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20 Bushes Lane
Elmwood Park, NJ 07407

Model RVT-05-EX

Exotic Alloy 3 Port Pressure Relief Valve



- Hastelloy C276, Monel, Titanium, Alloy 20 (Stainless Steel model located here)
- 1/4"-2" NPT THD (also 1/2"-2" flanged)
- Adjustable relief pressures from 45 PSI (3 Bar) to 2000 PSI (138 Bar)
- Approximate spring ranges (PSI): 25-60, 50-125, 75-300, 250-750, 400-2000

Features

- **Pressure-containing parts** made from solid bar stock materials — unlike castings which have wall thickness variations.
- **Body and poppet:** Hastelloy C276, Monel, Titanium, or Alloy 20
- **Piston seal:** Viton with Stainless Steel is standard. Choice of different elastomers including Teflon, Kalrez (Dupont), and Parflur (Parker) expands valve usage to a wide range of applications and fluids. Choice of elastomer determines final temperature limitation.
- **Spring chamber and spring:** Standard construction is Hastelloy C276, Monel, Titanium, or Alloy 20.
- **In-line pressure ports** NPT with bottom outlet as illustrated. BSP threads, ANSI, and sanitary flanges are also available.

Applications

This is a multi-port relief valve for gases and liquids with two in-line pressure ports and one outlet port discharging through the bottom of the valve as illustrated. This relief valve or control valve can also be used as a bypass valve or back pressure valve to maintain or control a specified line pressure. Since the outlet pressure port is relatively smaller than the inlet or pressure ports, the effect of any back pressure on the outlet side will have almost no effect on the pressure balance of the valve. Valve should only be used selectively where the materials chosen are compatible with the fluid used and will not cause corrosive buildup or crystallization 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 with the appropriate material and pressure rating can be purchased from Straval.

The standard metal seated valves as illustrated meet ANSI/FCI Class IV seat leakage standards (0.01% of rated valve capacity, not bubble tight). Soft seat options such as PTFE or Viton are available depending on operating pressures and orifice size.

Special options with tamper-proof wire lock and special sealing caps are also available to contain hazardous materials in case of piston seal wear or seal failure. Panel mounted valves are also available. These valves do not carry the ASME approval stamp or CRN Registration and should not be applied where this requirement must be met. The valves however generally meet or exceed their design criteria.

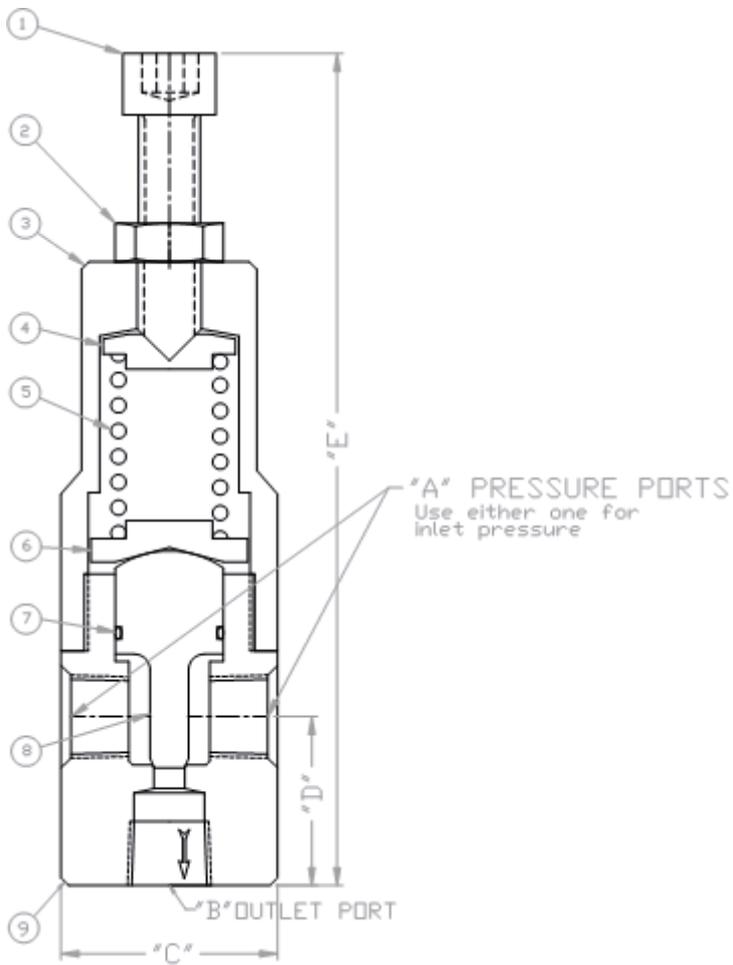
Options

Hastelloy C276, Monel, Titanium, or Alloy 20

Principle of Operation

This is a poppet and spring type relief 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 or relief 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. A special valve seat geometry is used when the valve requires a gradual flow control such as for back pressure and bypass service, compared to a quick-opening requirement that is required for relief service.

Hastelloy C276, Monel, Titanium, Alloy 20



RVT-05-EX Hastelloy C276, Monel, Titanium, Alloy 20

(Metal Seated Valve illustrated)

Material List and Specification

#	Item	Materials
1.	Adjusting screw	St Steel or alloy upgrade
2.	Lock nut	St Steel or alloy upgrade
3.	*Spring chamber	St Steel or alloy upgrade
4.	Spring pusher	St Steel or alloy upgrade
5.	Adjusting spring	St Steel or alloy upgrade
6.	Spring Carrier	St Steel or alloy upgrade
7.	*Piston Seal	Viton
8.	Piston	Hastelloy C276, Monel, Titanium, Alloy 20
9.	Body	Hastelloy C276, Monel, Titanium, Alloy 20

*Alternate elastomers available

Dimensions

A & B (NPT)	C	D	E
1/4	1-3/4	1-3/8	7-1/8
3/8	1-3/4	1-3/8	7-1/8
1/2	2	1-3/8	7-1/2
3/4	2-3/4	1-1/2	9-1/4
1	3-1/2	2	10-1/4
1-1/2	4	2-1/2	11-1/2
2	4-1/2	2-3/4	13-1/2

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

1/4" RVT05-02T-EX

Low Pressure Group 1500 psi (100 bar) Rating See lower priced std 2 port model RVC05/BPS05
Multiple Spring Ranges from:20-1100 psig (1.38-75.9 barg) Select spring from pricing page

3/8" RVT05-03T-EX

Low Pressure Group 1500 psi (100 bar) Rating
Multiple Spring Ranges from:15-1250 psig (1.03-86.2 barg) Select spring from pricing page

1/2" RVT05-05T-EX

Low Pressure Group 1000 psi (69 bar) Rating
Multiple Spring Ranges from:15-1000 psig (1.03-69 barg) Select spring from pricing page

3/4" RVT05-07T-EX

Low Pressure Group 1000 psi (69 bar) Rating
Multiple Spring Ranges from:15-1000 psig (1.03-69 barg) Select spring from pricing page

1" RVT05-10T-EX

Low Pressure Group 1000 psi (69 bar) Rating
Multiple Spring Ranges from:10-1000 psig (0.69-69 barg) Select spring from pricing page

1 1/4" RVT05-12T-EX

Low Pressure Group 1000 psi (69 bar) Rating
Multiple Spring Ranges from:10-1000 psig (0.69-69 barg) Select spring from pricing page

1 1/2" RVT05-15T-EX

Low Pressure Group 1000 psi (69 bar) Rating
Multiple Spring Ranges from:10-500 psig (0.69-34.5 barg) Select spring from pricing page

2" RVT05-20T-EX

Low Pressure Group 1000 psi (69 bar) Rating

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.