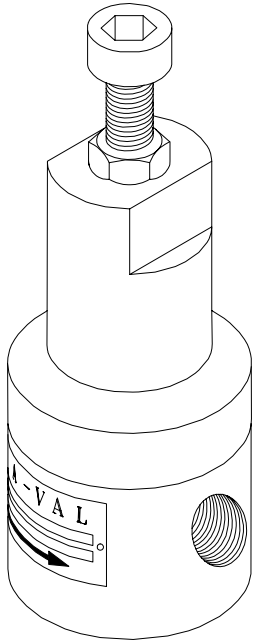


## Model RVT-05 THD PRESSURE RELIEF VALVE



- Comes in stainless steel, Alloy 20, Hastelloy, Monel, titanium, or brass
- 1/4"-2" NPT THD (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

### Pressure Relief Valve Features

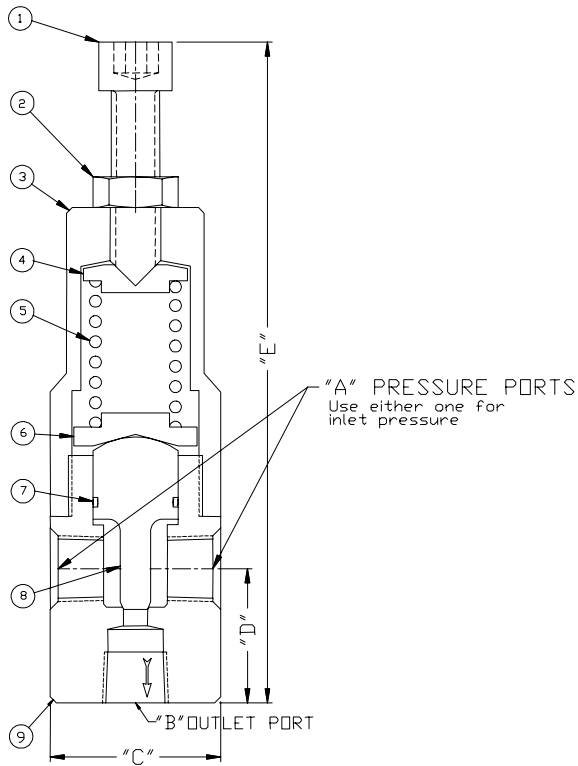
- **Pressure-containing parts** made from solid bar stock materials — unlike castings which have wall thickness variations.
- **Body and poppet:** Standard materials are stainless steel, Monel, titanium, Hastelloy, and brass. Teflon is also available for low pressures.
- **Piston seal:** Viton with stainless steel is standard. Choice of different elastomers including titanium, brass, Teflon, Kalrez (Dupont), and Parfluor (Parker) expands valve usage to a wide range of applications and fluids. Choice of elastomer determines final temperature limitation.
- **Spring chamber and spring:** These and related parts are non-wetted. Standard construction is carbon steel which can be upgraded to stainless steel in harsher chemical and marine environments.
- **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 Stra-Val. 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 and should not be applied where this requirement must be met. The valves however generally meet or exceed their design criteria.

## 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.



## Material List and Specification

|      |                  |                 |
|------|------------------|-----------------|
| 1.   | Adjusting screw  | Steel           |
| 2.   | Lock nut         | Steel           |
| 3.   | Spring chamber   | Steel           |
| 4.   | Spring pusher    | Steel           |
| 5.   | Adjusting spring | Steel           |
| 6.   | Spring carrier   | Steel           |
| 7. * | Piston seal      | Viton           |
| 8. † | Piston           | Stainless steel |
| 9. † | Body             | Stainless steel |

\* Alternate elastomers available

† Also available in Alloy 20, brass, Hastelloy, and titanium

## 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         | 2-1/4 | 1-1/2 | 9-1/4  |
| 1           | 2-1/2 | 1-3/4 | 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.

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