

## Model RVC05-P

### Plastic Pressure Relief Valve



- Piston-operated pressure relief valve
- 1/2"-2" NPT THD (see also **metal backpressure regulator valve** [model BPS05])
- Relief valve controls pressures from 5 to 125 PSI (0.34-8.6 Bar) (see table below)
- Standard PVC/PTFE construction, alternates CPVC, & PVDF

### Features

- **Pressure-containing relief valve parts** made from solid plastic bar stock materials (PVC, CPVC, PTFE & PVDF). No metals in contact with product going through valve.
- **Valve Body:** The construction is manufactured entirely of plastic for optimal flow, strength and chemical resistance.
- **Piston valve/poppet:** Is made of the same high grade plastics selected for the valve body. PTFE can be requested for custom applications
- **Elastomeric Poppet Seal:** Available in Viton, Epdm, Buna, Kalrez and Parfluor
- **Soft Valve Seat:** Elastomeric seats are for liquid, chemical service to help insure ANSI Class IV bubble tight shut-off.
- **Hardware & Adjusting Spring:** Adjustment screw, lock nut and spring will be a 300 series stainless by default with 316SS optional
- **Right-angle valve porting** (bottom inlet, side outlet) is the standard piping arrangement.

## Applications

Use these pressure relief valves for emergency relief service where pressures must be relieved quickly to reduce damage that could result from overpressure in a system. Where the overpressure needs to be controlled more gradually, such as in back pressure or pump bypass applications use our all **plastic Backpressure/Bypass valve** (Model BPS05-P) which will reduce the probability of pressure spikes that often occur when relief valves are selected for pressure control applications. Standard Soft seated valves meet ANSI Class VI seat leakage standards. (Bubble tight).

Although the valve is typically installed in the position illustrated, it can operate in any position or orientation, vertical or horizontal, etc as long as it can be easily accessed for making adjustments.

Safety relief valve should only be used selectively where the materials chosen are compatible with the fluid and temperatures encountered. Make sure the fluids chosen are not only chemically compatible with the valve, but also will not cause corrosive buildup, crystallization or solidification in the close clearances between the piston and body bore, which could keep the poppet from opening freely.

These valves do not carry the Canadian CRN or ASME approval stamp and should not be applied where this requirement must be met. For an additional charge, valves can be ordered with material certs and with a certified hydro-test certificate and other tests to meet special documentation and acceptance requirements.

## 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. 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 set pressure if you expect the valve to relieve at only one pressure. This pressure will be stamped on the valve 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 stamped on the nameplate**

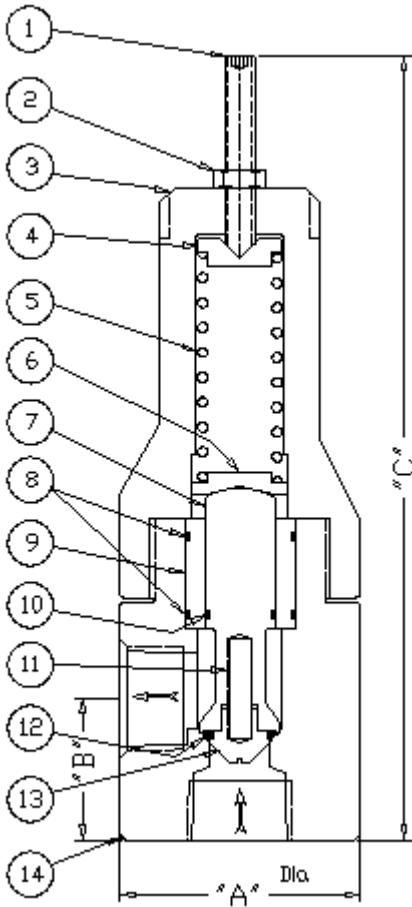
## Principle of Operation

Although this valve operates very similar to a **pressure relief valve** which is usually designed to release pressure quickly as soon as the set pressure is exceeded, this valve is designed to relieve pressure more gradually with changes in flow resulting in fewer pressure spikes when the valve opens and closes. 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 main valve to open and relieve or bypass the excess pressure.

The valve will operate in a vertical orientation as illustrated, horizontal, or any other orientation.

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



Shown with Npt connections  
RVC-05-P

**Material List and Specification**

#	Item	Materials
1.	Adjusting screw	Stainless steel
2.	Lock nut	Stainless steel
3.	Spring chamber	PVC
4.	Spring pusher	Stainless steel
5.	Adjusting spring	Stainless steel
6.	Spring Carrier	Stainless steel
7.	*Poppet	PVC, CPVC, PVDF
8.	Seal, Bushing	Viton, Epdm, Buna, Kalrez
9.	Guide Bushing	PTFE
10.	Seal	Viton, Epdm, Buna, Kalrez
11.	Screw	Stainless steel
12.	Seat	Viton, Epdm, Buna, Kalrez
13.	Seat Holder	PVC, CPVC, PVDF
14.	Body	PVC, CPVC, PVDF

**Dimensions** Inches

Size	A(in)	B(in)	C(in)	D(in)
1/2	1	1	1-3/8	7-3/8

3/4	1-1/8	1-1/8	1-5/8	8-1/2
1	1-1/2	1-3/16	2	10-1/4
1-1/4	2	1-1/4	2-1/2	11
1-1/2	2	1-1/2	2-1/2	12-1/4
2	2-3/8	1-1/2	3	12-1/2

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

## 1/2" RVC05P-05T

**Rated pressure 150 psig (~10 barg)**

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

## 3/4" RVC05P-07T

**Rated pressure 150 psig (~10 barg)**

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

## 1" RVC05P-10T

**Rated pressure 150 psig (~10 barg)**

Multiple Spring Ranges from:15-125 psig (1.03-8.62 barg) Select spring from pricing page

## 1 1/2" RVC05P-15T

**Rated pressure 150 psig (~10 barg)**

Multiple Spring Ranges from:15-125 psig (1.03-8.62 barg) Select spring from pricing page

## 2" RVC05P-20T

**Rated pressure 150 psig (~10 barg)**

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.