

Proportional Relief Valves

RV01 Series



Overview

Valves OPEN when system pressure reaches the set pressure to release system pressure. Valves CLOSE when the system pressure falls below the set pressure. Proportional relief valves open gradually as the pressure increases. There is no limit for relieving capacity. Therefore, valves should be selected carefully to conform to system requirements.

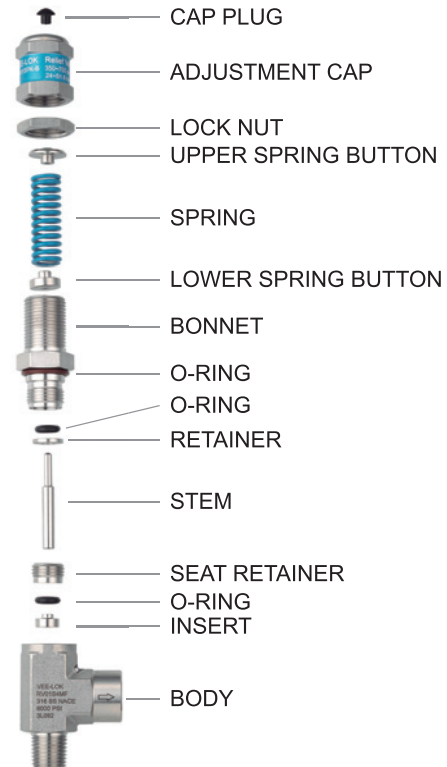
Features

- **Set Pressure:**
RV01 Series: color coded springs available for a wide range of set pressure
50 to 6000 psig @70°F (3.4 to 414 bar @20°C)
- **Orifice Size:**
3.60mm
- **Back Pressure:**
The effect of system back pressure is minimized by the design of these high pressure valves.
- **Variety of end connections**
- **Adjustable bonnet cap and adjustable set pressure**
- **Lock wire to secure cap to maintain set pressure adjustment.**
- **Label identifies set pressure range**



For valves not actuated for a period of time, initial relief pressure may be higher than the set pressure.

Materials of Construction

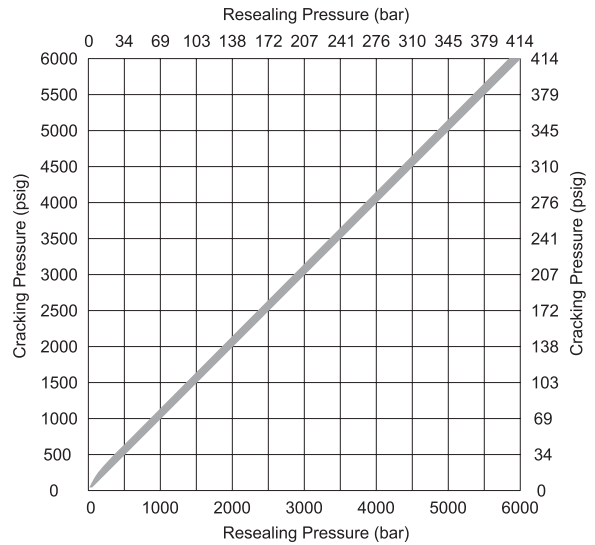


Component	Material Grade/ASTM specification
Cap Plug	Polypropylene
Adjustment Cap	316L SS/A479
Lock Nut	316L SS/A276
Upper Spring Button	316L SS/A276
Spring	17-7 PH SS/AMS 5678
Lower Spring Button	316 L SS/A276
Bonnet	316L SS/A479
O-Ring	Viton [®]
O-Ring	Viton [®]
Retainer	316L SS/A276
Stem	316L SS/A479
Seat Retainer	316L SS/A276
O-Ring	Viton [®]
Insert	316L SS/A276
Body	316L SS/A479

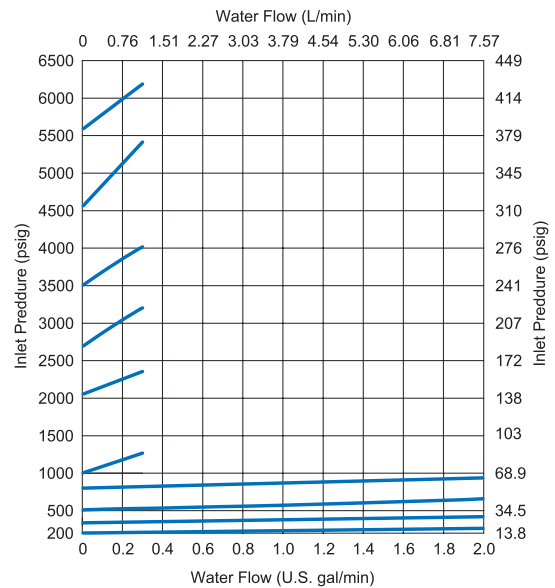
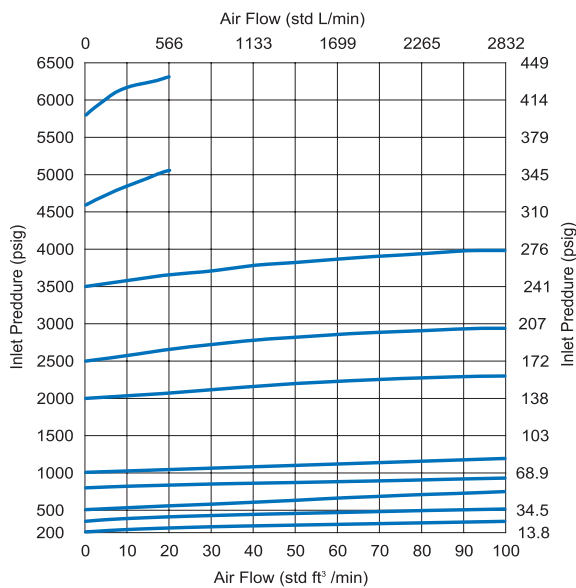
Set Pressure and Resealing Pressure

- Cracking pressure is the upstream pressure at which the first indication of flow occurs. The repeatability of the cracking pressure of each valve after initial relief is within $\pm 5\%$ at room temperature.
- Resealing pressure is the upstream pressure at which there is no indication of flow. Resealing pressure is always lower than set pressure.
- Back pressure: The pressure of the outlet of the valve. It increases the set pressure.

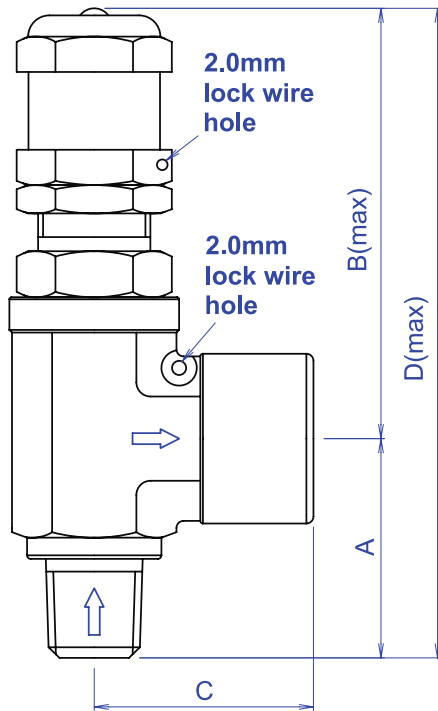
RV01 Series



Flow Characteristics RV01 Series



Dimensions



Ordering No.	End Connections		Dimensions, in. (mm)			
	Inlet	Outlet	A	B	C	D
RV01S4M4M	1/4"NPT male	1/4"NPT male	28.5	68	28.5	96
RV01S4M4F	1/4"NPT male	1/4"NPT female	28.5	68	27.5	96
RV01S4F4F	1/4"NPT female	1/4"NPT female	27.5	68	27.5	95
RV01S6M6M	3/8"NPT male	3/8"NPT male	28.5	68	28.5	96
RV01S4OD	1/4"O.D.	1/4"O.D.	28.5	68	28.5	96
RV01S6OD	3/8"O.D.	3/8"O.D.	28.5	68	28.5	96
RV01S8OD	1/2"O.D.	1/2"O.D.	28.5	68	28.5	96
RV01SM6OD	6mm O.D.	6mm O.D.	28.5	68	28.5	96
RV01SM8OD	8mm O.D.	8mm O.D.	28.5	68	28.5	96
RV01SM10OD	10mm O.D.	10mm O.D.	28.5	68	28.5	96
RV01SM12OD	12mm O.D.	12mm O.D.	28.5	68	28.5	96

All dimensions are for reference only and are subject to change without prior notice.

Optional Accessories

Spring Kits

Spring kits include spring, label, lock wire with seal, spring buttons and installation instructions.

Select a spring kit basic ordering number and add the spring designator for the desired set pressure range.

Example: RV01SPK-A

Ordering No.	Set Pressure Range		Spring Designator	Spring Color
	psig	bar		
RV01SPK-A	50 to 350	3.4 to 24	A	White
RV01SPK-B	350 to 750	24 to 51.6	B	Blue
RV01SPK-C	750 to 1500	51.6 to 103	C	Golden
RV01SPK-D	1500 to 2250	103 to 155	D	Black
RV01SPK-E	2250 to 3000	155 to 206	E	Green
RV01SPK-F	3000 to 4000	206 to 275	F	Yellow
RV01SPK-G	4000 to 5000	275 to 344	G	Brown
RV01SPK-H	5000 to 6000	344 to 413	H	Orange

Seal Materials

Viton is the standard seal materials and designated as basic ordering number as RV01SS.

Buna N, ethylene propylene and neoprene are available.

Ordering No.	O-ring Material	Temperature Ranges °F (°C)	Seal Designator
RV01SS	Viton [®] (standard)	25 to 250 (-4 to 121)	
RV01SS-BU	Buna N	0 to 250 (-17 to 121)	BU
RV01SS-NE	Neoprene	-10 to 300 (-23 to 148)	NE
RV01SS-EP	Ethylene Propylene	30 to 250 (-1 to 121)	EP

Factory-Set Valves

Valves are available with springs factory-set to a specified set pressure. Valves are set, tested, locked, and labeled with the set pressure.

To order, add-SET and a spring designator whose range includes the desired set pressure to the valve ordering number.

Example:

RV01S4M4F-SETC

Valve without spring installed

To order, do not specify spring designator on the ordering number.

Example:

RV01S4M4F

Valves with no spring are supplied without labels.

Factory Test

Valves are factory tested for cracking and resealing performance.



Proportional relief valves should never be used as code safety relief valves.



Safe Product Selection

When selecting a product, the total system design must be considered to ensure safe performance. Function, material compatibility, adequate ratings, proper installation, operation and maintenance are the responsibilities of the system designer and user.

Ordering Information

RV01	S		4		4F		BN		B	
Series	Body Material		Inlet		End Connection		Seal Material		Spring Kit Color	
RV01	S	316L S.S.	4	1/4"	M	Male		Viton [®]	A	White 50~350psig
			6	3/8"	F	Female	Bu	Buna N	B	Blue 350~750psig
			M6	6mm	OD	VEE-LOK twin ferrule tube fittings	NE	Neoprene	C	Golden 750~1500psig
			M10	10mm			EP	Ethylene propylene	D	Black 1500~2250psig
			M12	12mm					E	Green 2250~3000psig
									F	Yellow 3000~4000psig
									G	Brown 4000~5000psig
									H	Orange 5000~6000psig