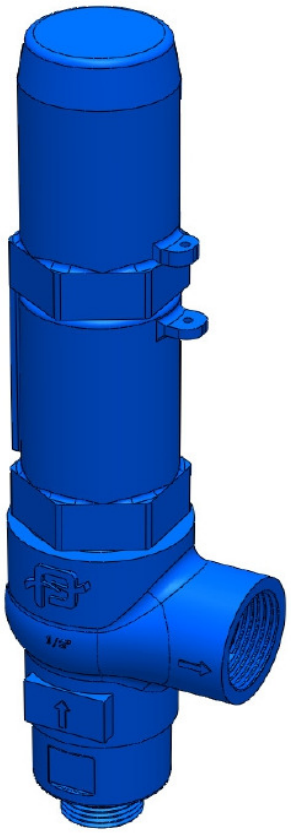
SAFETY RELIEF VALVE - SERIES 42

INTRODUCTION

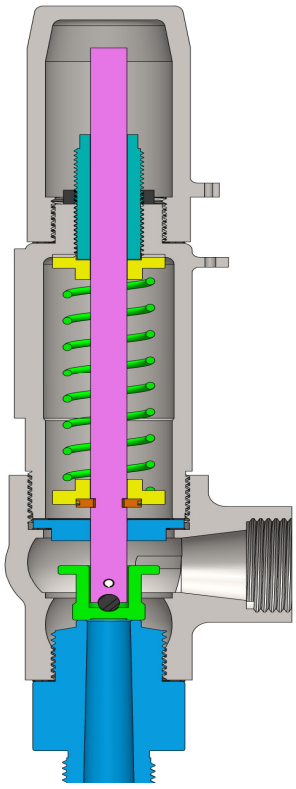


Safety Relief Valve is a valve that acts as a fail safe. It automatically releases a substance from a Boiler, Pressure vessel or other systems, when maximum allowable pressure exceeds preset set pressure limit. It had wide Application of water, air gases, steam, any other gases and liquid.

Internal set value adjuster is connected to the set pressure spring and guided to the plug which lifts when the inlet pressure exceeds the preset set value adjuster limits.

SPECIFICATIONS

Design Standard	: 1. Flow Sizing - API RP 520. 2. Flange - ASME B16.34 3. Orifice - API 526 4. Testing - API 527 Seat Tightness 5. Inspection - API 576
Inlet Valve Size	: 15 to 40 mm (1/2" to 1-1/2") Other sizes on demand available. Outlet Size As Per Table
Rating	: ANSI 150 # TO 600#
Temperature	: -40°C to 400°C
End Connection	: NPT, BSP, Socket Weld, Butt Weld
Body Material	: WCC, CF8, CF8M ,CF3, CF3M Other available on request
Bonnet	: Screw to Body Type
Gasket	: CAF 154 Metallic,Grafoil / PTFE
Trim Material	: S.S.304, S.S.316, S.S.304L, S.S.316L Other available on request
Seat Leakage	: As Per API 527



- % Regulation applicable from 10% to 20% overpressure depending on configuration with respect to API 520.
- Discharge Capacity of safety valve as per API 520 Part I.
- Seat tightness confirms to API RP 527.
- Characteristics graph of maximum allowable pressure and vs valve lift showing below .

Applications :-

1. Protection of Chemical Processes and equipment
2. Pharma and Boilers sector
3. Process industries and pumps
4. Low & Medium Pressure Stem
5. Corrosive Application

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Overall Dimension Series 42

Inlet		Outlet		STD Set Pr. Barg	Area Sq. mm	Dia. "d_o" mm	Wgt Approx Kgs.	Height 'H' Approx	Outlet "B" mm	Inlet "A" mm
Size	Rating ANSI	Size	Rating ANSI							
3/4"	150	1"	150	40	123	12.5	5	300	80	90
1"	150	1"	150	40	123	12.5	5	300	80	90
1"	150	1-1/2"	150	40	123	12.5	5	300	80	90
1"	150	1.1/2"	150	40	201	16	5.5	310	114	105
1"	150	2"	150	40	201	16	5.5	310	114	105
1.1/2"	150	1.1/2"	150	40	201	16	5.5	310	114	105
1.1/2"	150	2"	150	40	201	16	6	310	114	105

Discharge Capacities Series 42

Flow Dia mm	Medium	Set Pressure Barg															
		1	2	4	6	8	10	12	14	16	18	20	24	28	32	36	40
12.5	Air	213	324	546	768	990	1212	1434	1656	1878	2100	2322	2766	3210	3654	4098	4542
	Steam	132	202	340	478	616	754	893	978	1110	1243	1375	1641	1909	2177	2447	2718
	Water	72	102	144	176	204	228	250	270	288	306	322	353	382	408	433	456
16	Air	348	530	894	1258	1622	1985	2349	2713	3077	3441	3805	4532	5259	5987	6715	7442
	Steam	217	330	557	784	1010	1237	1463	1603	1819	2036	2254	2690	3127	3567	4009	4453
	Water	118	167	236	289	334	374	409	442	473	502	529	579	626	670	709	748

- Saturated Steam Capacity in (kg/hr)
- Air Capacity at 15°c (kg/hr)
- Water Capacity in (l/min)

Safety Relief Valve Leakage Class Defined As Per API 527

Acceptance Criteria for Air

Set Pressure at 15.6°C Barg	Orifice Dia ≥ 18 mm (do)		Orifice Dia ≤ 18 mm (do)	
	Leakage Rate (Bubble/min)	Approximate leakage/24 hr (m^3)	Leakage Rate (Bubble/min)	Approximate leakage/24 hr (m^3)
0.13 TO 68.96	40	0.017	20	0.0085
103	60	0.026	30	0.013
138	80	0.034	40	0.017
172	100	0.043	50	0.021
207	100	0.043	60	0.026

Maximum Sear Leakage Rate for Metal Seated for AIR

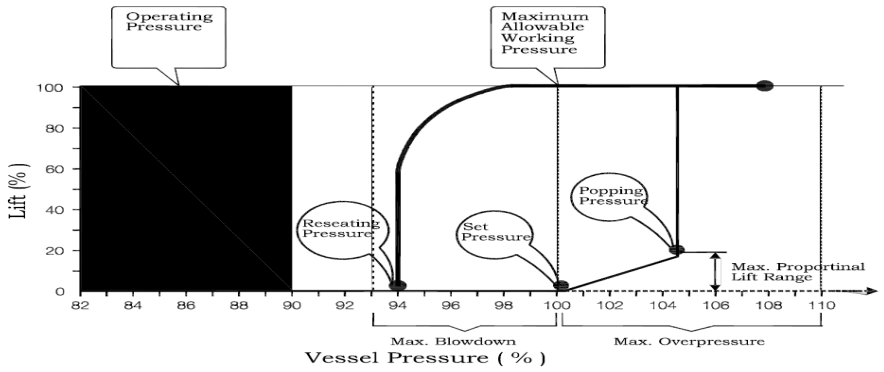
Acceptance Criteria for Steam

For Soft Seated and Metal Seated Valves, there shall be no audible or visible leakage for one min.

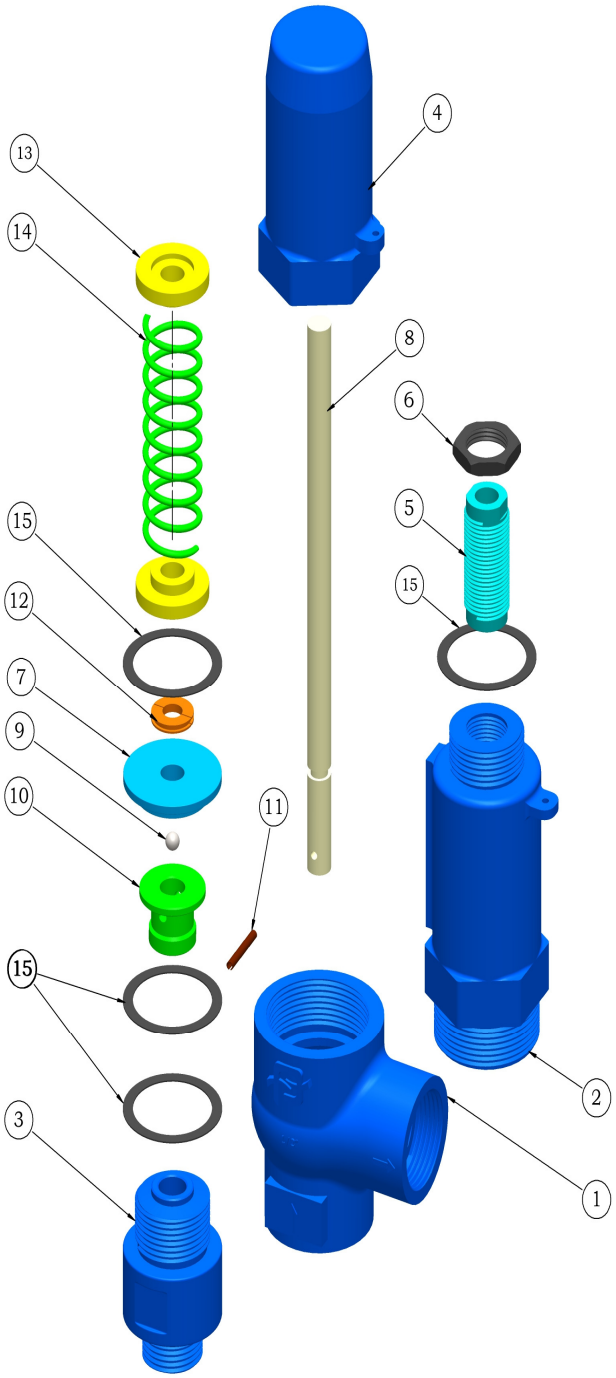
Acceptance Criteria for Liquid

For Metal Seated Valves, leakage rate shall not excceed 10 $Cm^3/h/in$ for one min. For soft Seated Valves , there shall be no leakage for one minute.

CHARACTERISTIC CURVE FOR SAFETY RELIEF VALVE



Exploded view Safety Relief Valve with BOM



Part No	Parts Name	Total Qty
1	Body	1
2	Bonnet	1
3	Nozzle	1
4	Cap	1
5	Adjuster Screw	1
6	Lock Nut	1
7	Spindle Guide	1
8	Spindle	1
9	Ball	1
10	Disc	1
11	Slotted Pin for (8 & 10)	1
12	Spacer Ring	1
13	Spring Plate	2
14	Spring	1
15	Gasket for (1, 2, 3, 4)	4

Note:-
Spring - As per Set Pressure

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Material Specification

Type	Se No	Name Of Part	Standard Application	Corrosive Application	High Temp Application	Low Temp/ Cryogenic Application	Corrosive Application	Highly Corrosive Application
CLOSED CAP	01	**Body**	A216 Gr WCC	A351 Gr CF8/8M	A217 Gr WC6	A352 Gr LCB	A351 Gr CF8/8M	A351 Gr CF8/8M
	02	**Bonnet**	A216 Gr WCC	A351 Gr CF8/8M	A217 Gr WC6	A352 Gr LCB	A351 Gr CF8/8M	A351 Gr CF8/8M
	03	**Nozzle**	A351 Gr CF8M	A351 Gr CF8M	A351 Gr CF8M	A351 Gr CF8M	Hastelloy-C	PTFE
	04	**Cap**	A216 Gr WCC	A351 Gr CF8/8M	A217 Gr WC6	A352 Gr LCB	A351 Gr CF8/8M	A351 Gr CF8/8M
	05	**Spindle Guide/Guide Insert**	A216 Gr. WCB S.S.304	A351 CF8/8M S.S.316	A 216 Gr WCB 316	A351 CF8M S.S.316	A351 CF8/8M S.S.316	A351 CF8/8M S.S.316
	06	**Disc Assembly**	S.S. 316	S.S. 316	S.S. 316	S.S. 316	Hastelloy-C	PTFE
	07	**Spindle**	S.S. 316	S.S. 316	S.S. 316	S.S. 316	S S.S. 316	S.S. 316
	08	**Spacer Ring**						
	09	**Ball**						
	10	**Adjuster Screw**						
	11	**Lock Nut**						
	12	**Spring Plate**	CS ZN Plated	S.S.316	CS ZN Plated	S.S.316	S.S.316	S.S.316
	13	**Spring**	CS ZN Plated / Alloy Steel	Stainless Steel / Alloy Steel	Alloy Steel	Stainless Steel	Stainless Steel	Stainless Steel
	14	**Gasket**	CNAF 154	CNAF 154	CNAF 154	CNAF 154	CNAF 154 / PTFE	PTFE
	15	**Body Stud**	A193 Gr B7	A193 Gr B8M	A193 Gr B7	A193 Gr B8M	A193 Gr B8M	A193 Gr B8M
	16	**Body Stud Nut**	A194 Gr 2H	A194 Gr 8M	A194 Gr 2H	A194 Gr 8M	A194 Gr 8M	A194 Gr 8M
	17	**Wire For Spacer Ring**	S.S.304	S.S.316	S.S.316	S.S.316	S.S.316	S.S.316
	18	**Wire For Retainer Ring**	S.S.304	S.S.316	S.S.316	S.S.316	S.S.316	S.S.316
	19	**Slotted Pin**	S.S.304	S.S.316	S.S.316	S.S.316	S.S.316	S.S.316

Note: Material of construction will vary according to the service condition and customer requiremen. Other Special materials for example Monel, alloy-20, CF 3,CF 3M and accessories such as Test Gag, Drain Plug, Soft seat (O-Ring) Disc etc can be provided on request.

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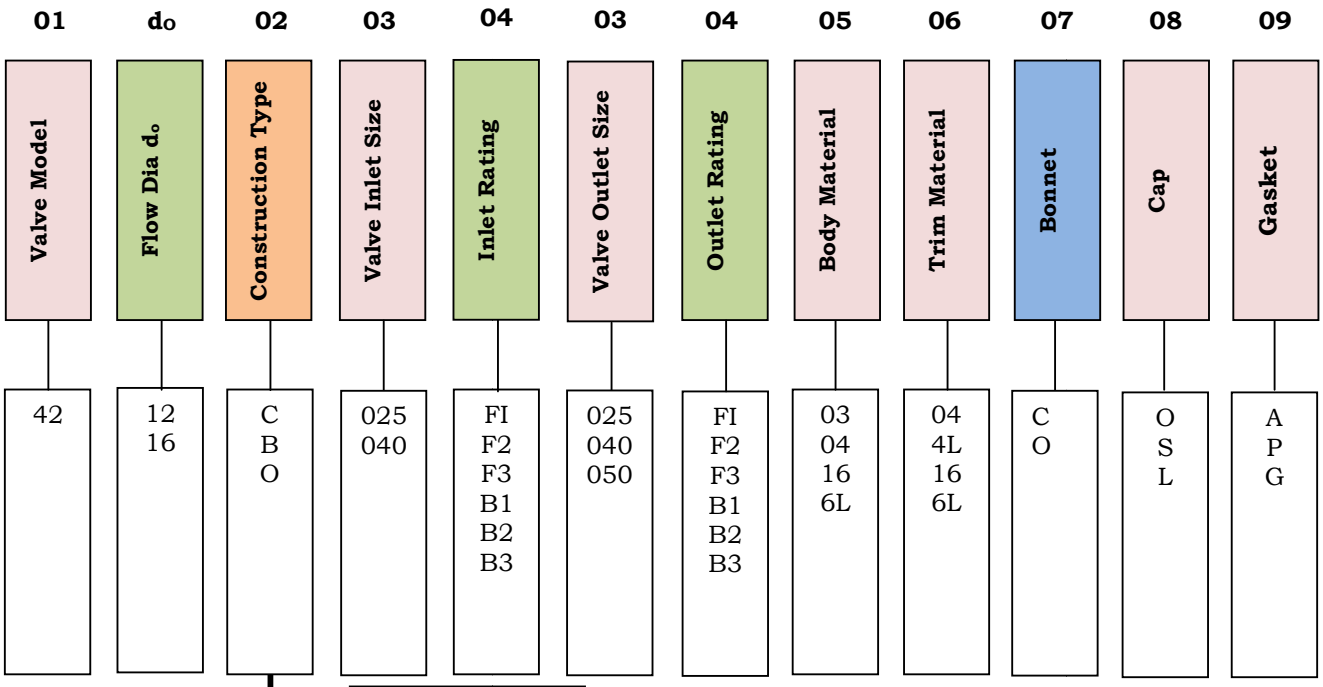

01- Valve Series
42 - Valve Model

02- Construction Type
C- Conventional
B- Bellow
O- Others, To specify

03 - Valve Size - Inlet & Outlet
025 - 1"
040 - 1.1/2"
050 - 2"

04 - End Connection
F1 - Flanged - ANSI 150#
F2 - Flanged - ANSI 300#
F3 - Flanged - ANSI 600#
B1 - Butt Weld - ANSI 150#
B2 - Butt Weld - ANSI 300#
B3 - Butt Weld - ANSI 600#

05 - Body Material
03 - WCB/WCC
04 - CF8/S.S.304
06 - CF8M/S.S.316
6L - CF3M/S.S.316L

06 - Trim Material
04 - S.S.304
4L - S.S.304L
06 - S.S.316
6L - S.S.316L
00 - Others

07 - BONNET
C - Closed
O - Open

08- CAP
S - Screwed Cap, Closed
L - Lever Type Cap
O - Others

09 - Gasket
A - Asbestos - Metallic
P - PTFE
G- Graphite

SRV MODEL CODE
SRV - 42 - 12 - C - 025 - F1 - 050 - F1 - 03 - 04 - C - S - A

The Company's policy is one of continuous product improvement and the right is reserved to modify the specifications contained herein without notice.

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