



## Introduction

Safety or pressure relief valves are safety devices designed to protect a pressurized vessel or system from overpressure.

Safety Relief Valve open when system pressure reaches the set pressure, allowing the medium to flow out and relieve the system pressure. The valve doses when the system pressure is down to the resealing pressure.

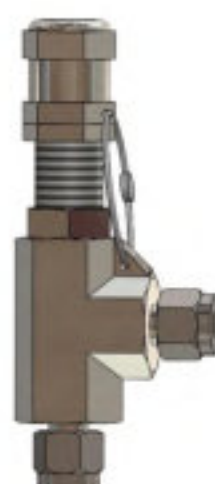
The opening height and the system pressure are direct proportional. However, there's no limit for relieving capacity, so valves in these series should be selected carefully according to system requirements.



NPT (F) X NPT (F)



NPT (M) X NPT (F)



OD X OD



OD X NPT (M)

**TECHNICAL DATA**

**LOW PRESSURE SERIES TECHNICAL DATA:**

Maximum working pressure: 300 psig @ 68°F (20.6 bar @ 20°C)

Cracking pressure range: 10 to 225 psig (0.68 to 15.5 bar)

**Table 1. Low Pressure Series Standard Spring Designator:**

SPRING DESIGNATOR	CRACKING PRESSURE		COLOR CODE
	psig	bar	
L	10 to 225	0.68 to 15.51	RED

Orifice: 4.8 mm (0.19 in.)

**HIGH /LOW PRESSURE SERIES TEMPERATURE RATING:**

SEAL MATERIAL	TEMPERATURE RATING, °C (°F)	
	LP SERIES	HP SERIES
FKM (Viton)	-12 ~ 135 (10.4 ~ 275)	-4 ~ 121 (24.8 ~ 250)
Buna N	-23 ~ 148 (-9.4 ~ 298)	-17 ~ 121 (1.4 ~ 250)
PTFE	-40 ~ 140 (-40 ~ 284)	-1 ~ 121 (30.2 ~ 250)

**HIGH PRESSURE SERIES TECHNICAL DATA:**

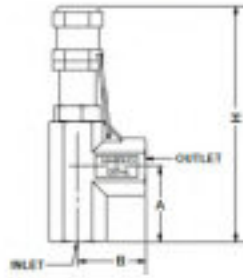
Maximum working pressure: 6,000 psig @ 68°F (413 bar @ 20°C)

Cracking pressure range: 50 to 6,000 psig (15.1 to 413 bar)

Orifice size: 3.4 mm (0.13 in.)

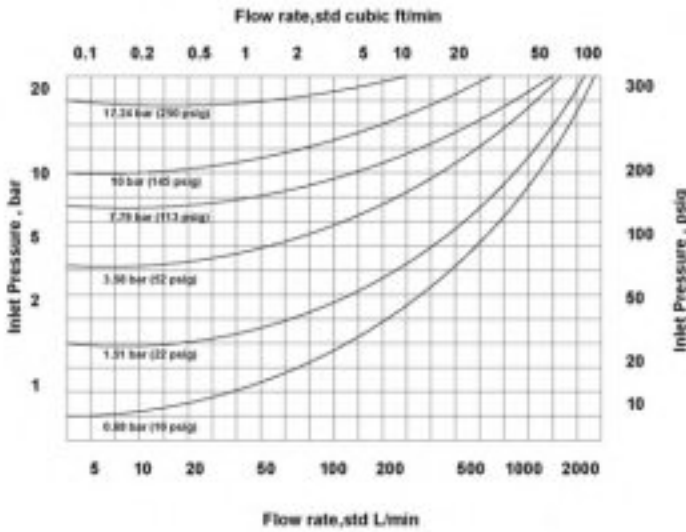
**Table 2. High Pressure Series Standard Spring Designator:**

SPRING DESIGNATOR	CRACKING PRESSURE		COLOR CODE
	psig	bar	
A	50 to 350	3.4 to 24.1	BLACK
B	350 to 750	24.1 to 51.7	BROWN
C	750 to 1500	51.7 to 103	WHITE
D	1500 to 2250	103 to 155	PURPLE
E	2250 to 3000	155 to 206	BLUE
F	3000 to 4000	206 to 275	ORANGE
G	4000 to 5000	275 to 344	GREEN
H	5000 to 6000	344 to 413	YELLOW

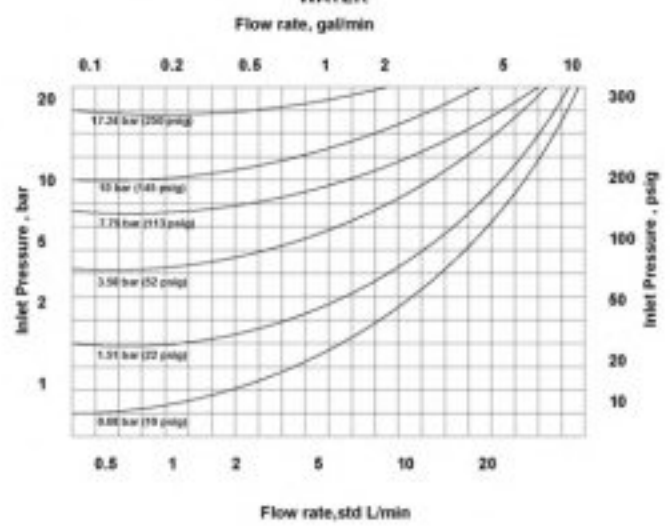


Note: The Values mentioned on Legends / Curves in below Charts are Cracking Pressure / Set Pressure  
Spring Code can be consider from Table 2 only.

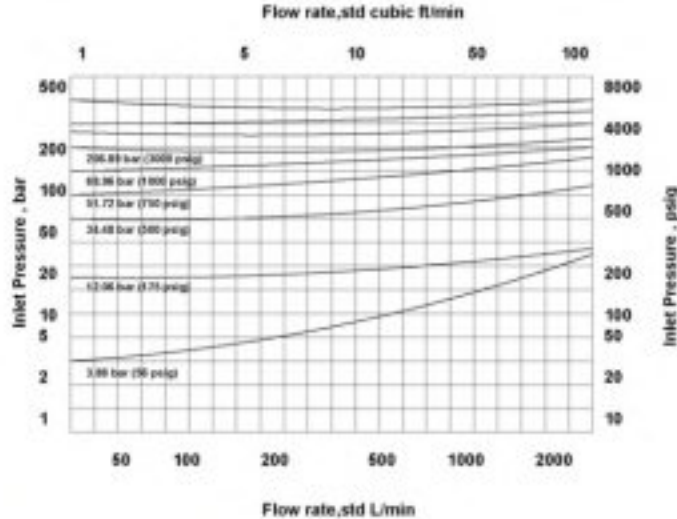
LOW PRESSURE VALVE FLOW RATE  
AIR



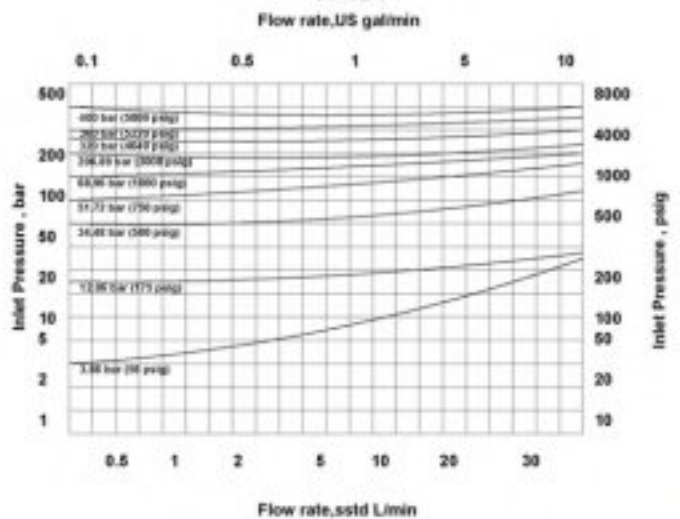
LOW PRESSURE VALVE FLOW RATE  
WATER



HIGH PRESSURE VALVE FLOW RATE  
AIR

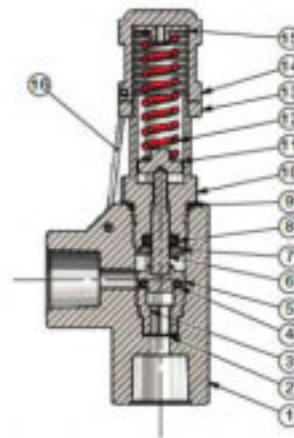
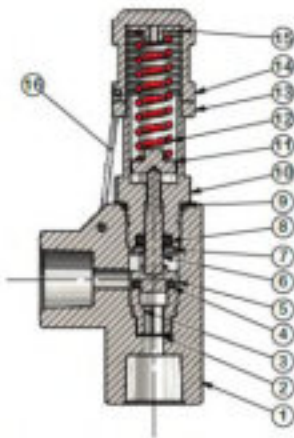


HIGH PRESSURE VALVE FLOW RATE  
WATER



### OPERATION

- Install the valve in system make sure the auxiliary units and valve outlet are as close as possible, and any shut-off device in the discharge line. The mounting position should be always vertical with the adjusting cap at the top to get accuracy in readings.
- HP-pressure relief valve releases the system fluid to prevent damages of instrument or sensitive gauges in the system occur due to excess pressure.
- When there is increase in the inlet pressure more than the set spring pressure on the poppet, the poppet lifts off the valve seat, allowing fluid to flow, release from the outlet and thereby it keeps system pressure balanced and in equilibrium.
- A non-operated valve for a long period, may initially show cracking pressure above the factory set cracking pressure.
- Cracking pressure can be obtain only at inlet pressure conditions, and not at outlet pressure conditions.
- The efficiency of valve can be improved by reducing the orifice size and the valve flow may be tuned by the restriction the ID of pipe and tubing connected to valve and system.



**BILL OF MATERIAL FOR LOW PRESSURE**

ITEM NO.	DESCRIPTION	MATERIAL	QTY.
1	BODY	SS316	1
2	SEAL	PEEK	1
3	SEAT	SS316	1
4	DISC O-RING	VITON	1
5	DISC	SS316	1
6	PLUNGER	SS316	1
7	WASHER	SS316	1
8	PLUNGER SEAL	VITON	1
9	BODY O-RING	VITON	1
10	RETAINER	SS316	1
11	BOTTOM SPRING GUIDE	SS316	1
12	SPRING	SS316	1
13	LOCK NUT	SS316	1
14	CAP	SS316	1
15	TOP SPRING GUIDE	SS316	1
16	LOCK WIRE	SS316	1

**BILL OF MATERIAL FOR HIGH PRESSURE**

ITEM NO.	DESCRIPTION	MATERIAL	QTY.
1	BODY	SS316	1
2	SEAL	VITON	1
3	SEAT	SS316	1
4	DISC O-RING	VITON	1
5	DISC	SS316	1
6	PLUNGER	SS316	1
7	WASHER	SS316	1
8	PLUNGER SEAL	VITON	1
9	BODY O-RING	VITON	1
10	RETAINER	SS316	1
11	BOTTOM SPRING GUIDE	SS316	1
12	SPRING	SS316	1
13	LOCK NUT	SS316	1
14	CAP	SS316	1
15	TOP SPRING GUIDE	SS316	1
16	LOCK WIRE	SS316	1

**STATUTORY CAUTION NOTE:**

The selection of a valve for any application or system design should ensure safe performance. Following factors are mandatory to consider

1. Valve function,
2. Valve rating,
3. Material compatibility,
4. Proper installation,
5. Operation and maintenance remain the sole responsibility of the system designer and the user.

**HP Valves** accepts no **liability** for any improper selection, installation, operation or maintenance.

**VALVE PART NUMBER - ORDERING SYSTEM**

Selection of valve to order according to specific requirement as per the below.

BRAND NAME	→	<b>A</b>	→	<b>CC SRV (CalCon)</b>
BODY MATERIAL	→	<b>B</b>	→	<b>SS (SS316)</b>
TYPE	→	<b>C</b>	→	<b>L (Low Pressure) / H (High Pressure)</b>
PRODUCT	→	<b>D</b>	→	<b>R (Relief Valve)</b>
SIZE	→	<b>E</b>	→	<b>1/4 / 3/8 / 1/2 / 3/4 / 1 / 1 1/4 / 1 1/2 / 2"</b>
1ST & 2ND END CONNECTION	→	<b>F</b>	→	<b>M (Male) / F (Female)</b>
THREAD TYPE	→	<b>G</b>	→	<b>N (NPT) / B (BSP) / T (Tube OD)</b>
SPRING DESIGNATOR (STANDARD SET PRESSURE RANGE)	→	<b>H</b>	→	<b>A / B / C / D / E / F / G / H / L</b>

Factory Set -Pressure relief valve

To order a valve with known set pressure, select the select an applicable spring from the spring designator table 1 & 2 for standard set pressure range in the valve ordering number.

To choose the standard set pressure range please glance the spring designator table-1 & 2. These are standard set pressure ranges. For customised set pressure ranges, please mention set pressure in front of model number and contact to factory at [sales@calconuae.com](mailto:sales@calconuae.com)

**Example:**

For High Pressure Valve having set pressure in the range of 2250 to 3000 psig generate model no. as below.

**CC-SRV-SS-H-R-1/2-M-F-N-E**