

## Model BPS-09i-FLG

**Stainless Steel 150# Flange In-Line Backpressure/Bypass Valve**



- Spring diaphragm operated
- 1/2"-2" ANSI B16.5 RF flanged in-line
- Inlet pressures to 275 PSI (~19 Bar)
- Outlet pressures 8 to 80 PSI (~0.5-5.5 Bar) (multiple spring ranges) For higher outlet pressures see BPS05-FLG.

## Features

- **Pressure-containing parts** made from solid bar stock materials — unlike castings which have wall thickness variations.
- **Body and flanges:** Standard material is type 316 stainless steel. Special alloys (e.g. Monel, titanium, and Hastelloy) also available.
- **Trim: Stainless steel** for main valve and seat is standard.
- **Teflon-Viton composite reinforced diaphragm.** Teflon film on the wetted side provides good corrosion resistance to a wide range of fluids and gases including steam. Viton is the elastomeric backing on the non-wetted side and is rated to 350 °F for most applications. Buna backing is available for lower temperatures.
- **In-line flanges: 150 ANSI RF** is standard for this model with face-to-face dimensions as illustrated. Custom flange facing can also be made available. Bolt holes straddle centerline. Standard inlet flanges and outlet flanges are equal in size. Unequal flange combinations (larger outlet than inlet) are also available to compensate for expansion of gases at reduced pressures.

## Applications

This is a direct-acting backpress/bypass with an adjustable spring operating against a flexible elastomeric diaphragm.

This valve is used for medium to low flow applications. See flow data below. For larger capacities refer to model PRS-09-FLG with offset flanges. Corresponding threaded NPT models are also available.

This valve can be used for water, air, gases, chemicals, solvents, and fluids including steam, depending on the materials selected (consult factory). Only clean, filtered, or strained liquids and gases should be used for best operation of the valve. A strainer or filter, depending on the degree of contamination, should be installed before the inlet of the valve. Strainers or filters can be purchased from Stra-Val to provide some degree of protection.

This valve should not be used as a shutoff valve. If the valve is expected to be dead ended (having no flow passing through the valve) for prolonged periods, pressure at the inlet should be shut off, or a relief valve installed on the outlet side.

**We now offer some models that meet NACE MR0175. These are not priced on line. Consult factory.**

## Options

Select the valve size, spring range, material options in the customized pricing and ordering section indicated by the red arrows. You have the ability to customize your valve choices by selecting the wetted and nonwetted materials, and choice of seat materials to suit your shutoff requirements, using the softer seats for improved shutoff, particularly for air or gas applications. Once these selections are made a price quote can be generated and printed directly to your computer or immediately e-mailed to you.

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.

Metal Seated RegulatorSee Below

150# Flanges  
X 2

Material List and Specifications		
#	Description	Materials
1	Plug	Stainless Steel
2	Body	Stainless Steel
3	Seat Holder	Stainless Steel
4	*Seat	Viton, Buna, EPDF, Teflon E
5	Poppet	Stainless Steel
6	Diaphragm	Viton, Buna, EPDF, Teflon E
7	Follower	Steel, Stainless Steel
8	Nut	Steel
9	Spring	Steel
10	Spring Chamber	Steel, Stainless Steel
11	Set Screw	Steel
12	Nut	Steel
13	Pusher	Steel, Stainless Steel
14	O-Ring	Viton, Buna, EPDF, Teflon E

\* Metal Seated Poppet Available

\*\*Hastelloy, Monel, Titanium and Al  
20 Parts Available Upon Request

PH 973-340-9955  
FX 973-340-9933  
21 COLUMBUS AVE  
GARFIELD, NJ, 07026

**STRAVAL**  
**STRAINERS**

MATL	As ordered	TITLE	Bypass/Back Pressure Valve
SCALE	NONE		150# ANSI Flange
DATE	12/8/2016	DWG NO	BPS09I-FL
DRWN	WD		

**Dimensions (inch)**

A	B	C	D
1/2	3	1.88	9.25
3/4	3	1.94	9.5
1	3.5	2.25	11.75
1-1/4	3.62	2.5	12.12
1-1/2	3.75	2.5	13.5
2	4	3.38	14.25
2-1/2	4.5	3.62	15.5
3	5	3.75	16

For Max Flow Cv data see Pricing pages

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

---

## **1/2" BPS-09i-05A**

**150# ANSI B16.5 RF Flanges (10 bar nominal rating) 220 psi, 15 bar max**

Multiple Spring Ranges from:5-125 psig (0.345-8.62 barg) Select spring from pricing page

---

## **3/4" BPS-09i-07A**

**150# ANSI B16.5 RF Flanges (10 bar nominal rating) 220 psi, 15 bar max**

Multiple Spring Ranges from:5-80 psig (0.345-5.52 barg) Select spring from pricing page

---

## **1" BPS-09i-10A**

**150# ANSI B16.5 RF Flanges (10 bar nominal rating) 220 psi, 15 bar max**

Multiple Spring Ranges from:5-125 psig (0.345-8.62 barg) Select spring from pricing page

---

## **1 1/4" BPS-09i-12A**

**150# ANSI B16.5 RF Flanges (10 bar nominal rating) 220 psi, 15 bar max**

Multiple Spring Ranges from:5-125 psig (0.345-8.62 barg) Select spring from pricing page

---

## **1 1/2" BPS-09i-15A**

**150# ANSI B16.5 RF Flanges (10 bar nominal rating) 220 psi, 15 bar max**

Multiple Spring Ranges from:5-125 psig (0.345-8.62 barg) Select spring from pricing page

---

## **2" BPS-09i-20A**

**150# ANSI B16.5 RF Flanges (10 bar nominal rating) 220 psi, 15 bar max**

Multiple Spring Ranges from:5-125 psig (0.345-8.62 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.