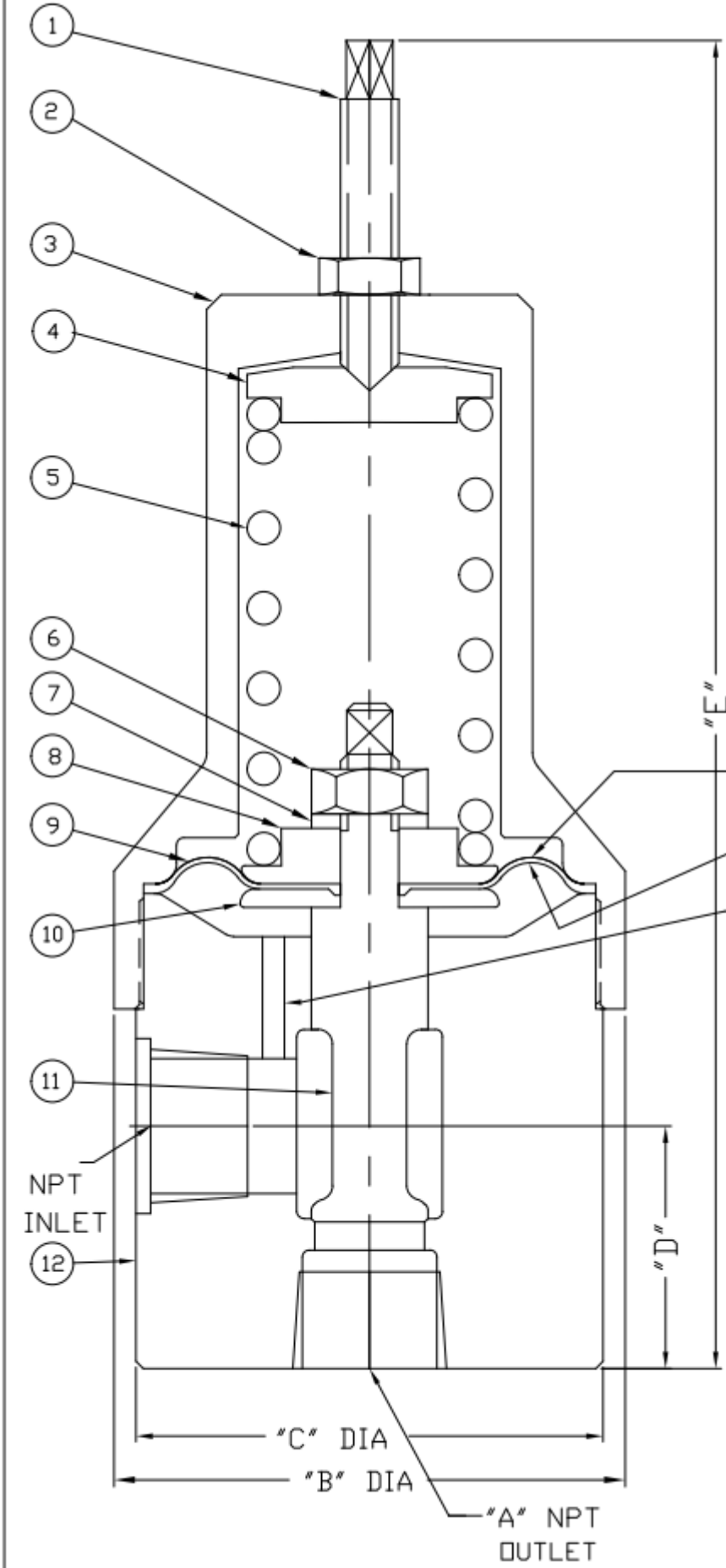
This is a direct-acting valve with an adjustable spring operating against a flexible elastomeric diaphragm subjected to the inlet pressure of the valve. Increasing the spring compression will increase the system or line pressure to be maintained. Reducing the spring compression will reduce the system 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.

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# 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 BYPASS VALVE MODEL 3/8"-2" BPS-9	
DATE 07/07/2009	DWG NO	
DRWN WD	BPS-09NPT	

## Material List and Specification

#	Item	Materials
1.	Adjusting screw	Steel
2.	Lock nut	Steel
3.	Spring chamber	Steel
4.	Spring pusher	Steel
5.	Spring	Steel
6.	Lock nut	Steel
7.	Lock washer	Steel
8.	Spring follower	Steel
9.	Diaphragm	TFE / Viton
10.	Diaphragm disc.	Stainless steel
11.	Main valve	Stainless steel
12.	Body	Stainless steel

- 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.

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## 1/4" BPS09-02T

**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

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## 3/8" BPS09-03T

**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

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## 1/2" BPS09-05T

**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

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## 3/4" BPS09-07T

**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

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## **1" BPS09-10T**

**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

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## **1 1/4" BPS09-12T**

**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

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## **1 1/2" BPS09-15T**

**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

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## **2" BPS09-20T**

**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

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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.