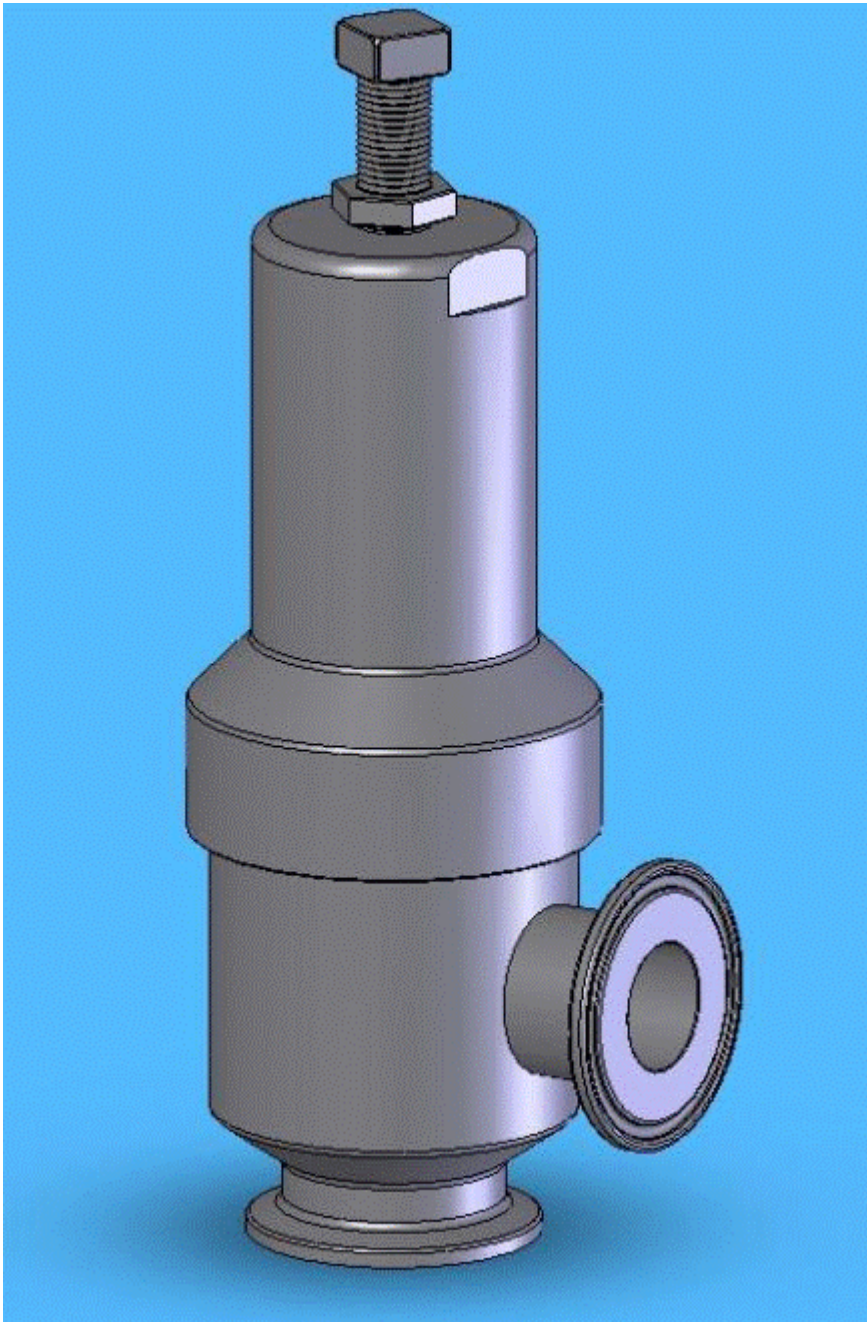


Model BPS05-TC

Back Pressure/Bypass Valve



Features

- **Body:** Standard material is 316 stainless steel. For non sanitary applications 303SS is offered at reduced cost
- **Poppet:** Also available in the same materials as the body.
- **Seat:** Standard is metal to metal with a choice of several elastomers for tight shutoff
- **Elastomeric piston seal:** Choice of different elastomers including Teflon expands valve usage to a wide range of applications and fluids and gases. Choice of elastomer determines final temperature limitation.
- **Spring chamber:** This part is non-wetted, the standard construction is a 303 stainless steel or 316 Stainless steel.
- **Right-angle porting:** Standard construction is bottom inlet, side outlet.
- **Internal surfaces:** 20RA is standard with electro-polishing available as an option

Applications

Use these sanitary back pressure valves to control liquids, gases or clean steam where overpressure conditions must be controlled gradually compared to an emergency relief valve where pressures are usually relieved much more quickly. Use of Backpressure/Bypass valves will reduce the probability of pressure spikes that often occur when relief valves are selected for pressure control applications. Valve should only be used selectively where the materials chosen are compatible with the fluid used and will not cause corrosive buildup or crystallization or solidification in the close clearances between the piston and body bore, which could keep the poppet from opening freely. Use only clean, strained, or filtered liquids or gases so that the valve can operate without buildup of debris or solid matter which can cause the valve to malfunction. A strainer or filter with the appropriate perf or mesh and pressure rating can be purchased from Stra-Val. Apply only where the discharge piping is not subjected to a high back pressure, as this may affect the relief setting. If the back pressure (outlet pressure) is steady or constant, compensating for the change in set pressure can be simply made by readjusting the spring load, or by using a different spring selection, or selecting a different valve type designed for this.

Although these valves are designed to 600 psig (~40 barg) there are light weight clamps that are rated to only 100 psig ~7 barg). **Therefore the user must install the proper clamp with the appropriate pressure and temperature rating that will safely contain the pressure in the piping system.** Clamps are not sold with the valves and must be supplied by others.

Although 316SS wetted materials are standard for sanitary and pharmaceutical applications, type 303SS can be selected for non sanitary or non pharmaceutical applications where the compact Quick Clamp or Tri-Clamp compatible connections are desirable for their easy and quick removal compared to the threaded NPT connections or the much larger and more costly bolted ANSI Flanges.

Standard metal seated valves meet ANSI/FCI Class IV seat leakage standards (0.01% of rated valve capacity, not bubble tight). Select soft seat options as indicated in the pricing pages below

Options

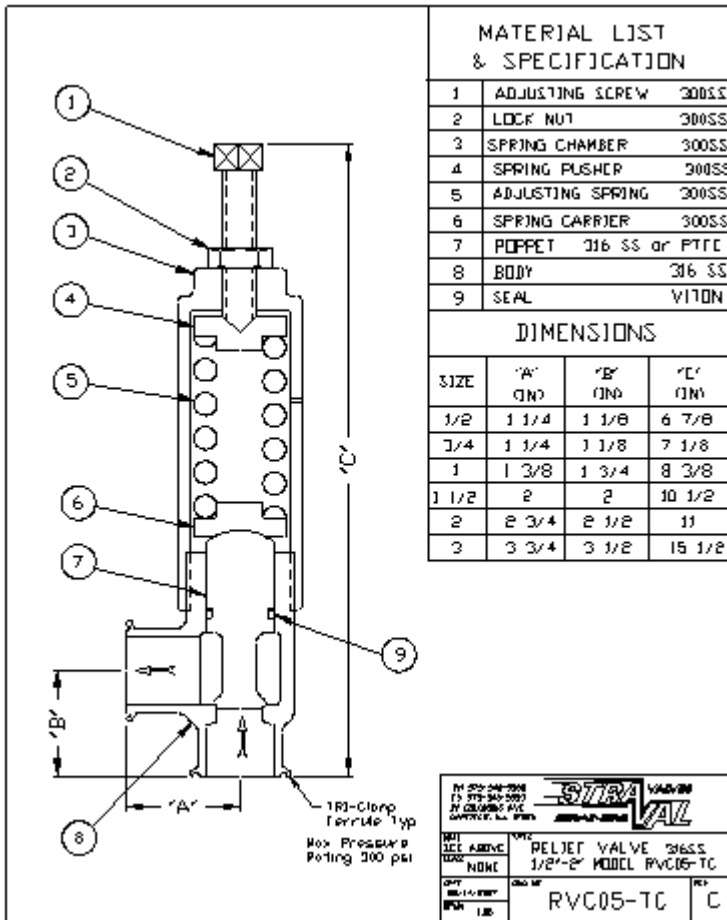
Scroll down below to select the valve size, spring range, material options in the customized pricing and ordering section indicated by the red arrows. You have the ability to customize your valve choices by selecting the wetted and nonwetted materials, and choice of seat materials to suit your shutoff 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-operated poppet and spring type back pressure control valve or bypass valve where the spring constantly opposes the pressure acting against the poppet which seals off the inlet port from the outlet port at the valve seat. The desired set pressure is achieved by compressing the spring until the spring force is adequate to balance the pressure force acting against the poppet. When the inlet pressure exceeds the set pressure, the poppet will open to relieve the excess pressure. The valve will operate in a vertical orientation as illustrated, horizontal, or any other orientation. This valve can also be operated by remote pressure adjustment which can be achieved with a dome type air-loaded version not illustrated here. Consult factory.

These valves are not equipped with a manual lever release. However, manual override is accomplished by first locking the spring lock nut to the adjusting screw and backing it out enough to open the poppet to release pressure, and then repositioning it to its original preset locked condition without losing the original set pressure. This procedure is recommended periodically to flush the seat and to check for proper opening of the valve piston.



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.