



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

21 Columbus Avenue  
Garfield, NJ 07026

## Model BPS05-TC

### Back Pressure/Bypass Valve



### Features

**Body and Tri-Clamp Flanges** - Standard material is 316 Stainless Steel manufactured from bar stock and can be offered with a 20RA mechanical finish, with an optional electroplished finish. **Poppet- 316SS** Stainless steel, metal seated is standard, but can be offered with a Teflon seat.

**Elastomeric Seal** Choice of different elastomers including Viton, EPDM, Teflon, Kalrez etc, expands valve usage to a wide range of applications and fluids. Choice of elastomers determines final temperature limitation. **Spring Chamber** - standard construction is a 300 series stainless steel, as the product does not in contact with it. It can also be supplied in type 316 Stainless steel **Right Angle Porting** - Standard construction is bottom inlet, side outlet. **Self-Draining** - Valve is self-draining with the poppet in the open position. **No Pipe threads in contact with the media** - Prevents accumulation of contaminants

## Applications

This valve is used for sanitary backpressure 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 sanitary process or piping system. For use with liquids, clean steam, and gases to 450 deg F depending on elastomer used for piston seal. Standard piston seal material is Viton. EPDM, Teflon and Dupont's Kalrez and Parker's Parflur are also available to meet temperature and product compatibility requirements.

When used on bypass service specify if the discharge is acting against any head pressure or just to an open reservoir.

## Options

Scroll down below to 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 where they are available at the lower pressures. Once these selections are made a price quote can be generated and printed directly to your computer or immediately e-mailed to you.

When ordering don't forget to state your desired bypass or control set pressure. This set pressure will be added to the nameplate. **If the set pressure is not specified, the valve will be set at or below the stated spring range as selected for the order and no set pressure will be added to the nameplate.**

## Principle of Operation

This is a direct acting valve with an adjustable spring operating against a piston 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 poppet to open and bypass the excess pressure through the outlet port.

---

MATERIAL LIST  
& SPECIFICATION

1	ADJUSTING SCREW	ST. STL
2	LOCK NUT	ST. STL
3	SPRING CHAMBER	ST. STL
4	SPRING PUSHER	ST. STL
5	ADJUSTING SPRING	ST. STL
6	SPRING CARRIER	ST. STL
7	POPPET	316 ST. STL
8	BODY	316 ST. STL
9	SEAL	VITON

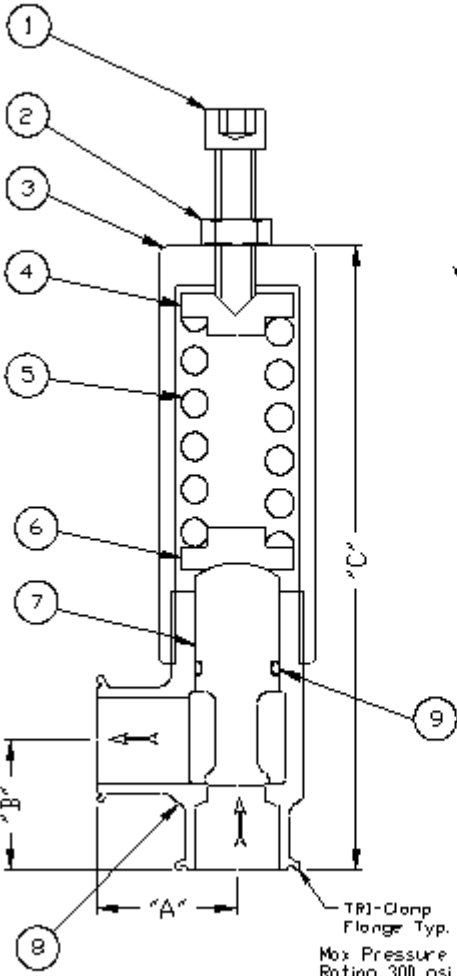
DIMENSIONS

SIZE	"A" (IN)	"B" (IN)	"C" (IN)
1/2	1 1/4	1 1/8	6 7/8
3/4	1 1/4	1 1/8	7 1/8
1	1 3/8	1 3/4	8 3/8
1 1/2	2	2	10 1/2
2	2 1/4	2 1/4	11

Wetted parts are 316SS  
All non wetted parts are  
300 series Stainless steel

ALTERNATE ELASTOMERS  
BUNA, EPDM, TEFLON

P.O. BOX 340-2000 ST. LOUIS, MO 63103 STRA VALVES STRAINERS VAL	
MAX. SIZE ABOVE NONE	TYPE BACK PRESSURE VALVE 1/2"-2" MODEL PVC05-TC
DATE 6-20-10	PVP NO BPS05-TC
DPM CDS	REV



**1/2" BPS05-05TC**

Sanitary Tri-Clamp Connections 600 psi (~40 bar) rating

Multiple Spring Ranges from:20-350 psig (1.38-24.1 barg) Select spring from pricing page

**3/4" BPS05-07TC**

Sanitary Tri-Clamp Connections 600 psi (~40 bar) rating

Multiple Spring Ranges from:20-320 psig (1.38-22.1 barg) Select spring from pricing page

**1" BPS05-10TC**

Sanitary Tri-Clamp Connections 600 psi (~40 bar) rating

Multiple Spring Ranges from:20-225 psig (1.38-15.5 barg) Select spring from pricing page

---

## **1 1/2" BPS05-15TC**

**Sanitary Tri-Clamp Connections 600 psi (~40 bar) rating**

Multiple Spring Ranges from:15-275 psig (1.03-19 barg) Select spring from pricing page

---

## **2" BPS05-20TC**

**Sanitary Tri-Clamp Connections 600 psi (~40 bar) rating**

Multiple Spring Ranges from:20-165 psig (1.38-11.4 barg) Select spring from pricing page

---

## **3" BPS05-30TC**

**Sanitary Tri-Clamp Connections 600 psi (~40 bar) rating**

Multiple Spring Ranges from:15-125 psig (1.03-8.62 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.