

Model RVC05-600 FLG

Stainless Steel 600# Flange Pressure Relief Valve



- Stainless Steel ([Click Here](#) for Monel, Hastelloy, Titanium, and Alloy 20 Model)
- 1/2"-4" flanged (see also **threaded high pressure relief Valve** [model RVC-05])
- Adjustable relief pressures from 25 PSI (1.7 Bar) to 1400 PSI (97 Bar) at 200 °F (93 °C)

Features

- **Body:** Standard material is stainless steel with ANSI Flanges as illustrated. Not offered in carbon steel construction except for clean lubricating oil type of services.
- **Poppet:** Available in metal and soft seat construction for liquid and gas service.
- **Elastomeric seal:** Choice of different elastomers including Teflon expands valve usage to a wide range of applications and fluids. Choice of elastomer determines final temperature limitation.
- **Spring chamber:** Because it is non-wetted, the standard construction is carbon steel, but can be upgraded to 300 series stainless steel in aggressive environments.
- **Right-angle porting:** Standard construction is bottom inlet, side outlet.

Applications

Use these valves for emergency relief 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 **Backpressure valves** which 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 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 Straval. Apply only where the discharge piping is not subjected to a high back pressure, as this will affect the relief setting. If the back 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 the valve is typically installed in the position illustrated, it can operate in any position or orientation, vertical horizontal, etc as long as it can be easily accessed for making adjustments.

We now offer some models that meet **NACE MR0175**. These are not priced on line. Consult factory.

These valves do not carry the Canadian CRN or ASME approval stamp and should not be applied where this requirement must be met. However, the valves generally meet or exceed ASME design criteria with wall thicknesses that are much heavier than the minimums required. 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.

Avoid locating the valve where freezing can occur, and if unavoidable, take precautions to insulate or heat wrap valve and piping to keep from freezing.

Standard metal seated valves meet ANSI/FCI Class IV seat leakage standards (0.01% of rated valve capacity, not bubble tight).

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.

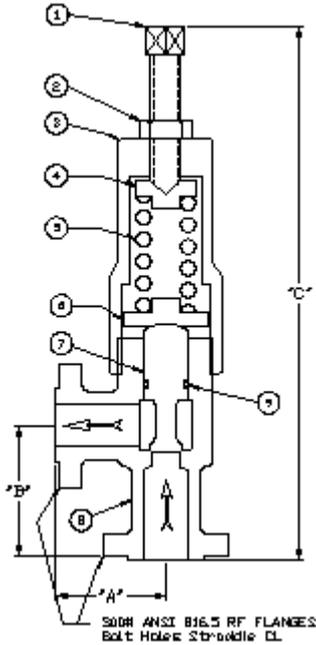
When ordering don't forget to state your desired relief set pressure if you expect the valve to relieve at only one pressure. This pressure will be engraved on the valve body. **If the set pressure is not specified, the valve will be set at or below the stated spring range as selected for the order and no set pressure will be stamped on the nameplate.**

Principle of Operation

This is a direct-operated 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. 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. 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.



RVC05-600# FLG

Material List and Specification

#	Item	Materials
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.	Poppet	Stainless steel
8.	Body	Stainless steel
9.	Seal	Viton, Buna, EPDM, Teflon, etc.

- Upgrade to all stainless steel is optional for all non-wetted parts

Dimensions (inches) These apply to 600# flanges. Request drawing for higher flange ratings

Size	A (in)	B (in)	C (in)
1/2	3-1/4	3-1/4	9-1/2
3/4	3-3/4	3-3/4	10-1/8
1	4-1/4	4-1/4	11-7/8
1-1/4	4-1/2	4-1/2	12-3/4
1-1/2	4-3/4	4-3/4	13-7/8

2	5-3/4	5-3/4	15-3/4
2 1/2	6-1/2	6-1/2	19-1/4
3	7	7	21-1/2
4	8-1/2	8-1/2	23 max

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

1/2" RVC05-05C

600 psi ANSI Flange (1400 psi max) (94 bar max) Rating

Multiple Spring Ranges from:45-1350 psig (3.1-93.1 barg) Select spring from pricing page

3/4" RVC05-07C

600 psi ANSI Flange (1400 psi max) (94 bar max) Rating

Multiple Spring Ranges from:45-1350 psig (3.1-93.1 barg) Select spring from pricing page

1" RVC05-10C

600 psi ANSI Flange (1400 psi max) (94 bar max) Rating

Multiple Spring Ranges from:45-1350 psig (3.1-93.1 barg) Select spring from pricing page

1-1/4" RVC05C

600 psi ANSI Flange (1400 psi max) (94 bar max) Rating

Multiple Spring Ranges from:45-1350 psig (3.1-93.1 barg) Select spring from pricing page

1 1/2" RVC05-15C

600 psi ANSI Flange (1400 psi max) (94 bar max) Rating

Multiple Spring Ranges from:45-1350 psig (3.1-93.1 barg) Select spring from pricing page

2" RVC05-20C

600 psi ANSI Flange (1400 psi max) (94 bar max) Rating

Multiple Spring Ranges from:30-1350 psig (2.07-93.1 barg) Select spring from pricing page

2 1/2" RVC05-25C

600 psi ANSI Flange (1400 psi max) (94 bar max) Rating

Multiple Spring Ranges from:45-1350 psig (3.1-93.1 barg) Select spring from pricing page

3" RVC05-30C

600 psi ANSI Flange (1400 psi max) (94 bar max) Rating

Multiple Spring Ranges from:30-900 psig (2.07-62.1 barg) Select spring from pricing page

4" RVC05-40C

**600 psi ANSI B16.5 RF Flange (1400 psi max) (94 bar max) Rating
(std 8 hole pattern)**

Multiple Spring Ranges from:30-1350 psig (2.07-93.1 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.