



## Safety Valve

### Features of Products

The best valve for over pressure protection, KVC safety valves can consequently open and discharge at full capacity to prevent the pipe system over pressurizing. It will timely close when the pressure down to the rated one. Design, manufacturing, inspection and acceptance of KVC safety valve conforms to GB12243-1999. An enclosed bonnet is designed for the sealed safety valve to prevent dust and foreign matters from getting in and toxic and combustible fluid from leaking out. The unsealed safety valve is widely used in steam pipes and vessels owing to its outside spring and lower temperature of inner cavity; The valve with heat radiator is mainly applied in the condition where the temperature is above 350. The valve with lever can be open manually by handling lever when the system pressure goes up to and over 75% of the set pressure. The lift height of full lift type is 1/4 or above of the flow diameter of valve port, so it has large discharging capacity. The lift height of low lift type is 1/40- 1/20 or above of the flow diameter.

KVC is the leading company supplying Chinese valves. KVC safety valves with its various series were widely used in boiler system, petrochemical industry, power plant and national defense industry, and nuclear power field.

KVC safety valve is the best and the most scientific choice for all the customers. And all staff of the KVC has knowhow of most service conditions for most applications

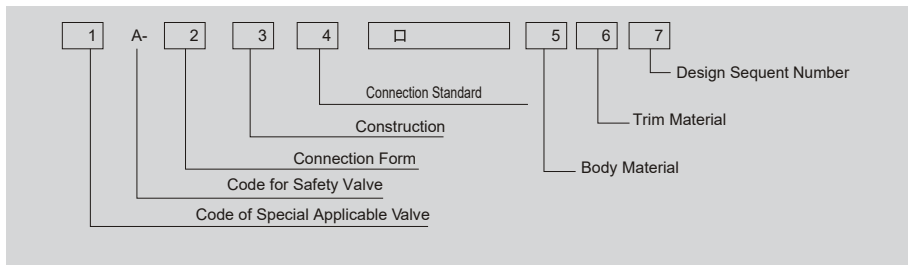
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### Model Compiling and Code Expressions

The valve "Model" is composed of the following symbolic codes. They are code for special applicable valve, safety valve, connection form, construction way, connection standard, inlet flange rating, material of body, material of trim and design sequent number.

## Safety Valve



Code for Special Applicable Valve as follows:

Figure 1

Special Type Valve	Code	Special Type Valve	Code	Special Type Valve	Code
With Heat Radiator	B	With Bellows	W	Low Temperature Valve	D <sub>1</sub> -29~-46 °C
Nuclear Power Application	H	For Fuel Gas Application	R		D <sub>2</sub> -47~-101 °C
Sulfate-resistant Valve	K	Monel	M		D <sub>3</sub> -102~-196 °C
Inboard Valve	N	Breather Valve	HV	Single Breath Valve	Z
Single Suction Valve	V	Outlet Valve	C		

Notes:

Special Type Valve means the valve is applied for special services or the valve with special construction; When compiling, code for special services shall go first and follow the construction code; Code for special service application shall be omitted for General Valves.

When a valve includes several special construction, model shall be compiled according to the sequence of code listed in the table above.

Code of connection form refers to Arabic number as follows: (Figure 2)

Special Type Valve	Code	Special Type Valve	Code
Female thread	1	Butt Welding	6
Male thread	2	On the folder	7
Double spring load full lift type	3	Clamp	8
Flange	4	Card sets	9
Socket Welding	5		

Code of Structural form refers to Arabic number as follows: (Figure 3)

Structural form of safety valve		Code		
Spring Loaded type	Sealed	With Radiator	0	
		Low lift	1	
		Full lift	2	
	Unsealed	With lever	Full lift	4
			Double spring loaded low lift type	3
		With Controls	Low lift	7
			Full lift	8
			Full lift	6
		Pulse type		9
		Lever and Weight Loaded Type		5

## Safety Valve

Notes:

1. Valve with heat radiator shall be marked with a subscript "S" behind the code of construction.
2. "B" shall be subscripted behind the code of construction for the low lift valve with lever;
3. "L" shall be subscripted behind the code of construction standing for liquid trim;
4. Subscript "F" stands for resilient seal;
5. Subscript "T" stands for flexible disc.

Code for connection standard as follows:

Figure 4

Connection Standard		Code	Connection Standard		Code
ISO	International Standard	A	DIN	German Standard	E
GB	Chinese Standard	B	BS	British Standard	K
HG	Chemical industry standard	BH	ГОСТ	Russian Standard	G
JB	Machinery industry standard	J		Fresh Standard	H
ANSI	American Standard	C	JISB210	Japanese Standard	DA
JIS2210	Japanese Standard	D		Not-Standard	F

Code for Body Material

Figure 5

Body material	Code	Body material	Code	Body material	Code
Titanium Alloy	A	SS304	P	Cr-Mo-V Steel	V
Carbon Steel	C	Spherical Cast Iron	Q	Gray Cast Iron	Z
Cr-Mo Steel	I	SS316	R	SS316L	R <sub>0</sub>
Ductile Cast Iron	K	Plastic	S	SS304L	P <sub>0</sub>
Aluminium Alloy	L	Bronze	T	CF8C	J
Monel	M	Duplex Stainless Steel	D	Hastelly Alloy	H
Inconel	Y	SS316 Ti	O	Cr13	C <sub>0</sub>
Others		E			

The main pieces of material inside the code

Figure 6

The main pieces of material inside	Code	The main pieces of material inside	Code	Body material	Code
Titanium Alloy	A	SS304	P	Cr-Mo-V Steel	V
Carbon Steel	C	Spherical Cast Iron	Q	Gray Cast Iron	Z
Cr-Mo Steel	I	SS316	R	SS316L	R <sub>0</sub>
Ductile Cast Iron	K	Plastic	S	SS304L	P <sub>0</sub>
Aluminium Alloy	L	Bronze	T	CF8C	J
Monel	M	Duplex Stainless Steel	D	Hastelly Alloy	H
Incone	Y	SS316 Ti	O	Cr13	C <sub>0</sub>
Others	E				

Note: Trims are the pressure retaining parts for each given pressure. It can be omitted sometime.

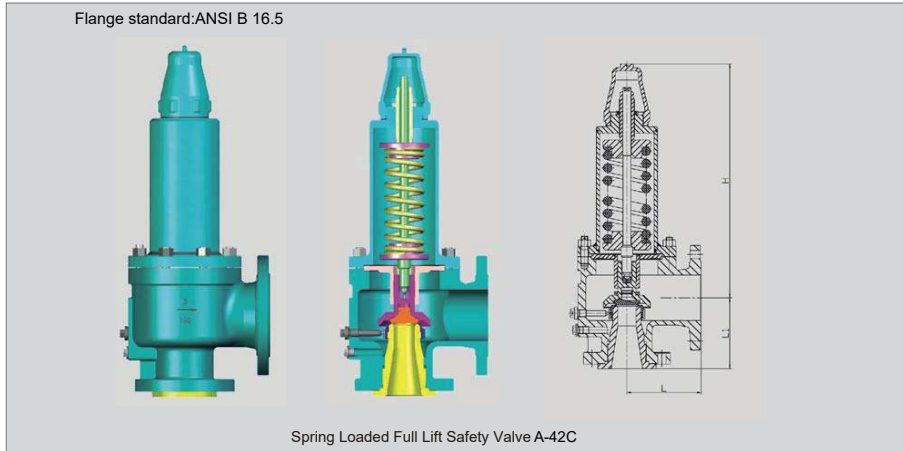
### Example for Model Compiling:

Example: WA-42C 150CRo1  
CL 150, 316L,

Full lift safety valve, Input Flange Class: 150LB, Body Material: Carbon steel, trims: 316L, with Bellows; Design Number: 1

## A Series Products

### A American Standard Series Safety Valve



### Specification

Name	Model	(Lb)CL	Nominal Diameter (in)	Flow Diameter (mm)	Connection Size		Material				Applicable service		L (mm)	L1 (mm)
					(in)Lb Input	(in)Lb Output	Body	Seat	Disc	Spring	Medium	Temp.		
Spring Loaded Safety Valve	A-41BC300C1	ANSI300	1/2	6	1/2*300	1/2*150	20	25	20Cr13	50CrVA	Liquid, gas	300	90	90
	A-42C1500P1	ANSI1500	1/2	3	1/2*1500	1/2*150	304	304	304	50CrVA	Nitric acid gases	200	140	145
	A-21C150C1	ANSI150	3/4	6	Z3/4	Z1	35	20Cr13	20Cr13	50CrVA	Liquid, gas	300	44	85
	A-22C150C2	ANSI150	3/4	10	ZG3/4	ZG3/4	20	25	20Cr13	50CrVA	Gas	300	95	88
	A-42C150C3	ANSI150	3/4	10	3/4*150	3/4*150	20	25	20Cr13	50CrVA	Gas	300	95	95
	A-21C300C1	ANSI300	3/4	6	Z3/4	Z1	20	20Cr13	20Cr13	50CrVA	Liquid, gas	300	45	90
	A-41BC300C3	ANSI300	3/4	16	3/4*300	1*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	100	100
	A-42BC300C3	ANSI300	3/4	10	3/4*300	3/4*150	20	25	20Cr13	50CrVA	Gas	300	95	95
	A-42C1500P1	ANSI1500	3/4	10	3/4*1500	1*900	304	304	304	50CrVA	Nitric acid gases	200	120	137
	A-41C150C1	ANSI150	1	16	1*150	1*150	WCB	20Cr13	20Cr13	50CrVA	Liquid, gas	300	100	100
	A-41C150C2	ANSI150	1	10	1*150	2*150	WCB	20Cr13	20Cr13	50CrVA	Liquid, gas	300	115	105
	A-41C150R2	ANSI150	1	10	1*150	2*150	CF8M	316	316	50CrVA	Nitric acid gases	200	115	105
	A-42C150C1	ANSI150	1	13	1*150	2*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	115	105
	A-41BC300C2	ANSI300	1	16	1*300	1*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	100	100
	A-41BC300C3	ANSI300	1	16	1*300	2*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	115	105
	A-41C300C4	ANSI300	1	10	1*300	2*150	WCB	20Cr13	20Cr13	50CrVA	Liquid, gas	300	115	105
	A-41C300C5	ANSI300	1	16	1*300	2*300	WCB	20Cr13	20Cr13	50CrVA	Liquid, gas	300	115	105
	A-41C300C6	ANSI300	1	10	1*300	2*300	WCB	20Cr13	20Cr13	50CrVA	Gas	300	150	105
	A-41C300R03	ANSI300	1	16	1*300	2*150	WCB	20Cr13	20Cr13	50CrVA	Gas	200	115	105
	A-42C300C3	ANSI300	1	10	1*300	2*300	WCB	20Cr13	20Cr13	50CrVA	Gas	300	115	105
A-42C300C4	ANSI300	1	10	1*300	2*300	WCB	20Cr13	20Cr13	50CrVA	Gas	300	150	105	
A-42C300R3	ANSI300	1	10	1*300	2*150	CF8M	316	316	50CrVA	Nitric acid gases	200	115	105	

## A Series Products

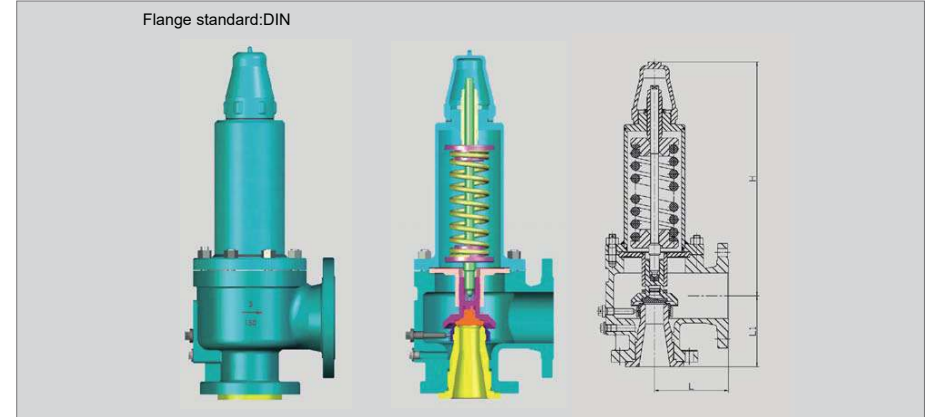
Name	Model	(Lb)CL	Nominal Diameter (in)	Flow Diameter (mm)	Connection Size		Material				Applicable service		L (mm)	L1 (mm)
					(in)Lb Input	(in)Lb Output	Body	Seat	Disc	Spring	Medium	Temp.		
Spring Loaded Full Lift Safety Valve	A-44C300C1	ANSI 300	1	16	1*300	2*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	121	105
	A-44C300C2	ANSI 300	1	16	1*300	2*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	114	105
	A-42C600C3	ANSI 600	1	10	1*600	2*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	115	105
Spring Loaded Full Lift Safety Valve With Radiator	A-44sC600C2	ANSI 600	1	13	1*600	2*150	WCB	20Cr13	17-4PH	50CrVA	Gas	450	115	105
	A-44sC60011	ANSI 600	1	16	1*600	2*150	WCB	12Cr1MoV	17-4PH	50CrVA	Gas	510	114	105
Spring Loaded Low Lift Safety Valve	A-41sC1500C1	ANSI1500	1	16	1*1500	11/2*150	WCB	20Cr13	20Cr13	50CrVA	Gas, liquid	300	125	125
	A-42C2500C1	ANSI1500	1	10	1*2500	2*300	WCB	20Cr13	20Cr13	50CrVA	Gas	300	165	140
Spring Loaded Full Lift Safety Valve	A-42C150C1	ANSI 150	11/2	25	11/2*150	21/2*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	121	124
	A-42C150C3	ANSI 150	11/2	25	11/2*150	3*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	124	130
Spring Loaded Low Lift Safety Valve	A-42C150P1	ANSI 150	11/2	25	11/2*150	21/2*150	CF8	304	304	50CrVA	acetic acid etc.	200	121	124
	A-41sC300C1	ANSI 300	11/2	32	11/2*300	2*150	WCB	20Cr13	20Cr13	50CrVA	Gas, liquid	300	110	115
Spring Loaded Full Lift Safety Valve	A-42C300C1	ANSI 300	11/2	25	11/2*300	21/2*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	121	124
	A-42C300C2	ANSI 300	11/2	17	11/2*300	2*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	152	124
	A-42C300C3	ANSI 300	11/2	22	11/2*300	21/2*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	152	124
	A-44C300C4	ANSI 300	11/2	20	11/2*300	2*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	121	124
Spring Loaded Full Lift Safety Valve	A-41C600P1	ANSI 600	11/2	25	11/2*600	11/2*150	304	304	304	50CrVA	Nitric acid medium category	200	147	162
	A-41C600P2	ANSI 600	11/2	25	11/2*600	2*150	304	304	304	50CrVA	Nitric acid medium category	200	147	162
Spring Loaded Full Lift Safety Valve With Radiator	A-42sC600C1	ANSI 600	11/2	25	11/2*600	21/2*150	WCB	20Cr13	17-7PH	50CrVA	Gas	450	152	124
	A-48C600C3	ANSI 600	11/2	20	11/2*600	21/2*150	WCB	20Cr13	20Cr13	50CrVA	Steam	300	152	124
Spring Loaded Full Lift Safety Valve With Radiator	A-48sC600C2	ANSI 600	11/2	20	11/2*600	21/2*150	WCB	20Cr13	17-7PH	50CrVA	Steam	450	118	127
	A-48sC600C5	ANSI 600	11/2	16	11/2*600	2*150	WCB	20Cr13	20Cr13	50CrVA	Steam	450	152	124
Spring Loaded Low Lift Safety Valve	A-41C1500C3	ANSI1500	11/2	18	11/2*1500	2*300	WCB	20Cr13	20Cr13	50CrVA	Gas, liquid	300	140	105
	A-41C1500P2	ANSI1500	11/2	13	11/2*1500	11/2*300	CF8	304	304	50CrVA	Nitric acid gases	200	150	194
Spring Loaded Full Lift Safety Valve	A-42C1500C1	ANSI1500	11/2	10	11/2*1500	2*300	WCB	20Cr13	20Cr13	50CrVA	Gas	300	140	105
	A-48sC2500C1	ANSI2500	11/2	16	11/2*2500	21/2*300	WCB	20Cr13	20Cr13	50CrVA	Steam	450	165	140
Spring Loaded Full Lift Safety Valve	A-42C150C1	ANSI 150	2	32	2*150	3*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	124	136
	A-42C150C3	ANSI 150	2	33	2*150	3*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	124	136
	A-42C150P1	ANSI 150	2	32	2*150	3*150	CF8	304	304	50CrVA	Nitric acid	200	124	136
	A-42C150P3	ANSI 150	2	33	2*150	3*150	CF8	304	304	50CrVA	Nitric acid	200	124	136
Spring Loaded Low Lift Safety Valve	A-41C150C1	ANSI 150	2	33	2*150	3*150	WCB	20Cr13	20Cr13	50CrVA	Gas, liquid	350	124	136
	A-41C300C2	ANSI 300	2	32	2*300	3*300	WCB	20Cr13	20Cr13	50CrVA	Gas, liquid	300	124	130
Spring Loaded Full Lift Safety Valve	A-42C300C1	ANSI 300	2	32	2*300	3*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	124	130
	A-42C300R2	ANSI 300	2	26	2*300	3*150	CF8M	316	316	50CrVA	Nitric acid gases	200	124	130
Spring Loaded Full Lift Safety Valve With Radiator	A-68sC150011	ANSI1500	2	33	2*1500	6*300	WC6	12Cr1MOV	17-7PH	50CrVA	Steam	510	216	280
	A-48sC2500V1	ANSI2500	2	29	2*2500	4*300	WC9	12Cr1MOV	17-7PH	50CrVA	Steam	550	169	209
Spring Loaded Full Lift Safety Valve	A-41sC600C1	ANSI 600	21/2	50	21/2*600	4*150	WCB	20Cr13	20Cr13	50CrVA	Gas, liquid	300	171	155
	A-48C600C1	ANSI 600	21/2	40	21/2*600	4*150	WCB	20Cr13	20Cr13	50CrVA	Steam	350	143	165
	A-68C1500C1	ANSI1500	21/2	40	21/2*1500	6*300	WCB	20Cr13	17-7PH	50CrVA	Steam	350	216	280
	A-68C1500C2	ANSI1500	21/2	46	21/2*1500	6*300	WCB	20Cr13	17-7PH	50CrVA	Steam	350	216	305
	A-42C150C1	ANSI 150	3	50	3*150	4*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	165	156
	A-42C150C2	ANSI 150	3	40	3*150	4*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	162	156
	A-42C150P1	ANSI 150	3	50	3*150	4*150	CF8	304	304	50CrVA	Nitric acid	200	165	156
	A-44C150C1	ANSI 150	3	50	3*150	4*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	165	156
	A-44C300C2	ANSI 300	3	50	4*300	4*300	WCB	20Cr13	20Cr13	50CrVA	Gas	300	155	175
	A-48C300C4	ANSI 300	3	40	3*300	4*150	WCB	20Cr13	20Cr13	50CrVA	Steam	350	181	156
Spring Loaded Full Lift Safety Valve With Radiator	A-48sC300C1	ANSI 300	3	32	3*300	4*150	WCB	20Cr13	17-7PH	50CrVA	Steam	450	181	156

## A Series Products

Name	Model	(Lb)CL	Nominal Diameter	Flow Diameter (mm)	(in)Lb Input	(in)Lb Output	Material				Applicable service		L (mm)	L1 (mm)
							Body	Seat	Disc	Spring	Medium	Temp.		
Spring Loaded Full Lift Safety Valve With Radiator	A-48sC600C2	ANSI 600	3	40	3*600	4*150	WCB	20Cr13	17-4PH	50CrVA	Steam	450	162	155
Spring Loaded Full Lift Safety Valve	A-48sC600I1	ANSI 600	3	50	3*600	4*150	WCB	12Cr1MoV	17-4PH	50CrVA	Steam	510	162	154
	A-42C1500C1	ANSI1500	3	35	3*1500	4*300	WCB	20Cr13	20Cr13	50CrVA	Gas	300	181	184
	A-42C150C1	ANSI 150	4	65	4*150	6*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	210	197
	A-42C150C2	ANSI 150	4	57	4*150	6*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	184	178
	A-42C150C3	ANSI 150	4	77	4*150	6*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	229	181
	A-42C150P1	ANSI 150	4	65	4*150	6*150	CF8	304	304	50CrVA	Nitric acid	200	210	197
	A-48C150C2	ANSI 150	4	57	4*150	6*150	WCB	20Cr13	20Cr13	50CrVA	Steam	350	184	178
	A-48C150C3	ANSI 150	4	77	4*150	6*150	WCB	20Cr13	20Cr13	50CrVA	Steam	350	229	181
	A-42C300C1	ANSI 300	4	70	4*300	6*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	210	197
	A-42C300C2	ANSI 300	4	65	4*300	6*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	210	197
	A-42C300C3	ANSI 300	4	57	4*300	6*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	184	178
	A-42C300C4	ANSI 300	4	77	4*300	6*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	254	225
	A-42C300C5	ANSI 300	4	52	4*300	6*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	181	179
	A-42C300P4	ANSI 300	4	77	4*300	6*150	CF8	304	304	50CrVA	Gas		254	225
A-44C300C1	ANSI 300	4	70	4*300	6*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	210	197	
Spring Loaded Full Lift Safety Valve With Radiator	A-44sC300I1	ANSI 300	4	70	4*300	6*150	WCB	12Cr1MoV	17-4PH	50CrVA	Gas	510	210	197
Spring Loaded Full Lift Safety Valve	A-48C300C3	ANSI 300	4	57	4*300	6*150	WCB	20Cr13	20Cr13	50CrVA	Steam	350	184	178
	A-48C300C4	ANSI 300	4	77	4*300	6*150	WCB	20Cr13	20Cr13	50CrVA	Steam	350	254	225
Spring Loaded Full Lift Safety Valve With Radiator	A-48sC300C1	ANSI 300	4	50	4*300	6*150	WCB	20Cr13	17-7PH	50CrVA	Steam	450	203	180
	A-44sC600I1	ANSI 600	4	65	4*600	6*300	WCB	12Cr1MoV	17-4PH	50CrVA	Gas	510	210	200
Spring Loaded Full Lift Safety Valve	A-48sC600I1	ANSI 600	4	65	4*600	6*150	WCB	12Cr1MoV	17-4PH	50CrVA	Steam	510	210	200
	A-48sC900C1	ANSI 900	4	77	4*900	8*150	WCB	20Cr13	17-4PH	50CrVA	Steam	450	270	250
	A-48C1500C1	ANSI1500	4	57	4*1500	6*300	WCB	20Cr13	17-4PH	50CrVA	Steam	350	224	244
	A-42C150C4	ANSI 150	6	125	6*150	8*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	241	240
	A-42C150C5	ANSI 150	6	100	6*150	8*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	241	240
	A-42C150C6	ANSI 150	6	115	6*150	8*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	241	240
	A-44C150C1	ANSI 150	6	110	6*150	8*150	WCB	12Cr1MoV	20Cr13	50CrVA	Gas	300	241	240
	A-48C150C5	ANSI 150	6	100	6*150	8*150	WCB	20Cr13	20Cr13	50CrVA	Steam	350	241	240
	A-48C150C6	ANSI 150	6	115	6*150	8*150	WCB	20Cr13	20Cr13	50CrVA	Steam	350	241	240
	A-42C300C2	ANSI 300	6	100	6*300	8*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	241	240
Spring Loaded Full Lift Safety Valve With Radiator	A-42sC300V2	ANSI 300	6	100	6*300	8*150	WCB	12Cr1MoV	17-4PH	50CrVA	Steam	550	241	240
Spring Loaded Full Lift Safety Valve	A-44C300C1	ANSI 300	6	110	6*300	8*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	241	240
	A-48C300C2	ANSI 300	6	100	6*300	8*150	WCB	20Cr13	20Cr13	50CrVA	Steam	350	241	240
	A-48C300C3	ANSI 300	6	95	6*300	8*150	WCB	20Cr13	20Cr13	50CrVA	Steam	350	241	240
	A-42C600C1	ANSI 600	6	100	6*600	8*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	241	240
	A-42C600P1	ANSI 600	6	100	6*600	8*150	CF8	304	304	50CrVA	Gas	200	241	240
Spring Loaded Full Lift Safety Valve With Radiator	A-48sC900C1	ANSI 900	6	100	6*900	8*150	WCB	20Cr13	17-4PH	50CrVA	Steam	450	280	290
	A-48sC900C2	ANSI 900	6	85	6*900	8*150	WCB	20Cr13	17-4PH	50CrVA	Steam	450	280	280
Spring Loaded Full Lift Safety Valve	A-42C150C4	ANSI 150	8	150	8*150	10*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	330	310
	A-42C300C2	ANSI 300	8	146	8*300	10*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	279	276
Spring Loaded Full Lift Safety Valve With Radiator	A-42sC300D3	ANSI 300	8	146	8*300	10*150	CF8	304	304	17-7PH	Gas	600	294	276
Spring Loaded Full Lift Safety Valve	A-44C300C1	ANSI 300	8	155	8*300	10*150	WCB	20Cr13	20Cr13	50CrVA	Gas	300	279	276
	A-48C300C2	ANSI 300	8	150	8*300	10*150	WCB	20Cr13	20Cr13	50CrVA	Water vapor	350	279	276

## A Series Products

A German standard series of safety valve



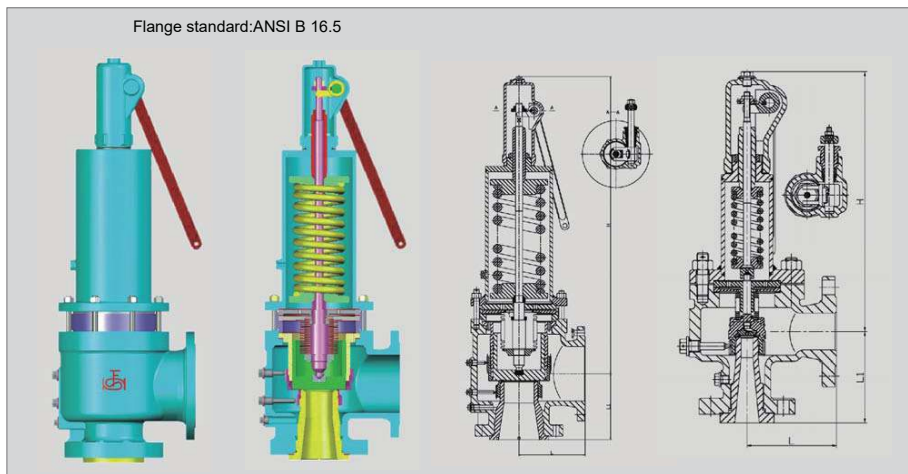
### Specification

Name	Model	(LB)CL	Nominal Diameter (in)	Flow Diameter (mm)	Connection Size		Material				Applicable service		L	L1
					Input	Output	Body	Seat	Disc	Spring	Bellops	Medium		
Spring Loaded Low Lift Safety Valve	A-41 sE16R1	1.6	25	16	25*1.6	25*1.6	316	316	316	50CrVA	316L	Corrosive media, acetic acid etc.	200	100100
Balanced Bellow Safety Valve	WA-44E16R1	1.6	25	20	25*1.6	40*1.0	316	316	316	50CrVA	316L	Corrosive media, acetic acid etc.	200	95 105
Spring loaded Low Lift Safety Valve	A-41 sE160R1	16	25	16	25*16	25*1.0	316	316	316	50CrVA		Corrosive media, acetic acid etc.	200	100100
Spring Loaded Full Lift Safety Valve	A-44E16R1	1.6	32	25	32*1.6	50*1.6	CF8M	316	316	50CrVA		Corrosive media, acetic acid etc.	200	110 115
Spring Loaded Full Lift Safety Valve	SFA-44E16R1	1.6	40	32	40*1.6	65*1.6	CF8M	316	316	50CrVA		Corrosive media, acetic acid etc.	200	115 140
Spring Loaded Full Lift Safety Valve	A-48E16C1	1.6	40	25	40*1.6	65*1.6	WCB	20Cr13	20Cr13	50CrVA	316L	Steam	200	120125
Spring loaded Low Lift Safety Valve	WA-41 sE250R1	25	50	32	50*25.0	80*2.5	316	316	316	50CrVA		Corrosive media, acetic acid etc.	200	190180
Spring Loaded Full Lift Safety Valve	A-44E16R1	25	65	50	65*1.6	100*1.6	CF8M	316	316	50CrVA		Corrosive media, acetic acid etc.	200	140170
Spring Loaded Full Lift Safety Valve	A-44E16C1	1.6	65	50	65*1.6	100*1.6	WCB	20Cr13	20Cr13	50CrVA		Gas	200	140170
Spring Loaded Full Lift Safety Valve	A-44E16R1	1.6	80	60	80*1.6	125*1.6	CF8M	316	316	50CrVA		Corrosive media, acetic acid etc.	200	160195
Spring Loaded Full Lift Safety Valve	A-44E16C1	1.6	80	60	80*1.6	125*1.6	WCB	20Cr13	20Cr13	50CrVA		Gas	200	160195
Spring Loaded Full Lift Safety Valve	A-44E16R1	1.6	125	93	125*1.6	200*1.6	CF8M	316	316	50CrVA	316L	Corrosive media, acetic acid etc.	200	200254
Balanced Bellow Safety Valve	WA-44E250R01	25	40	17	40*25.0	65*4.0	F316L	F316L	F316L	50CrVA		Aminomethane	200	153129



## A Series Products

### Series A, Balanced Bellow Safety Valve



#### Specification

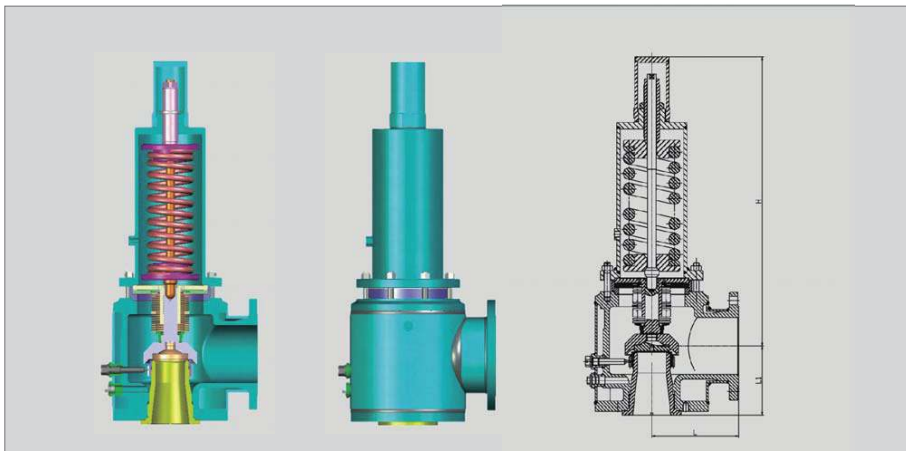
Model	(LB) CL.	Nominal Diameter (in)	Flow Diameter (mm)	Connection Size		Material					Applicable service		< Mpa	L (mm)	L1 (mm)
				(in"Lb) Input	(in"Lb) Output	Body	Seat	Disc	Spring	Bellows	Medium	Temp.			
WA-41 sC300C1	ANSI 300	1/2	6	1/2*300	1/2*150	20	25	304	50CrVA	316L	Gas, liquid	300	0.4	90	90
WA-41C300C1	ANSI 300	3/4	10	3/4*300	1/2*150	20	25	304	50CrVA	316L	Gas, liquid	300	0.6	115	105
WA-41C300P1	ANSI 300	3/4	12	3/4*300	1/2*150	304	304	304	50CrVA	316L	Gas, liquid	200	0.4	115	105
WA-41 sC150C1	ANSI 150	1	16	1*150	1*150	WCB	20Cr13	20Cr13	50CrVA	316L	Gas, liquid	300	0.25	100	100
WA-41 sC300C1	ANSI 300	1	20	1*300	2*150	WCB	20Cr13	20Cr13	50CrVA	316L	Gas, liquid	300	0.4	114	105
WA-41 sC300C3	ANSI 300	1	16	1*300	2*150	WCB	20Cr13	20Cr13	50CrVA	316L	Gas, liquid	300	0.4	114	105
WA-44C1500C1	ANSI1500	1	16	1*1500	1/2*150	WCB	20Cr13	20Cr13	50CrVA	316L	Gas, liquid	300	0.8	150	150
WA-41 sC150C1	ANSI 150	11/2	30	1/2*150	2*150	WCB	20Cr13	20Cr13	50CrVA	316L	Gas, liquid	300	0.2	100	110
WA-42C150C2	ANSI 150	11/2	20	1/2*150	21/2*150	WCB	20Cr13	20Cr13	50CrVA	316L	Gas	300	0.25	121	124
WA-42C150C3	ANSI 150	11/2	25	1/2*150	3*150	WCB	20Cr13	20Cr13	50CrVA	316L	Gas	300	0.25	124	130
WA-44C150C1	ANSI 150	11/2	25	1/2*150	2*150	WCB	20Cr13	20Cr13	50CrVA	316L	Gas	300	0.25	100	110
WA-44 sC600C3	ANSI 600	11/2	25	1/2*600	2*300	WCB	20Cr13	20Cr13	50CrVA	316L	Gas, liquid	300	2	110	115
WA-44C600C1	ANSI 600	11/2	25	1/2*600	21/2*150	WCB	20Cr13	20Cr13	50CrVA	316L	Gas	300	0.6	152	124

## A Series Products

Model	(LB) CL.	Nominal Diameter (in)	Flow Diameter (mm)	Connection Size		Material					Applicable service		< Mpa	L (mm)	L1 (mm)
				(in"Lb) Input	(in"Lb) Output	Body	Seat	Disc	Spring	Bellows	Medium	Temp.			
WA-44C900C1	ANSI 900	11/2	20	11/2*900	2*150	WCB	20Cr13	20Cr13	50CrVA	316L	Gas	300	0.8	160	160
WA-44C150C1	ANSI 150	2	32	2*150	3*150	WCB	20Cr13	20Cr13	50CrVA	316L	Gas	300	0.25	125	145
WA-41 sC300C1	ANSI 300	2	40	2*300	3*150	WCB	20Cr13	20Cr13	50CrVA	316L	Gas, liquid	300	0.4	145	150
WA-42C300R2	ANSI 300	2	26	2*300	3*150	CF8M	316	316	50CrVA	316L	Acetic acid gases	200	0.4	124	130
WA-44C300C3	ANSI 300	2	40	2*300	3*150	WCB	20Cr13	20Cr13	50CrVA	316L	Gas	300	0.4	124	136
WA-44sC300I1	ANSI 300	2	32	2*300	3*150	WC6	12Cr1Mo	17-4PH	50CrVA	316L	Gas	510	0.24	124	130
WA-44C600C1	ANSI 600	2	32	2*600	3*150	WCB	20Cr13	20Cr13	50CrVA	316L	Gas	300	0	162	154
WA-42C150R1	ANSI 150	3	50	3*150	4*150	CF8M	316	316	50CrVA	316L	Acetic acid gases	200	0.25	165	156
WA-44C150C3	ANSI 150	3	65	3*150	6*150	WCB	20Cr13	20Cr13	50CrVA	316L	Gas	300	0.25	165	170
WA-44C300C3	ANSI 300	3	57	3*300	4*150	WCB	20Cr13	20Cr13	50CrVA	316L	Gas	300	0.4	165	156
WA-42C150C1	ANSI 150	4	65	4*150	6*150	WCB	2Cr13	2Cr13	50CrVA	316L	Gas	300	0.25	210	197
WA-42C150C2	ANSI 150	4	57	4*150	6*150	WCB	2Cr13	2Cr13	50CrVA	316L	Gas	300	0.25	184	178
WA-42C150C3	ANSI 150	4	77	4*150	6*150	WCB	2Cr13	2Cr13	50CrVA	316L	Gas	300	0.25	229	181
WA-42C150P3	ANSI 150	4	77	4*150	6*150	CF8M	316	316	50CrVA	316L	Acetic acid gases	200	0.25	229	181
WA-42C150C4	ANSI 150	4	77	4*150	6*150	WCB	20Cr13	20Cr13	50CrVA	316L	Gas	300	0.25	175	180
WA-44C300C1	ANSI 300	4	70	4*300	6*150	WCB	20Cr13	20Cr13	50CrVA	316L	Gas	300	0.4	210	197
WA-44C300C6	ANSI 300	4	77	4*300	6*150	WCB	20Cr13	20Cr13	50CrVA	316L	Gas	300	0.4	229	181
WA-42C150C5	ANSI 150	6	100	6*150	8*150	WCB	20Cr13	20Cr13	50CrVA	316L	Gas	300	0.25	241	240
WA-42C150C6	ANSI 150	6	115	6*150	8*150	WCB	20Cr13	20Cr13	50CrVA	316L	Gas	300	0.25	241	240
WA-42C150C7	ANSI 150	6	95	6*150	8*150	WCB	20Cr13	20Cr13	50CrVA	316L	Gas	300	0.25	241	240
WA-44C150C1	ANSI 150	6	110	6*150	8*150	WCB	20Cr13	20Cr13	50CrVA	316L	Gas	300	0.25	241	240
WA-44C150C2	ANSI 150	6	110	6*150	10*150	WCB	20Cr13	20Cr13	50CrVA	316L	Gas	300	0.25	225	245
WA-44C150C3	ANSI 150	6	95	6*150	8*150	WCB	20Cr13	20Cr13	50CrVA	316L	Gas	300	0.25	215	220
WA-44C150C4	ANSI 150	6	125	6*150	8*150	WCB	20Cr13	20Cr13	50CrVA	316L	Gas	300	0.25	241	240
WA-42C300C2	ANSI 300	6	100	6*300	6*150	WCB	20Cr13	20Cr13	50CrVA	316L	Gas	300	0.4	241	240
WA-44C300C1	ANSI 300	6	110	6*300	8*150	WCB	20Cr13	20Cr13	50CrVA	316L	Gas	300	0.4	241	240
WA-42C150C3	ANSI 150	8	150	8*150	10*150	WCB	20Cr13	20Cr13	50CrVA	316L	Gas	300	0.25	279	276
WA-44C150C1	ANSI 150	8	155	8*150	10*150	WCB	20Cr13	20Cr13	50CrVA	316L	Gas	300	0.25	279	276
WA-44C150C2	ANSI 150	8	155	8*150	12*150	WCB	20Cr13	20Cr13	50CrVA	316L	Gas	300	0.25	265	290
WA-44C150C1	ANSI 150	12	220	12*150	16*150	WCB	20Cr13	20Cr13	50CrVA	316L	Gas	300	0.2	335	370

## A Series Products

### A insulation series bellows balanced safety valve

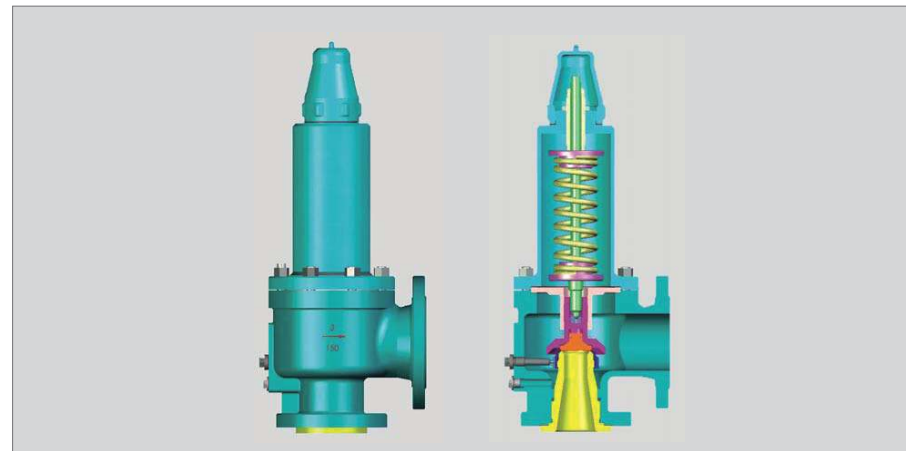


#### Specification

Model	(LB) CL.	Nominal Diameter (in)	Flow Diameter (mm)	Connection Size		Material					Applicable service		L (mm)	L1 (mm)	Remarks
				(in"Lb) Input	(in"Lb) Output	Body	Seat	Disc	Spring	Bellows	Medium	Temp.			
BWA-42C150Ro1	ANSI150	11/2	20	11/2*150	21/2*150	F316L	F316L	F316L	50CrVA	316L	Amonometane	≤200	121	124	
		2	33	2*150	3*150	F316L	F316L	F316L	50CrVA	316L			124	136	
		3	40	3*150	4*150	F316L	F316L	F316L	50CrVA	316L			162	155	
		4	74	4*150	6*150	F316L	F316L	F316L	50CrVA	316L			228	181	
BWA-42C600Ro1	ANSI600	4	50	4*600	6*150	F316L	F316L	F316L	50CrVA	316L	≤365	203	180		
BWA-42C1500Ro1	ANSI1500	2	26	2*1500	3*300	F316L	F316L	F316L	50CrVA	316L	≤200	162	154		

## API526 Series Products

### A-42C Spring Loaded Full Lift Safety Valve A-42C

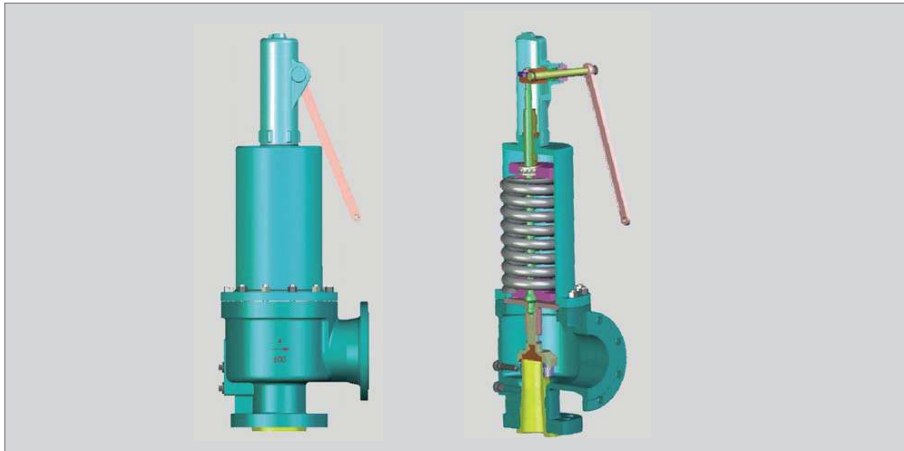


#### Performance Specifications

Nominal Diameter DN in (mm)	Nominal Pressure CL	Shell Test Ph	Set Pressure Test	Performance Indicators				Lift Height h mm	Rated Capacity System	Applicable Medium	applicable temperature °C				
				Set Pressure Ps	Overpressure Po	Blowdown Pb1	Closure Test Pt								
3 (80)	150	2.9	0.04~0.06 0.16~0.20 0.20~0.25 0.25~0.30 0.3~0.4 0.4~0.5 0.5~0.6 0.6~0.7 0.7~0.8 0.8~1.0 1.0~1.3 1.3~1.6	≤0.04 ≤0.06 ≤0.16 ≤0.20 ≤0.25 ≤0.3 ≤0.4 ≤0.5 ≤0.6 ≤0.7 ≤0.8 ≤1.0 ≤1.3 ≤1.6	≤10%Ps	≤15%Ps	90%Ps	≥10	0.8		≤300				
												0.04~0.06	0.04	≤0.03	Ps-0.03
												0.16~0.20	0.16		
												0.20~0.25	0.20		
												0.25~0.30	0.25		
												0.3~0.4	0.3		
												0.4~0.5	0.4		
												0.5~0.6	0.5		
												0.6~0.7	0.6		
												0.7~0.8	0.7		
												0.8~1.0	0.8		
												1.0~1.3	1.0		
												1.3~1.6	1.3		
													1.6		

## API526 Series Products

### Open bonnet spring loaded full lift with lever safety valve



Performance Specifications											
Nominal Diameter DN in (mm)	Nominal Pressure CL	Shell Test Ph	Set Pressure Test	Performance Indicators				Lift Height h mm	Rated Capacity System	Applicable Medium	applicable Temperature °C
				Set Pressure Ps Mpa	Overpressure Po	Blowdown Pb1	Closure Test Pt				
4 (100)	600	15.4	2.5-3.2	2.5	≤10%Ps	≤10%Ps	2.25	≥18.8	0.8	Gas	≤300
				3.2			2.88				
			3.2-4.0	3.2			2.88				
				4.0			3.60				
			4.0-5.0	4.0			3.60				
				5.0			4.50				
			5.0-6.4	5.0			4.50				
				6.4			5.76				
			6.4-7.0	6.4			5.76				
				7.0			6.30				

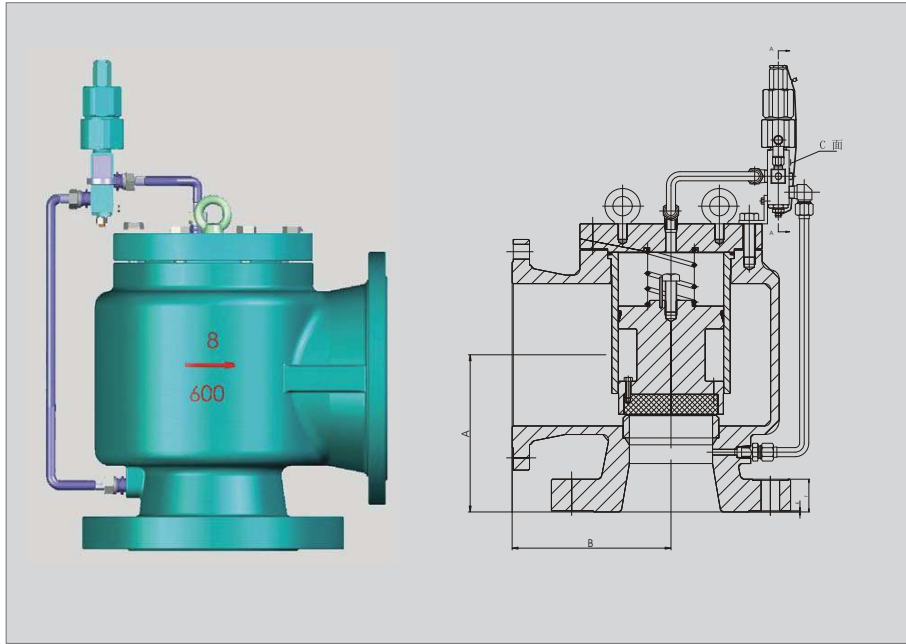
## API526 Series Products

### Open bonnet spring loaded full lift with lever safety valve



Performance Specifications											
Nominal Diameter DN in (mm)	Nominal Pressure CL	Shell Test Ph	Set Pressure Test	Performance Indicators				Lift Height h mm	Rated Capacity System	Applicable Medium	applicable Temperature °C
				Set Pressure Ps Mpa	Overpressure Po	Blowdown Pb1	Closure Test Pt				
3 (80)	150	3.0	0.08-0.1	0.08	≤10%Ps	≤10%Ps	≤0.03	≥12.5	0.8	Steam	≤350
				0.1							
			0.1-0.13	0.13							
				0.13							
			0.13-0.16	0.16							
				0.16							
			0.16-0.2	0.2							
				0.2							
			0.2-0.25	0.25							
				0.25							
			0.25-0.3	0.3							
				0.3							
			0.3-0.4	0.4							
				0.4							
			0.4-0.5	0.4							
				0.5							
			0.5-0.6	0.5							
				0.6							
			0.6-0.7	0.6							
				0.7							
0.7-0.8	0.7										
	0.8										
0.8-1.0	0.8										
	1.0										
1.0-1.3	1.0										
	1.3										
1.3-1.6	1.3										
	1.6										

## Pilot Operated Safety Valve



### Specification

Inlet x Orifice x Outlet	ANSI Flange Rating		Model Number	Max.set pressure			Max.Outlet pressure	Body Materials	code name symbol				
	Inlet	Outlet		-268 C ~ -29 C	-29 C ~ 38 C	260 C			A(2)	B(2)	C	T	E
8T10	150	150	15	19.7	11.7	19.7	C.St. WCB	276	279		44	16	
8T10	300	150	30	51.0	41.4	19.7		276	279		58	16	
8T10	600	150	60	62.1	62.1	19.7		297	279		88	24	
8T10	150	150	15	19	19.0	11.7	19.0	276	279		44	16	
8T10	300	150	30	49.6	49.6	33.1	19.0	276	279		58	16	
8T10	600	150	60	61	60.0	60.0	19.0	297	279		88	24	
8T10	150	150	15	9.7	9.7	19.0	19.0	276	279		44	16	
8T10	300	150	30	24.8	24.8	19.0	19.0	276	279		58	16	
8T10	600	150	60	49.6	49.6	19.0	19.0	297	279		88	24	
8T10	150	150	15	15.9	12.4	19.0	19.0	276	279		44	16	
8T10	300	150	30	41.4	32.1	19.0	19.0	276	279		58	16	
8T10	600	150	60	82.7	64.1	19.0	19.0	297	279		88	24	

Maximum back pressure limit at 38 C, for higher temperatures, shall not be above rated values of ANSI/ASME B16.34.

## Pilot Operated Safety Valve

### Specification

Inlet x Orifice x Outlet	ANSI Flange Rating		Model Number	Max.set pressure			Max.Outlet pressure	Body Materials	code name symbol				
	Inlet	Outlet		-268 C ~ -29 C	-29 C ~ 38 C	260 C			38 C	A(2)	B(2)	C	T
1 1/2G3	150	150	15	19.7	11.7	19.7	C.St. WCB	130	124		31	10	
1 1/2G3	300	150	30	51.0	41.4	19.7		130	124		31	10	
1 1/2G3	600	150	60	102.0	82.7	19.7		130	124		33	10	
1 1/2G3	900	300	90	153.1	123.8	51.0		162	171				
1 1/2G3	1500	300	150	255.5	206.5	51.0		162	171				
1 1/2G3	2500	300	250	425.4	344.1	51.0		162	171				
2G3	150	150	15	19.7	11.7	19.7		136	124		35	16	
2G3	300	150	30	51.0	41.4	19.7		136	124		39	16	
2G3	600	150	60	102.0	82.7	19.7		136	124		49	16	
2G3	900	300	90	153.1	123.8	51.0		167	171				
2G3	1500	300	150	255.5	206.5	51.0		167	171				
2G3	2500	300	250	425.4	344.1	51.0		178	171				
1 1/2G3	150	150	15	19.0	11.7	19.0		130	124		31	10	
1 1/2G3	300	150	30	49.6	33.1	19.0		130	124		31	10	
1 1/2G3	600	150	60	99.3	65.8	19.0		130	124		33	10	
1 1/2G3	900	300	90	148.9	98.9	49.6	162	171					
1 1/2G3	1500	300	150	248.2	164.8	49.6	162	171					
1 1/2G3	2500	300	250	413.7	274.4	49.6	162	171					
2G3	150	150	15	19.0	11.7	19.0	136	124		35	16		
2G3	300	150	30	49.6	33.1	19.0	136	124		39	16		
2G3	600	150	60	99.3	65.8	19.0	136	124		49	16		
2G3	900	300	90	148.9	98.9	49.6	167	171					
2G3	1500	300	150	248.2	164.8	49.6	167	171					
2G3	2500	300	250	413.7	274.4	49.6	178	171					
1G2	150	150	15	19.0	9.7	19.0	105	114		46	28		
1G2	300	150	30	49.6	24.8	19.0	111	114		46	28		
1G2	600	150	60	99.3	49.6	19.0	111	114		53	28		
1G2	900	300	90	148.9	74.5	49.6	125	121		63	28		
1G2	1500	300	150	248.2	124.1	49.6	125	121		63	28		
1G2	2500	300	250	413.7	206.9	49.6	125	121		70	28		
1 1/2G2	150	150	15	9.7	9.7	19.0	124	121		49	28		
1 1/2G2	300	150	30	24.8	24.8	19.0	124	121		49	28		
1 1/2G2	600	150	60	49.6	49.6	19.0	124	121		58	28		
1 1/2G2	900	300	90	74.5	74.5	49.6	149	140		67	28		
1 1/2G2	1500	300	150	124.1	124.1	49.6	149	140		67	28		
1 1/2G2	2500	300	250	206.9	206.9	49.6	149	140		80	28		
1G2	150	150	15	15.9	12.4	19.0	105	114		46	28		
1G2	300	150	30	41.4	32.1	19.0	111	114		46	28		
1G2	600	150	60	82.7	64.1	19.0	111	114		53	28		
1G2	900	300	90	124.1	96.2	49.6	125	121		63	28		
1G2	1500	300	150	206.9	160.7	49.6	125	121		63	28		
1G2	2500	300	250	344.8	267.5	49.6	125	121		70	28		
1 1/2G2	150	150	15	15.9	12.4	19.0	124	121		49	28		
1 1/2G2	300	150	30	41.4	32.1	19.0	124	121		49	28		
1 1/2G2	600	150	60	82.7	64.1	19.0	124	121		58	28		
1 1/2G2	900	300	90	124.1	96.2	49.6	149	140		67	28		
1 1/2G2	1500	300	150	206.9	160.7	49.6	149	140		67	28		
1 1/2G2	2500	300	250	344.8	267.5	49.6	149	140		80	28		

Maximum back pressure limit at 38 C, for higher temperatures, shall not be above rated values of ANSI/ASME B16.34.



## Pilot Operated Safety Valve

### Specification

Inlet x Orifice x Outlet	ANSI Flange Rating		Model Number	Max.set pressure			Max.Outlet pressure	Body Materials	code name symbol					
	Inlet	Outlet		-268 °C ~ -29 °C	-29 °C ~ 38 °C	260 °C			38 °C	A <sub>(2)</sub>	B <sub>(2)</sub>	C	T	E
1D2	150	150	15		19.7	11.7	19.7	C.St. WCB	105	114		46	28	
1D2	300	150	30		51.0	41.4	19.7		111	114		46	28	
1D2	600	150	60		102.0	82.7	19.7		111	114		53	28	
1D2	900	300	90		153.1	123.8	51.0		125	121		63	28	
1D2	1500	300	150		255.5	206.5	51.0		125	121		63	28	
1D2	2500	300	250		425.4	344.1	51.0		125	121		70	28	
1 1/2D2	150	150	15		19.7	11.7	19.7		124	121		49	28	
1 1/2D2	300	150	30		51.0	41.4	19.7		124	121		49	28	
1 1/2D2	600	150	60		102.0	82.7	19.7		124	121		58	28	
1 1/2D2	900	300	90		153.1	123.8	51.0		149	140		67	28	
1 1/2D2	1500	300	150		255.5	206.5	51.0		149	140		67	28	
1 1/2D2	2500	300	250		425.4	344.1	51.0		149	140		80	28	
1D2	150	150	15		19.0	11.7	19.0	105	114		46	28		
1D2	300	150	30		49.6	33.1	19.0	111	114		46	28		
1D2	600	150	60		99.3	65.8	19.0	111	114		53	28		
1D2	900	300	90		148.9	98.9	49.6	125	121		63	28		
1D2	1500	300	150		248.2	164.8	49.6	125	121		63	28		
1D2	2500	300	250		413.7	274.4	49.6	125	121		70	28		
1 1/2D2	150	150	15	19.0	19.0	11.7	19.0	124	121		49	28		
1 1/2D2	300	150	30	49.6	49.6	33.1	19.0	124	121		49	28		
1 1/2D2	600	150	60	99.3	99.3	65.8	19.0	124	121		58	28		
1 1/2D2	900	300	90	148.9	148.9	98.9	49.6	149	140		67	28		
1 1/2D2	1500	300	150	248.2	248.2	164.8	49.6	149	140		67	28		
1 1/2D2	2500	300	250	413.7	413.7	274.4	49.6	149	140		80	28		
1D2	150	150	15	19.0	9.7	9.7	19.0	105	114		46	28		
1D2	300	150	30	49.6	24.8	24.8	19.0	111	114		46	28		
1D2	600	150	60	99.3	49.6	49.6	19.0	111	114		53	28		
1D2	900	300	90	148.9	74.5	74.5	49.6	125	121		63	28		
1D2	1500	300	150	248.2	124.1	124.1	49.6	125	121		63	28		
1D2	2500	300	250	413.7	206.9	206.9	49.6	125	121		70	28		
1 1/2D2	150	150	15		9.7	9.7	19.0	124	121		49	28		
1 1/2D2	300	150	30		24.8	24.8	19.0	124	121		49	28		
1 1/2D2	600	150	60		49.6	49.6	19.0	124	121		58	28		
1 1/2D2	900	300	90		74.5	74.5	49.6	149	140		67	28		
1 1/2D2	1500	300	150		124.1	124.1	49.6	149	140		67	28		
1 1/2D2	2500	300	250		206.9	206.9	49.6	149	140		80	28		
1D2	150	150	15		15.9	12.4	19.0	105	114		46	28		
1D2	300	150	30		41.4	32.1	19.0	111	114		46	28		
1D2	600	150	60		82.7	64.1	19.0	111	114		53	28		
1D2	900	300	90		124.1	96.2	49.6	125	121		63	28		
1D2	1500	300	150		206.9	160.7	49.6	125	121		63	28		
1D2	2500	300	250		344.8	267.5	49.6	125	121		70	28		
1 1/2D2	150	150	15		15.9	12.4	19.0	124	121		49	28		
1 1/2D2	300	150	30		41.4	32.1	19.0	124	121		49	28		
1 1/2D2	600	150	60		82.7	64.1	19.0	124	121		58	28		
1 1/2D2	900	300	90		124.1	96.2	49.6	149	140		67	28		
1 1/2D2	1500	300	150		206.9	160.7	49.6	149	140		67	28		
1 1/2D2	2500	300	250		344.8	267.5	49.6	149	140		80	28		

Maximum back pressure limit at 38 °C, for higher temperatures, shall not be above rated values of ANSI/ASME B16.34.

## Pilot Operated Safety Valve

### Specification

Inlet x Orifice x Outlet	ANSI Flange Rating		Model Number	Max.set pressure			Max.Outlet pressure	Body Materials	code name symbol					
	Inlet	Outlet		-268 °C ~ -29 °C	-29 °C ~ 38 °C	260 °C			38 °C	A <sub>(2)</sub>	B <sub>(2)</sub>	C	T	E
1 1/2H3	150	150	15		19.7	11.7	19.7	C.St. WCB	130	124		31	10	
1 1/2H3	300	150	30		51.0	41.4	19.7		130	124		31	10	
1 1/2H3	600	150	60		102.0	82.7	19.7		130	124		33	10	
1 1/2H3	900	300	90		153.1	123.8	51.0		162	171				
1 1/2H3	1500	300	150		255.5	206.5	51.0		162	171				
1 1/2H3	2500	300	250		425.4	344.1	51.0		162	171				
2H3	150	150	15		19.7	11.7	19.7		136	124		37	18	
2H3	300	150	30		51.0	41.4	19.7		136	124		41	18	
2H3	600	150	60		102.0	82.7	19.7		136	124		51	18	
2H3	900	300	90		153.1	123.8	51.0		167	171				
2H3	1500	300	150		255.5	206.5	51.0		167	171				
2H3	2500	300	250		425.4	344.1	51.0		178	171				
1 1/2H3	150	150	15		19.0	11.7	19.0	130	124		31	10		
1 1/2H3	300	150	30		49.6	33.1	19.0	130	124		31	10		
1 1/2H3	600	150	60		99.3	65.8	19.0	130	124		33	10		
1 1/2H3	900	300	90		148.9	98.9	49.6	162	171					
1 1/2H3	1500	300	150		248.2	164.8	49.6	162	171					
1 1/2H3	2500	300	250		413.7	274.4	49.6	162	171					
2H3	150	150	15	19.0	19.0	11.7	19.0	136	124		37	18		
2H3	300	150	30	49.6	49.6	33.1	19.0	136	124		41	18		
2H3	600	150	60	99.3	99.3	65.8	19.0	136	124		51	18		
2H3	900	300	90	148.9	148.9	98.9	49.6	167	171					
2H3	1500	300	150	248.2	248.2	164.8	49.6	167	171					
2H3	2500	300	250	413.7	413.7	274.4	49.6	178	171					
1H2	150	150	15	19.0	9.7	9.7	19.0	105	114		46	28		
1H2	300	150	30	49.6	24.8	24.8	19.0	111	114		46	28		
1H2	600	150	60	99.3	49.6	49.6	19.0	111	114		53	28		
1H2	900	300	90	148.9	74.5	74.5	49.6	125	121		63	28		
1H2	1500	300	150	248.2	124.1	124.1	49.6	125	121		63	28		
1H2	2500	300	250	413.7	206.9	206.9	49.6	125	121		70	28		
1 1/2H2	150	150	15		9.7	9.7	19.0	124	121		49	28		
1 1/2H2	300	150	30		24.8	24.8	19.0	124	121		49	28		
1 1/2H2	600	150	60		49.6	49.6	19.0	124	121		58	28		
1 1/2H2	900	300	90		74.5	74.5	49.6	149	140		67	28		
1 1/2H2	1500	300	150		124.1	124.1	49.6	149	140		67	28		
1 1/2H2	2500	300	250		206.9	206.9	49.6	149	140		80	28		
1H2	150	150	15		15.9	12.4	19.0	105	114		46	28		
1H2	300	150	30		41.4	32.1	19.0	111	114		46	28		
1H2	600	150	60		82.7	64.1	19.0	111	114		53	28		
1H2	900	300	90		124.1	96.2	49.6	125	121		63	28		
1H2	1500	300	150		206.9	160.7	49.6	125	121		63	28		
1H2	2500	300	250		344.8	267.5	49.6	125	121		70	28		
1 1/2H2	150	150	15		15.9	12.4	19.0	124	121		49	28		
1 1/2H2	300	150	30		41.4	32.1	19.0	124	121		49	28		
1 1/2H2	600	150	60		82.7	64.1	19.0	124	121		58	28		
1 1/2H2	900	300	90		124.1	96.2	49.6	149	140		67	28		
1 1/2H2	1500	300	150		206.9	160.7	49.6	149	140		67	28		
1 1/2H2	2500	300	250		344.8	267.5	49.6	149	140		80	28		

Maximum back pressure limit at 38 °C, for higher temperatures, shall not be above rated values of ANSI/ASME B16.34.

## Pilot Operated Safety Valve

### Specification

Inlet x Orifice x Outlet	ANSI Flange Rating		Model Number	Max.set pressure			Max.Outlet pressure	Body Materials	code name symbol					
	Inlet	Outlet		-268 °C -29 °C	-29 °C -38 °C	260 °C			38 °C	A <sub>(2)</sub>	B <sub>(2)</sub>	C	T	E
2J3	150	150	15		19.7	11.7	19.7	C.St. WCB	136	124		37	18	
2J3	300	150	30		51.0	41.4	19.7		136	124		41	18	
2J3	600	150	60		102.0	82.7	19.7		136	124		51	18	
2J3	900	300	90		153.1	123.8	51.0		167	171				
2J3	1500	300	150		255.5	206.5	51.0		167	171				
2J3	2500	300	250		425.4	344.1	51.0		178	171				
3J4	150	150	15		19.7	11.7	19.7		156	162		39	20	
3J4	300	150	30		51.0	41.4	19.7		156	162		43	20	
3J4	600	150	60		102.0	82.7	19.7		162	162		53	20	
3J4	900	300	90		153.1	123.8	51.0		190	181				
3J4	1500	300	150		255.5	206.5	51.0		190	181				
2J3	150	150	15	19	19	11.7	19.0		St.St. CF8M	136	124		37	18
2J3	300	150	30	49.6	49.6	33.1	19.0	136		124		41	18	
2J3	600	150	60	99.3	99.3	65.8	19.0	136		124		51	18	
2J3	900	300	90	148.9	148.9	98.9	49.6	167		171				
2J3	1500	300	150	244.8	244.8	164.8	49.6	167		171				
2J3	2500	300	250	425.4	344.1	244.8	49.6	178		171				
3J4	150	150	15	19	19	11.7	19.0	156		162		39	20	
3J4	300	150	30	49.6	49.6	33.1	19.0	156		162		43	20	
3J4	600	150	60	99.3	99.3	65.8	19.0	162		162		53	20	
3J4	900	300	90	148.9	148.9	98.9	49.6	190		181				
3J4	1500	300	150	248.2	248.2	164.8	49.6	190		181				
2J3	150	150	15		9.7	9.7	19.0	Alloy St.M35-1		136	124		37	18
2J3	300	150	30		24.8	24.8	19.0		136	124		41	18	
2J3	600	150	60		49.6	49.6	19.0		136	124		51	18	
2J3	900	300	90		74.5	74.5	49.6		167	171				
2J3	1500	300	150		124.1	124.1	49.6		167	171				
2J3	2500	300	250		206.9	206.9	49.6		178	171				
3J4	150	150	15		9.7	9.7	19.0		156	162		39	20	
3J4	300	150	30		24.8	24.8	19.0		156	162		43	20	
3J4	600	150	60		49.6	49.6	19.0		162	162		53	20	
3J4	900	300	90		74.5	74.5	49.6		190	181				
3J4	1500	300	150		124.1	124.1	49.6		190	181				
2J3	150	150	15		15.9	12.4	19.0		20 alloy St. CN7M	136	124		37	18
2J3	300	150	30		41.4	32.1	19.0	136		124		41	18	
2J3	600	150	60		82.7	64.1	19.0	136		124		51	18	
2J3	900	300	90		124.1	96.2	49.6	167		171				
2J3	1500	300	150		206.9	160.7	49.6	167		171				
2J3	2500	300	250		344.8	267.5	49.6	178		171				
3J4	150	150	15		15.9	12.4	19.0	156		162		39	20	
3J4	300	150	30		41.4	32.1	19.0	156		162		43	20	
3J4	600	150	60		82.7	64.1	19.0	162		162		53	20	
3J4	900	300	90		124.1	96.2	49.6	190		181				
3J4	1500	300	150		206.9	160.7	49.6	190		181				

Maximum back pressure limit at 38 °C, for higher temperatures, shall not be above rated values of ANSI/ASME B16.34.

## Pilot Operated Safety Valve

### Specification

Inlet x Orifice x Outlet	ANSI Flange Rating		Model Number	Max.set pressure			Max.Outlet pressure	Body Materials	code name symbol						
	Inlet	Outlet		-268 °C -29 °C	-29 °C -38 °C	260 °C			38 °C	A <sub>(2)</sub>	B <sub>(2)</sub>	C	T	E	
3K4	150	150	15		19.7	11.7	19.7	C.St. WCB	156	162		39	20		
3K4	300	150	30		51.0	41.4	19.7		156	162		43	20		
3K4	600	150	60		102.0	82.7	19.7		162	162		53	20		
3K4	900	300	90		153.1	123.8	51.0		190	181					
3K4	1500	300	150		255.5	206.5	51.0		190	181					
3K4	150	150	15	19.0	19.0	11.7	19.0		St.St. CF8M	156	162		39	20	
3K4	300	150	30	49.6	49.6	33.1	19.0			156	162		43	20	
3K4	600	150	60	99.3	99.3	65.8	19.0			162	162		53	20	
3K4	900	300	90	148.9	148.9	98.9	49.6			190	181				
3K4	1500	300	150	248.2	248.2	164.8	49.6			190	181				
3K4	150	150	15		9.7	9.7	19.0			Alloy St.M35-1	156	162		39	20
3K4	300	150	30		24.8	24.8	19.0				156	162		43	20
3K4	600	150	60		49.6	49.6	19.0	162			162		53	20	
3K4	900	300	90		74.5	74.5	49.6	190			181				
3K4	1500	300	150		124.1	124.1	49.6	190			181				
3K4	150	150	15		15.9	12.4	19.0	20 alloy St. CN7M			156	162		39	20
3K4	300	150	30		41.4	32.1	19.0				156	162		43	20
3K4	600	150	60		82.7	64.1	19.0		162		162		53	20	
3K4	900	300	90		124.1	96.2	49.6		190		181				
3K4	1500	300	150		206.9	160.7	49.6		190		181				

Maximum back pressure limit at 38 °C, for higher temperatures, shall not be above rated values of ANSI/ASME B16.34.

## Pilot Operated Safety Valve

### Specification

Inlet x Orifice x Outlet	ANSI Flange Rating		Model Number	Max.set pressure			Max.Outlet pressure	Body Materials	code name symbol					
	Inlet	Outlet		-268 °C - -29 °C	-29 °C - 38 °C	260 °C			38 °C	A <sub>(2)</sub>	B <sub>(2)</sub>	C	T	E
3L4	150	150	15		19.7	11.7	19.7	C.St. WCB	156	162		39	20	
3L4	300	150	30		51.0	41.4	19.7		156	162		43	20	
3L4	600	150	60		85.5	82.7	19.7		162	162		53	20	
3L4	900	300	90		153.1	123.8	51.0		190	181				
3L4	1500	300	150		200.0	200.0	51.0		190	181				
4L6	150	150	15		19.7	11.7	19.7		197	210		41	22	
4L6	300	150	30		51.0	41.4	19.7		197	210		45	22	
4L6	600	150	60		102.0	82.7	19.7		197	210		55	22	
4L6	900	300	90		153.1	123.8	51.0		249	233				
4L6	1500	300	150		255.5	206.5	51.0		249	233				
3L4	150	150	15	19.0	19.0	11.7	19.0	St.St. CF8M	156	162		39	20	
3L4	300	150	30	49.6	49.6	33.1	19.0		156	162		43	20	
3L4	600	150	60	82.7	82.7	65.8	19.0		162	162		53	20	
3L4	900	300	90	148.9	148.9	98.9	49.6		190	181				
3L4	1500	300	150	194.8	194.8	164.8	49.6		190	181				
4L6	150	150	15	19.0	19.0	11.7	19.0		197	210		41	22	
4L6	300	150	30	49.6	49.6	33.1	19.0		197	210		45	22	
4L6	600	150	60	99.3	99.3	65.8	19.0		197	210		55	22	
4L6	900	300	90	148.9	148.9	98.9	49.6		249	233				
4L6	1500	300	150	248.2	248.2	164.8	49.6		249	233				
3L4	150	150	15		9.7	9.7	19.0	Alloy St.M35-1	156	162		39	20	
3L4	300	150	30		24.8	24.8	19.0		156	162		43	20	
3L4	600	150	60		49.6	49.6	19.0		162	162		53	20	
3L4	900	300	90		74.5	74.5	49.6		190	181				
3L4	1500	300	150		124.1	124.1	49.6		190	181				
4L6	150	150	15		9.7	9.7	19.0		197	210		41	22	
4L6	300	150	30		24.8	24.8	19.0		197	210		45	22	
4L6	600	150	60		49.6	49.6	19.0		197	210		55	22	
4L6	900	300	90		74.5	74.5	49.6		249	233				
4L6	1500	300	150		124.1	124.1	49.6		249	233				
3L4	150	150	15		15.9	12.4	19.0	20 alloy St. CN7M	156	162		39	20	
3L4	300	150	30		41.4	32.1	19.0		156	162		43	20	
3L4	600	150	60		82.7	64.1	19.0		162	162		53	20	
3L4	900	300	90		124.1	96.2	49.6		190	181				
3L4	1500	300	150		206.9	160.7	49.6		190	181				
4L6	150	150	15		15.9	12.4	19.0		197	210		41	22	
4L6	300	150	30		41.4	32.1	19.0		197	210		45	22	
4L6	600	150	60		82.7	64.1	19.0		197	210		55	22	
4L6	900	300	90		124.1	96.2	49.6		249	233				
4L6	1500	300	150		206.9	160.7	49.6		249	233				

Maximum back pressure limit at 38 °C, for higher temperatures, shall not be above rated values of ANSI/ASME B16.34.

## Pilot Operated Safety Valve

### Specification

Inlet x Orifice x Outlet	ANSI Flange Rating		Model Number	Max.set pressure			Max.Outlet pressure	Body Materials	code name symbol					
	Inlet	Outlet		-268 °C - -29 °C	-29 °C - 38 °C	260 °C			38 °C	A <sub>(2)</sub>	B <sub>(2)</sub>	C	T	E
4M6	150	150	15		19.7	11.7	19.7	C.St. WCB	197	210		39	20	
4M6	300	150	30		51.0	41.4	19.7		197	210		43	20	
4M6	600	150	60		102.0	82.7	19.7		197	210		53	20	
4M6	900	300	90		153.1	123.8	51.0		249	233				
4M6	1500	300	150		255.5	206.5	51.0		249	233				
4M6	150	150	15	19.0	19.0	11.7	19.0		St.St. CF8M	197	210		39	20
4M6	300	150	30	49.6	49.6	33.1	19.0			197	210		43	20
4M6	600	150	60	99.3	99.3	65.8	19.0			197	210		53	20
4M6	900	300	90	148.9	148.9	98.9	49.6			249	233			
4M6	1500	300	150	248.2	248.2	164.8	49.6			249	233			
4M6	150	150	15		9.7	9.7	19.0	Alloy St.M35-1		197	210		39	20
4M6	300	150	30		24.8	24.8	19.0			197	210		43	20
4M6	600	150	60		49.6	49.6	19.0			197	210		53	20
4M6	900	300	90		74.5	74.5	49.6			249	233			
4M6	1500	300	150		124.1	124.1	49.6			249	233			
4M6	150	150	15		15.9	12.4	19.0		20 alloy St. CN7M	197	210		39	20
4M6	300	150	30		41.4	32.1	19.0			197	210		43	20
4M6	600	150	60		82.7	64.1	19.0			197	210		53	20
4M6	900	300	90		124.1	96.2	49.6			249	233			
4M6	1500	300	150		206.9	160.7	49.6			249	233			

Maximum back pressure limit at 38 °C, for higher temperatures, shall not be above rated values of ANSI/ASME B16.34.

## Pilot Operated Safety Valve

### Specification

Inlet × Orifice × Outlet	ANSI Flange Rating		Model Number	Max.set pressure			Max.Outlet pressure	Body Materials	code name symbol					
	Inlet	Outlet		-268 °C ~ -29 °C	-29 °C ~ 38 °C	260 °C			38 °C	A <sub>(2)</sub>	B <sub>(2)</sub>	C	T	E
4N6	150	150	15		19.7	11.7	19.7	C.St. WCB	197	210		39	20	
4N6	300	150	30		51.0	41.4	19.7		197	210		43	20	
4N6	600	150	60		102.0	82.7	19.7		197	210		53	20	
4N6	900	300	90		153.1	123.8	51.0		249	233				
4N6	1500	300	150		255.5	206.5	51.0		249	233				
4N6	150	150	15	19.0	19.0	11.7	19.0	St.St. CF8M	197	210		39	20	
4N6	300	150	30	49.6	49.6	33.1	19.0		197	210		43	20	
4N6	600	150	60	99.3	99.3	65.8	19.0		197	210		53	20	
4N6	900	300	90	148.9	148.9	98.9	49.6		249	233				
4N6	1500	300	150	248.2	248.2	164.8	49.6		249	233				
4N6	150	150	15		9.7	9.7	19.0	Alloy St.M35-1	197	210		39	20	
4N6	300	150	30		24.8	24.8	19.0		197	210		43	20	
4N6	600	150	60		49.6	49.6	19.0		197	210		53	20	
4N6	900	300	90		74.5	74.5	49.6		249	233				
4N6	1500	300	150		124.1	124.1	49.6		249	233				
4N6	150	150	15		15.9	12.4	19.0	20 alloy St. CN7M	197	210			20	
4N6	300	150	30		41.4	32.1	19.0		197	210			20	
4N6	600	150	60		82.7	64.1	19.0		197	210			20	
4N6	900	300	90		124.1	96.2	49.6		249	233				
4N6	1500	300	150		206.9	160.7	49.6		249	233				

Maximum back pressure limit at 38 °C, for higher temperatures, shall not be above rated values of ANSI/ASME B16.34.

## Pilot Operated Safety Valve

### Specification

Inlet × Orifice × Outlet	ANSI Flange Rating		Model Number	Max.set pressure			Max.Outlet pressure	Body Materials	code name symbol					
	Inlet	Outlet		-268 °C ~ -29 °C	-29 °C ~ 38 °C	260 °C			38 °C	A <sub>(2)</sub>	B <sub>(2)</sub>	C	T	E
4P6	150	150	15		19.7	11.7	19.7	C.St. WCB	197	210		39	20	
4P6	300	150	30		51.0	41.4	19.7		197	210		43	20	
4P6	600	150	60		90.0	82.7	19.7		197	210		53	20	
4P6	600	300	60a		102.0	82.7	51.0		249	233				
4P6	900	300	90		153.1	123.8	51.0		249	233				
4P6	1500	300	150		212.4	206.5	51.0							
4P6	1500	600	150a		255.5	206.5	102.0							
4P6	150	150	15	19.0	19.0	11.7	19.0	St.St. CF8M	197	210		39	20	
4P6	300	150	30	49.6	49.6	33.1	19.0		197	210		43	20	
4P6	600	300	60	99.3	99.3	65.8	49.6		197	210				
4P6	900	300	90	148.0	148.9	98.9	49.6		249	233				
4P6	1500	600	150	248.2	248.2	164.8	99.3		249	233				
4P6	150	150	15		9.7	9.7	19.0	Alloy St.M35-1	197	210		39	20	
4P6	300	150	30		24.8	24.8	19.0		197	210		43	20	
4P6	600	150	60		49.6	49.6	19.0		197	210		53	20	
4P6	900	300	90		74.5	74.5	49.6		249	233				
4P6	1500	300	150		124.1	124.1	49.6		249	233				
4P6	150	150	15		15.9	12.4	19.0	20 alloy St. CN7M	197	210			20	
4P6	300	150	30		41.4	32.1	19.0		197	210			20	
4P6	600	150	60		82.7	64.1	19.0		197	210			20	
4P6	600	300	60a		82.7	64.1	49.6		249	233				
4P6	900	300	90		124.1	96.2	49.6		249	233				
4P6	1500	300	150		206.9	160.7	49.6							
4P6	1500	600	150a		206.9	160.7	99.3							

Maximum back pressure limit at 38 °C, for higher temperatures, shall not be above rated values of ANSI/ASME B16.34.

## Pilot Operated Safety Valve

### Specification

Inlet × Orifice × Outlet	ANSI Flange Rating		Model Number	Max.set pressure			Max.Outlet pressure	Body Materials	code name symbol				
	Inlet	Outlet		-268 °C -29 °C	-29 °C -38 °C	260 °C			38 °C	A <sub>(2)</sub>	B <sub>(2)</sub>	C	T
6Q8	150	150	15		19.7	11.7	19.7	C.St. WCB	240	241		40	14
6Q8	300	150	30		51.0	41.4	19.7		240	241		51	14
6Q8	600	150	60		91.7	82.7	19.7		246	241		75	20
6Q8	600	300	60a		102.0	82.7	51.0		246	265		75	20
6Q8	150	150	15	19.0	19.0	11.7	19.0	St.St. CF8M	240	241		40	14
6Q8	300	150	30	49.6	49.6	33.1	19.0		240	241		51	14
6Q8	600	150	60	88.6	88.6	65.8	19.0		246	241		75	20
6Q8	600	300	60a	99.3	99.3	65.8	49.6		246	265		75	20
6Q8	150	150	15		9.7	9.7	19.0	Alloy St.M35-1	240	241		40	14
6Q8	300	150	30		24.8	24.8	19.0		240	241		51	14
6Q8	600	150	60		49.6	49.6	19.0		246	241		75	20
6Q8	600	300	60a		49.6	49.6	49.6		246	265		75	20
6Q8	150	150	15		15.9	12.4	19.0	20 alloy St. CN7M	240	241		40	14
6Q8	300	150	30		41.4	32.1	19.0		240	241		51	14
6Q8	600	150	60		82.7	64.1	19.0		246	241		75	20
6Q8	600	300	60a		82.7	64.1	49.6		246	265		75	20

Maximum back pressure limit at 38 °C, for higher temperatures, shall not be above rated values of ANSI/ASME B16.34.

Tolerances for A and B: 1.6 ±

### Specification

Inlet × Orifice × Outlet	ANSI Flange Rating		Model Number	Max.set pressure			Max.Outlet pressure	Body Materials	code name symbol				
	Inlet	Outlet		-268 °C -29 °C	-29 °C -38 °C	260 °C			38 °C	A <sub>(2)</sub>	B <sub>(2)</sub>	C	T
6R8	150	150	15		19.7	11.7	19.7	C.St. WCB	240	241		40	14
6R8	300	150	30		51.0	42.4	19.7		240	241		51	14
6R8	600	150	60		63.1	63.1	19.7		246	241		75	20
6R8	150	150	15		19.0	11.7	19.0		240	241		40	14
6R8	300	150	30	19.00	49.60	33.10	19.0	St.St. CF8M	240	241		51	14
6R8	600	150	60	49.60	61.00	61.00	19.0		246	241		75	20
6R8	150	150	15	61.00	9.7	9.7	19.0		240	241		40	14
6R8	300	150	30		24.8	24.8	19.0		240	241		51	14
6R8	600	150	60		49.6	49.6	19.0	Alloy St.M35-1	246	241		75	20
6R8	150	150	15		15.9	12.4	19.0		240	241		40	14
6R8	300	150	30		41.4	32.1	19.0		240	241		51	14
6R8	600	150	60		82.7	64.1	19.0		246	241		75	20

Maximum back pressure limit at 38 °C, for higher temperatures, shall not be above rated values of ANSI/ASME B16.34.

## Pilot Operated Safety Valve

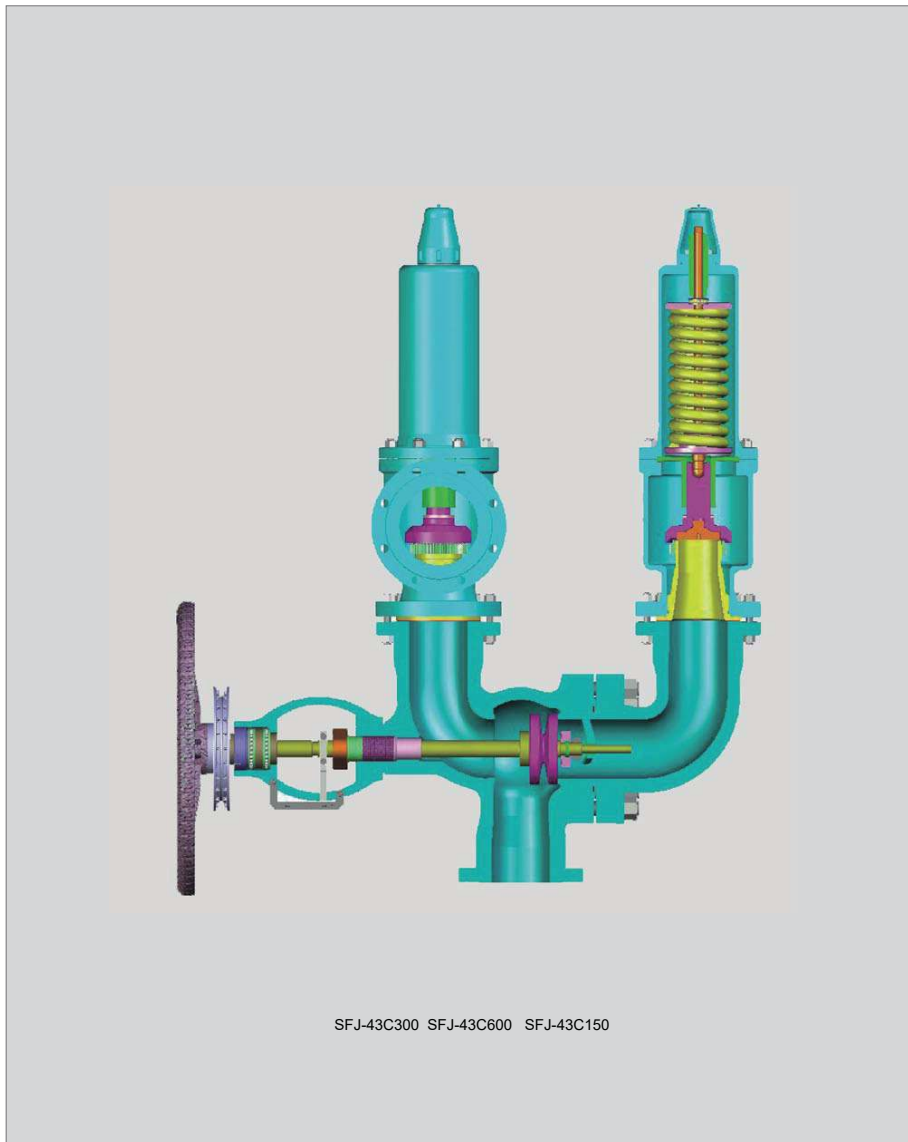
### Specification

Inlet × Orifice × Outlet	ANSI Flange Rating		Model Number	Max.set pressure			Max.Outlet pressure	Body Materials	code name symbol				
	Inlet	Outlet		-268 °C -29 °C	-29 °C -38 °C	260 °C			38 °C	A <sub>(2)</sub>	B <sub>(2)</sub>	C	T
1F2	150	150	15		19.7	11.7	19.7	C.St. WCB	105	114		46	28
1F2	300	150	30		51.0	41.4	19.7		111	114		46	28
1F2	600	150	60		102.0	82.7	19.7		111	114		53	28
1F2	900	300	90		153.1	123.8	51.0		125	121		63	28
1F2	1500	300	150		255.5	206.5	51.0		125	121		63	28
1F2	2500	300	250		425.4	344.1	51.0		125	121		70	28
1 1/2F2	150	150	15		19.7	11.7	19.7		124	121		49	28
1 1/2F2	300	150	30		51.0	41.4	19.7		124	121		49	28
1 1/2F2	600	150	60		102.0	82.7	19.7		124	121		58	28
1 1/2F2	900	300	90		153.1	123.8	51.0		149	140		67	28
1 1/2F2	1500	300	150		255.5	206.5	51.0		149	140		67	28
1 1/2F2	2500	300	250		425.4	344.1	51.0		149	140		80	28
1F2	150	150	15		19.0	11.7	19.0	St.St. CF8M	105	114		46	28
1F2	300	150	30		49.6	33.1	19.0		111	114		46	28
1F2	600	150	60		99.3	65.8	19.0		111	114		53	28
1F2	900	300	90		148.9	98.9	49.6		125	121		63	28
1F2	1500	300	150		248.2	164.8	49.6		125	121		63	28
1F2	2500	300	250		413.7	274.4	49.6		125	121		70	28
1 1/2F2	150	150	15		19.0	11.7	19.0		124	121		49	28
1 1/2F2	300	150	30	49.6	49.6	33.1	19.0		124	121		49	28
1 1/2F2	600	150	60	99.3	99.3	65.8	19.0		124	121		58	28
1 1/2F2	900	300	90	148.9	148.9	98.9	49.6		149	140		67	28
1 1/2F2	1500	300	150	248.2	248.2	164.8	49.6		149	140		67	28
1 1/2F2	2500	300	250	413.7	413.7	274.4	49.6		149	140		80	28
1F2	150	150	15		19.0	9.7	19.0	Alloy St.M35-1	105	114		46	28
1F2	300	150	30		49.6	24.8	19.0		111	114		46	28
1F2	600	150	60		99.3	49.6	19.0		111	114		53	28
1F2	900	300	90		148.9	74.5	49.6		125	121		63	28
1F2	1500	300	150		248.2	124.1	49.6		125	121		63	28
1F2	2500	300	250		413.7	206.9	49.6		125	121		70	28
1 1/2F2	150	150	15		9.7	9.7	19.0		124	121		49	28
1 1/2F2	300	150	30		24.8	24.8	19.0		124	121		49	28
1 1/2F2	600	150	60		49.6	49.6	19.0		124	121		58	28
1 1/2F2	900	300	90		74.5	74.5	49.6		149	140		67	28
1 1/2F2	1500	300	150		124.1	124.1	49.6		149	140		67	28
1 1/2F2	2500	300	250		206.9	206.9	49.6		149	140		80	28
1F2	150	150	15		15.9	12.4	19.0	20 alloy St. CN7M	105	114		46	28
1F2	300	150	30		41.4	32.1	19.0		111	114		46	28
1F2	600	150	60		82.7	64.1	19.0		111	114		53	28
1F2	900	300	90		124.1	96.2	49.6		125	121		63	28
1F2	1500	300	150		206.9	160.7	49.6		125	121		63	28
1F2	2500	300	250		344.8	267.5	49.6		125	121		70	28
1 1/2F2	150	150	15		15.9	12.4	19.0		124	121		49	28
1 1/2F2	300	150	30		41.4	32.1	19.0		124	121		49	28
1 1/2F2	600	150	60		82.7	64.1	19.0		124	121		58	28
1 1/2F2	900	300	90		124.1	96.2	49.6		149	140		67	28
1 1/2F2	1500	300	150		206.9	160.7	49.6		149	140		67	28
1 1/2F2	2500	300	250		344.8	267.5	49.6		149	140		80	28

Maximum back pressure limit at 38 °C, for higher temperatures, shall not be above rated values of ANSI/ASME B16.34.



## Quick Crossover Safety Valve



## Quick Crossover Safety Valve

### Features

Three-way design provides dual pressure relief device system which is installed on one position, one is active for overpressure protection, the other is kept in reserve as a standby.

The operation of crossover is safe, handy and fast.

Process shutdown is not needed when crossover, so high cost due to unscheduled shutdown can be saved.

A vent valve is provided under each safety valve, to relieve fluid out of the pipe before the isolated safety valve which is to be dismantled.

Balance valve of the Quick Crossover Device Provides low actuation torque, so crossover is very handy.

Applicable Temperature band is wide.

Good seat tightness, even after switching many times.

NO.	Part Name
1	Selector Valve
2	Safety Valve
3	Balance Valve
4	Vent Valve

\* Whether balance valve should be installed or not depends on application need.

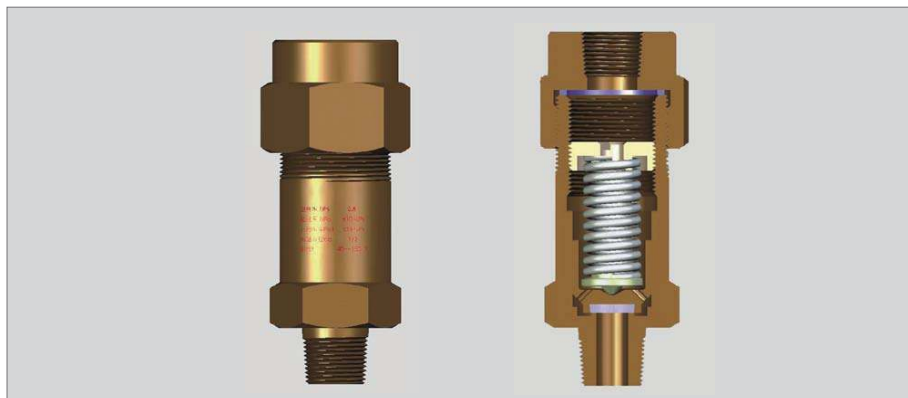
### Operation

- 1、 Check up two vent valve, they must be on closed position.
- 2、 Open balance valve.
- 3、 Rotate handwheel to switch.
- 4、 Close balance valve.
- 5、 Open vent valve on standby side, to relieve fluid out of the pipe under the standby safety valve.
- 6、 Dismantle the standby safety valve.

## Safety Valve for Refrigerator

The valve is used for refrigeration equipment as an overpressure protective device. When the equipment system pressure goes beyond the rated pressure, the valve will consequently open and relieve the pressure down to the safety one according to the design requirement for protection of equipment.

Test and Performance Standard: ANSI B16.34, ANSI/ASHRAE15-78/GB12241-12243



Performance Specifications

Nominal Diameter DN in (mm)	Nominal Pressure CL	Shell Test Ph	Set Pressure Test	Performance Indicators				Lift Height h mm	Rated Capacity System	Applicable Medium	applicable Temperature °C
				Set Pressure Ps Mpa	Overpressure Po	Blowdown Pb1	Closure Test Pt				
1/2 (15)	150	3.0	0.4~0.5	0.4	≤10%Ps	≤15%Ps	0.36	≥0.03	0.16	freon freezing oil	-40~ +150
				0.5			0.45				
			0.5~0.6	0.5			0.45				
				0.6			0.54				
			0.6~0.7	0.6			0.54				
				0.7			0.63				
			0.7~0.8	0.7			0.63				
				0.8			0.81				
			0.8~1.0	0.8			0.81				
				1.0			0.9				
			1.0~1.3	1.0			0.9				
				1.3			1.17				
			1.3~1.6	1.3			1.17				
				1.6			1.44				
			1.6~2.0	1.6			1.44				
				2.0			1.8				

## Safety Valve for Refrigerator

No.	Parts Name	Material
1	Body	H62
2	Valve assembly	H62+F-4
3	spring seat	1Cr18Ni9Ti
4	Spring	50CrVA
5	Adjustment nut	H62
6	Gasket	T3
7	Nut	H62

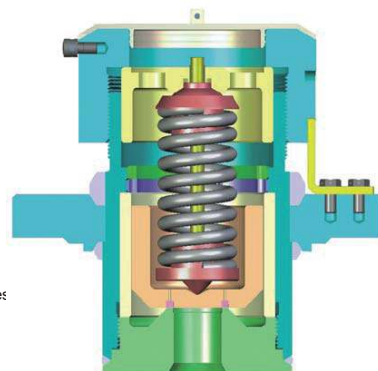
Model	SFA-22C150T	SFA-22C300T
Pressure level	150psi	300psi
Nominal Diameter DN	1/2"(15),1"(25)	1/2"(15),3/4"(20),1"(25)
Strength test pressure	3 Mpa	7.5 Mpa
Discharge pressure	< 1.1	
Sealing pressure	> 0.85	
Tightness	2	
The application of temperature	-40°C ~ +150°C	
Applicable medium	R12 , R22 , R500	

Model	psi	in(mm)	mm	mm	in	m	Mpa	Mpa
SFA-22C150T	150	1/2"(15)	9.5	95	1/2"(MPT)	3/4"(FPT)	≤1.1Ps	≥90%Ps
SFA-22C150T1	150	1/2"(15)	11	115	1/2"(FPT)	1/2"(FPT)		
SFA-22C150T2	150	1/2"(15)	11	95	1/2"(FPT)	1/2"(FPT)		
SFA-22C150T	150	1"(25)	18	145	1"(MPT)	1 1/4"(FPT)		
SFA-22C150T1	150	1"(25)	18	145	1"(MPT)	1 1/4"(FPT)		
SFA-22C150T2	150	1"(25)	18	145	1"(MPT)	1 1/4"(FPT)		
SFA-22C300T	300	1/2"(15)	6.5	92	1/2"(MPT)	7/8"(UNF)		
SFA-22C300T1	300	1/2"(15)	6.8	48	11/8"(UNF)			
SFA-22C300T	300	3/4"(20)	11	102	3/4"(MPT)	3/4"(FPT)		
SFA-22C300T1	300	3/4"(20)	9.5	95	3/4"(MPT)	3/4"(FPT)		
SFA-22C300T2	300	3/4"(20)	9.5	95	3/4"(MPT)	3/4"(FPT)		
SFA-22C300T3	300	3/4"(20)	11	102	3/4"(MPT)	3/4"(FPT)		
SFA-22C300T	300	1"(25)	18	145	1"(MPT)	1 1/4"(FPT)		
SFA-22C300T1	300	1"(25)	18	145	1"(MPT)	1 1/4"(FPT)		
SFA-22C300T2	300	1"(25)	13	105	1"(MPT)	1"(FPT)		

## BUILT IN SAFETY VALVE FOR TANK WAGON

### NA-42B25C1

#### Structural Features



NA-42B25C1 Type Built-in Safety Valves for Tank Wagon

Structural Features:

NA-42B25C1 type safety valve takes the built-in structure, which occupies rather little space and is especially suited to be applied in tank wagons and the equipment of the same kind as a protecting device for overpressure.

The working medium of this product enters under the valve disc and the unnecessary medium is directly discharged to the air. The spring is fixed in the inside cavity of the valve disc, therefore it is compact in structure, small in size and light in weight. The required amount of relieving pressure is obtained by twisting the adjusting screw nut. It is quite convenient for you to operate an install it.

Nominal Diameter (DN): 32, 40, 50mm

Nominal Pressure (PN): 2.5MPa; the pressure of strength experiment: 3.8MPa

Working Temperature (°C): 55 Media available: Liquefied petroleum gas.

Set Pressure (PK): 0.86, 1.08, 1.93, 2.37MPa

Lift Height: > Do/4mm

No.	Parts Name	Material
1	Nozzle seat	25 Carbide hardfacing)
2	Body	20
3	Disc	2Cr13
4	Bushing	2Cr13
5	Spring Seat	35
6	Spring	50CrVA
7	Adjusting nut	35

#### Dimensions ( mm )

(DN)	Do	D	K	g1	g2	g3/g4	b	f	f1	h	H	Z-φL	Weight (Kg)
32	25	195	160	135	120	105/100	24	3	4	≤104	≈186	8-φ18	17
40	32	230	190	160	149	128/118	28	3	4.5	≤104	≈215	8-φ23	20
50	40	270	220	188	175	150/138.5	30	3	4.5	≤104	≈250	8-φ25	25

## Selection of safety valve

### Sizing Formulas

$$\text{Gas and vapor } A = W_r / (0.076 \times C \times K_{dr} \times K_b \times P_{dr} \times \sqrt{\frac{M}{Z \times T}})$$

$$\text{Liquid } A = 11.78 \times Q / (K_{dr} \times K_b \times K_p \times K_v) \times \sqrt{\frac{G}{1.25 \times P_s - P_b}} \quad P_s, P_b \quad K_p)$$

$$\text{Steam } A = W_r / (5.25 \times K_{dr} \times P_{dr} \times K_{sh} \times K_b)$$

### Nomenclature

- W<sub>dr</sub> kg/h - Certified (discharge) capacity
- A mm<sup>2</sup> - Flow area, 1 see table 1
- P<sub>s</sub> MPa - Set pressure
- P<sub>d</sub> MPa - Relieving pressure (absolute)
- P<sub>dr</sub> MPa - Rated relieving pressure (absolute)
- P<sub>b</sub> MPa - Backpressure (absolute)
- M Kg/Kmol - Molecular weight, 2 see table 2
- K - Specific heat ratio
- C - Coefficient determined by k 3 see table 3
- Z - Compressibility factor
- TK - Absolute temperature, k= +273
- W<sub>r</sub> kg/h - Required capacity
- Q l/min - Required capacity, (liquids)
- K<sub>dr</sub> - Rated coefficient of discharge
- K<sub>v</sub> - Viscosity correction factor 5 see figure 5)
- K<sub>b</sub> - Backpressure correction factor 1-3 see figure 1-3table 4
- K<sub>p</sub> - Over pressure correction factor see figure 4
- G kg/m<sup>3</sup> - Density of liquid
- K<sub>sh</sub> - for saturated steam see table 5

Table 1

Orifice	mm <sup>2</sup>	in <sup>2</sup>	dn <sup>2</sup>
D	71.0	0.110	
E	126.5	0.196	
F	198.1	0.307	
G	324.5	0.503	
H	506.5	0.785	
J	830.3	1.287	
K	1185.8	1.838	
L	1840.6	2.853	
M	2322.6	3.600	
N	2800.0	4.340	
P	4116.1	6.380	
Q	7129.0	11.050	
R	10322.6	16.000	
T	16774.2	26.000	

## Schedule

table 2

Gas	molecular formula	molecular weight	K	C
Acetylene	C <sub>2</sub> H <sub>2</sub>	26	1.28	345
Air		29	1.40	356
Ammonia	NH <sub>3</sub>	17	1.33	351
Argon	Ar	40	1.66	377
Benzene	C <sub>6</sub> H <sub>6</sub>	78	1.10	327
Carbon Disulphide	CS <sub>2</sub>	76	1.21	338
Carbon Dioxide	CO <sub>2</sub>	44	1.28	345
Carbon Monoxide	CO	28	1.40	356
Chlorine	CL <sub>2</sub>	71	1.36	352
Cyclohexane	C <sub>6</sub> H <sub>12</sub>	84	1.08	324
Ethane	C <sub>2</sub> H <sub>6</sub>	30	1.22	339
Ethylene	C <sub>2</sub> H <sub>4</sub>	28	1.20	337
Helium	He	4	1.66	377
Hexane	C <sub>6</sub> H <sub>14</sub>	86	1.08	324
Hydrochloric Acid	HCl	36.5	1.40	356
Hydrogen	H <sub>2</sub>	2	1.40	356
Hydrogen sulphide	H <sub>2</sub> S	34	1.32	348
Iso-Butane	C <sub>4</sub> H <sub>10</sub>	58	1.11	328
Methane	CH <sub>4</sub>	16	1.30	346
Methyl Alcohol	CH <sub>3</sub> OH	32	1.20	337
Methyl chloride	CH <sub>3</sub> Cl	50.5	1.20	337
N-Butane	C <sub>4</sub> H <sub>10</sub>	58	1.11	328
Natural Gas		19	1.27	345
Nitrogen	N <sub>2</sub>	28	1.40	356
Oxygen	O <sub>2</sub>	32	1.40	356
Pentane	C <sub>5</sub> H <sub>12</sub>	72	1.09	325
Propane	C <sub>3</sub> H <sub>8</sub>	44	1.14	331
Sulphur Dioxide	SO <sub>2</sub>	64	1.26	342
Water Vapor/steam	H <sub>2</sub> O	18	1.30	347

table3 Versus Gas Constant

K	C	K	C	K	C	K	C
1.00	315	1.26	343	1.52	366	1.78	386
1.01	317	1.27	344	1.53	367	1.79	386
1.02	318	1.28	345	1.54	368	1.80	387
1.03	319	1.29	346	1.55	369	1.81	388
1.04	320	1.30	347	1.56	369	1.82	389
1.05	321	1.31	348	1.57	370	1.83	389
1.06	322	1.32	349	1.58	371	1.84	390
1.07	323	1.33	350	1.59	372	1.85	391
1.08	324	1.34	351	1.60	373	1.86	391
1.09	326	1.35	352	1.61	373	1.87	392
1.10	327	1.36	353	1.62	374	1.88	393
1.11	328	1.37	353	1.63	375	1.89	393
1.12	329	1.38	354	1.64	376	1.90	394
1.13	330	1.39	355	1.65	376	1.91	395
1.14	331	1.40	356	1.66	377	1.92	395
1.15	332	1.41	357	1.67	378	1.93	396
1.16	333	1.42	358	1.68	379	1.94	397
1.17	334	1.43	359	1.69	379	1.95	397
1.18	335	1.44	360	1.70	380	1.96	398
1.19	336	1.45	360	1.71	381	1.97	398
1.20	337	1.46	361	1.72	382	1.98	399
1.21	338	1.47	362	1.73	382	1.99	400
1.22	339	1.48	363	1.74	383	2.00	400
1.23	340	1.49	364	1.75	384		
1.24	341	1.50	365	1.76	384		
1.25	342	1.51	365	1.77	385		

## Schedule

Kb Table4 Backpressure correction factor

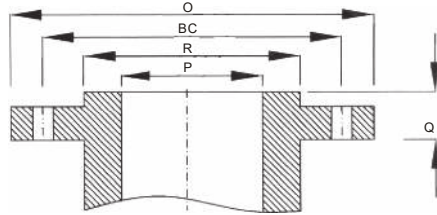
Pb/Pd	K Specific heat ration																			
	0.4	0.5	0.6	0.7	0.8	0.9	1.001	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	
	Kb Backpressure correction factor																			
0.45																				1.000 0.999 1.000
0.50													1.000	1.000	0.999	0.999	0.996	0.994	0.992	0.989
0.55													0.999	1.000	0.999	0.997	0.994	0.991	0.987	0.983
0.60													1.000	0.999	0.997	0.993	0.989	0.983	0.978	0.972
0.65													0.999	0.995	0.989	0.982	0.974	0.967	0.959	0.951
0.70													0.995	0.989	0.982	0.974	0.967	0.959	0.951	0.944
0.75													0.999	0.993	0.985	0.975	0.964	0.953	0.943	0.932
0.80													0.999	0.995	0.989	0.982	0.974	0.967	0.959	0.951
0.82													0.992	0.970	0.944	0.918	0.894	0.872	0.852	0.833
0.84													0.979	0.948	0.917	0.888	0.862	0.839	0.818	0.799
0.86													0.957	0.919	0.884	0.852	0.800	0.779	0.759	0.742
0.88													0.924	0.881	0.842	0.809	0.780	0.755	0.733	0.714
0.90													0.880	0.831	0.791	0.757	0.664	0.703	0.681	0.662
0.92													0.820	0.769	0.727	0.693	0.728	0.640	0.619	0.601
0.94													0.739	0.687	0.647	0.614	0.587	0.565	0.545	0.528
0.96													0.628	0.579	0.542	0.513	0.489	0.469	0.452	0.438
0.98													0.462	0.422	0.393	0.371	0.353	0.337	0.325	0.314
1.00													0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Overpressure correction factor

Mpa	C	K Specific heat ration																					
		200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	520	540	560	580	600.00	
		Kb Backpressure correction factor																					
0.4	144	0.99	0.97	0.95	0.93	0.91	0.90	0.88	0.86	0.85	0.84	0.82	0.81	0.80	0.79	0.78	0.76	0.75	0.74	0.73	0.73	0.72	
0.7	165	0.99	0.98	0.96	0.94	0.92	0.90	0.88	0.87	0.85	0.84	0.82	0.81	0.80	0.79	0.78	0.76	0.76	0.74	0.74	0.73	0.72	
1.0	180	1.00	0.98	0.98	0.94	0.92	0.90	0.88	0.87	0.85	0.84	0.83	0.81	0.80	0.79	0.78	0.77	0.76	0.75	0.74	0.73	0.72	
1.3	192	1.00	0.99	0.97	0.94	0.92	0.91	0.89	0.87	0.86	0.84	0.83	0.81	0.80	0.79	0.78	0.77	0.76	0.75	0.74	0.73	0.72	
1.6	201	1.00	0.99	0.97	0.95	0.93	0.91	0.89	0.88	0.86	0.84	0.83	0.82	0.80	0.79	0.78	0.77	0.76	0.75	0.74	0.73	0.72	
1.9	210		1.00	0.98	0.95	0.93	0.91	0.89	0.88	0.86	0.85	0.83	0.82	0.80	0.79	0.78	0.77	0.76	0.75	0.74	0.73	0.72	
2.2	217		1.00	0.98	0.96	0.94	0.92	0.90	0.88	0.86	0.85	0.83	0.82	0.80	0.79	0.78	0.77	0.76	0.75	0.74	0.73	0.72	
2.5	221		1.00	0.99	0.97	0.94	0.92	0.90	0.88	0.87	0.85	0.84	0.82	0.80	0.79	0.78	0.77	0.76	0.75	0.74	0.73	0.72	
3.0	234			0.89	0.98	0.95	0.93	0.90	0.89	0.87	0.85	0.84	0.82	0.81	0.79	0.78	0.77	0.76	0.75	0.74	0.73	0.72	
3.5	242			1.00	0.98	0.96	0.93	0.91	0.89	0.87	0.85	0.84	0.82	0.81	0.80	0.79	0.77	0.76	0.75	0.74	0.73	0.72	
4.0	250				0.89	0.97	0.94	0.92	0.90	0.88	0.86	0.84	0.83	0.81	0.80	0.79	0.78	0.76	0.75	0.74	0.73	0.72	
4.5	258				1.00	0.97	0.94	0.92	0.90	0.88	0.86	0.84	0.83	0.81	0.80	0.79	0.78	0.77	0.76	0.75	0.74	0.73	
5.0	264					0.98	0.95	0.93	0.91	0.88	0.87	0.85	0.83	0.82	0.80	0.79	0.78	0.77	0.76	0.75	0.74	0.73	
5.5	270					0.99	0.96	0.93	0.91	0.89	0.87	0.85	0.84	0.82	0.81	0.79	0.78	0.77	0.76	0.75	0.74	0.73	
6.0	276					0.99	0.97	0.94	0.92	0.89	0.87	0.85	0.84	0.82	0.81	0.80	0.78	0.77	0.76	0.75	0.74	0.73	
6.5	281						1.00	0.97	0.95	0.92	0.90	0.88	0.86	0.84	0.83	0.81	0.80	0.78	0.77	0.76	0.75	0.73	
7.0	286							0.98	0.95	0.94	0.90	0.88	0.86	0.84	0.83	0.81	0.80	0.79	0.77	0.76	0.75	0.73	
7.5	290							0.99	0.96	0.94	0.91	0.89	0.87	0.85	0.83	0.81	0.80	0.79	0.78	0.76	0.75	0.73	
8.0	295							0.99	0.96	0.94	0.91	0.89	0.87	0.85	0.83	0.82	0.80	0.79	0.78	0.76	0.75	0.73	
8.5	299							1.00	0.97	0.95	0.92	0.90	0.87	0.85	0.83	0.82	0.81	0.79	0.78	0.77	0.75	0.73	
9.0	303								0.98	0.96	0.93	0.90	0.88	0.88	0.84	0.82	0.81	0.79	0.78	0.77	0.76	0.73	
9.5	307								0.98	0.97	0.93	0.90	0.88	0.88	0.84	0.82	0.81	0.80	0.78	0.77	0.76	0.73	
10.0	311								0.99	0.97	0.94	0.91	0.88	0.88	0.85	0.83	0.81	0.80	0.78	0.77	0.76	0.74	
11.0	318								1.00	0.98	0.95	0.92	0.89	0.87	0.85	0.83	0.81	0.80	0.79	0.77	0.76	0.74	
12.0	324									0.98	0.96	0.92	0.89	0.87	0.85	0.83	0.81	0.80	0.78	0.77	0.76	0.74	
13.0	331									0.98	0.97	0.93	0.90	0.87	0.85	0.83	0.81	0.79	0.78	0.76	0.75	0.73	
14.0	336									0.99	0.96	0.93	0.90	0.87	0.85	0.82	0.81	0.79	0.77	0.76	0.75	0.73	
15.0	342									1.00	0.96	0.94	0.90	0.87	0.84	0.82							

## American Flange Standard ANSIB16.5

Flange end to ASME B16.5

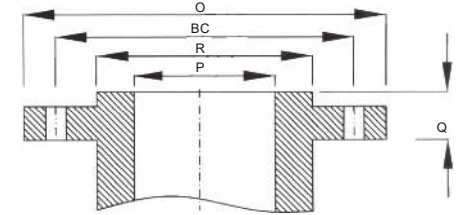


CLASS 150 RF FLANGE TO ASME B16.5

NPS	OD of Flange " O "	Diameter of Bolt Circle " BC "	Diameter of RF " R "	Valve Port " P " ≥	Thickness of Flange " Q " ≥	Number of Bolt	Diameter of Bolt Holes	Diameter of Bolts
1/2	89	60.5	35	φ 15	12	4	φ 15	
3/4	98	70	43	φ 20	12	4	φ 15	
1	108	79.5	51	φ 25	12	4	φ 15	
1 1/4	117	89	64	φ 32	13	4	φ 15	
1 1/2	127	98.5	73	φ 38	15	4	φ 15	
2	152.4	120.7	91.9	φ 50	19.1	4	φ 19.1	5/8"
2 1/2	177.8	139.7	104.6	φ 63	22.4	4	φ 19.1	5/8"
3	190.5	152.4	127	φ 76	23.9	4	φ 19.1	5/8"
3 1/2	216	177.8	139.7	φ 89	23.9	4	φ 19.1	5/8"
4	228.6	190.5	157.2	φ 100	23.9	8	φ 19.1	5/8"
5	254	215.9	185.7	φ 127	23.9	8	φ 22.4	3/4"
6	279.4	241.3	215.9	φ 150	25.4	8	φ 22.4	3/4"
8	343	298.5	269.8	φ 200	28.5	8	φ 22.4	3/4"
10	406.4	362	323.9	φ 250	30.2	12	φ 25.4	3/4"
12	482.6	431.8	381	φ 300	31.8	12	φ 25.4	1"
14	533.4	476.3	412.8	φ 336	35.1	12	φ 28.5	1"
16	597	539.8	469.9	φ 387	36.6	16	φ 28.5	1 1/8"
18	635	577.9	533.4	φ 438	39.6	16	φ 31.8	1 1/8"
20	698.5	635	584.2	φ 488	42.9	20	φ 31.8	1 1/8"
24	812.8	749.3	692.2	φ 590	47.8	20	φ 35.1	1 1/4"
26	785.9	744.5	711.2	-	41.2	36	φ 22.4	1 1/4"
28	836.7	795.3	762	-	44.5	40	φ 22.4	3/4"
30	887.5	846.1	812.8	-	44.5	44	φ 22.4	3/4"
32	941.3	900.2	863.6	-	46.0	48	φ 22.4	3/4"
34	1004.8	957.4	920.8	-	49.3	40	φ 25.4	3/4"
36	1057.2	1009.7	971.6	-	52.3	44	φ 25.4	1"
38	1124	1069.9	1022.4	-	53.9	40	φ 28.5	1"
40	1174	1120.5	1079.5	-	55.6	44	φ 28.5	1"
42	1225.6	1171.5	1130.3	-	58.7	48	φ 28.5	1"
44	1276.4	1222.3	1181.1	-	60.5	52	φ 28.5	1 1/8"
46	1341.4	1284.2	1235	-	62.0	40	φ 31.8	1 1/8"
48	1392.2	1335	1289.1	-	65.0	44	φ 31.8	1 1/8"
50	1443	1385.8	1339.9	-	68.3	48	φ 31.8	1 1/8"
52	1493.8	1436.6	1390.7	-	69.9	52	φ 31.8	1 1/8"

## American Flange Standard ANSIB16.5

Flange end to ASME B16.5



CLASS 300 RF FLANGE TO ASME B16.5

NPS	OD of Flange " O "	Diameter of Bolt Circle " BC "	Diameter of RF " R "	Valve Port " P " ≥	Thickness of Flange " Q " ≥	Number of Bolt	Diameter of Bolt Holes	Diameter of Bolts
1/2	95	66.5	35	φ 13	15	4	φ 15	
3/4	117	82.5	43	φ 19	16	4	φ 19	
1	124	89	51	φ 25	18	4	φ 19	
1 1/4	133	98.5	64	φ 32	19	4	φ 19	
1 1/2	156	114.5	73	φ 38	21	4	φ 22	
2	165.1	127	91.9	φ 50	22.4	8	φ 19.1	5/8"
2 1/2	190.5	149.4	104.6	φ 63	25.4	8	φ 22.4	3/4"
3	209.6	168.1	127	φ 76	28.5	8	φ 22.4	3/4"
4	254	200.2	157.2	φ 100	31.8	8	φ 22.4	3/4"
6	317.5	269.7	215.9	φ 150	36.6	12	φ 22.4	3/4"
8	381	330.2	269.8	φ 200	41.2	12	φ 25.4	7/8"
10	444.5	387.4	323.9	φ 250	47.8	16	φ 28.5	1"
12	520.7	450.9	381	φ 300	50.8	16	φ 31.8	1 1/8"
14	584.2	514.4	412.8	φ 336	53.9	20	φ 31.8	1 1/8"
16	647.7	571.5	469.9	φ 387	57.2	20	φ 35.1	1 1/4"
18	711.2	628.7	533.4	φ 431	60.5	24	φ 35.1	1 1/4"
20	774.7	685.8	584.2	φ 482	63.5	24	φ 35.1	1 1/4"
24	914.4	812.8	692.2	φ 584	69.9	24	φ 41.2	1 1/2"
26	866.7	803.2	736.6	-	88.9	32	φ 35.1	1 1/4"
30	990.6	920.8	844.6	-	93.7	36	φ 38.1	1 3/8"

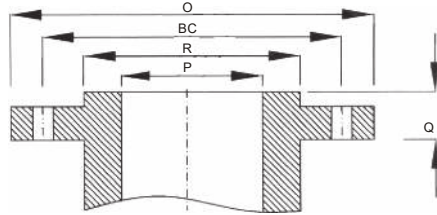
CLASS 600 RF FLANGE TO ASME B16.5

NPS	OD of Flange " O "	Diameter of Bolt Circle " BC "	Diameter of RF " R "	Valve Port " P " ≥	Thickness of Flange " Q " ≥	Number of Bolt	Diameter of Bolt Holes	Diameter of Bolts
1/2	95	66.5	35	φ 13	15	4	φ 15	
3/4	118	82.5	43	φ 19	16	4	φ 19	
1	124	89	51	φ 25	18	4	φ 19	
1 1/4	133	98.5	64	φ 32	21	4	φ 19	
1 1/2	156	114.5	73	φ 38	23	4	φ 22	
2	165.1	127	91.9	φ 50	25.4	8	φ 19.1	5/8"
2 1/2	190.5	149.4	104.6	φ 63	28.5	8	φ 22.4	3/4"
3	209.6	168.2	127	φ 76	31.8	8	φ 22.4	3/4"
4	273.1	215.9	157.2	φ 100	38.1	8	φ 25.4	7/8"
6	355.6	292.1	215.9	φ 150	47.8	12	φ 28.5	1"
8	419.1	349.3	269.8	φ 199	55.7	12	φ 31.8	1 1/8"
10	508	431.8	323.9	φ 247	63.5	16	φ 35.1	1 1/4"
12	558.8	489	381	φ 298	66.6	20	φ 35.1	1 1/4"
14	603.3	527.1	412.8	φ 326	69.9	20	φ 38.1	1 3/8"
16	685.8	303.3	469.9	φ 374	76.2	20	φ 41.2	1 1/2"
18	743	654.1	533.4	φ 419	82.6	20	φ 44.5	1 5/8"
20	812.8	723.9	584.2	φ 463	91.5	24	φ 44.5	1 5/8"
24	939.8	838.2	692.2	φ 558	101.6	24	φ 50.4	1 7/8"



## American Flange Standard ANSIB16.5

Flange end to ASME B16.5



CLASS 900 RF FLANGE TO ASME B16.5

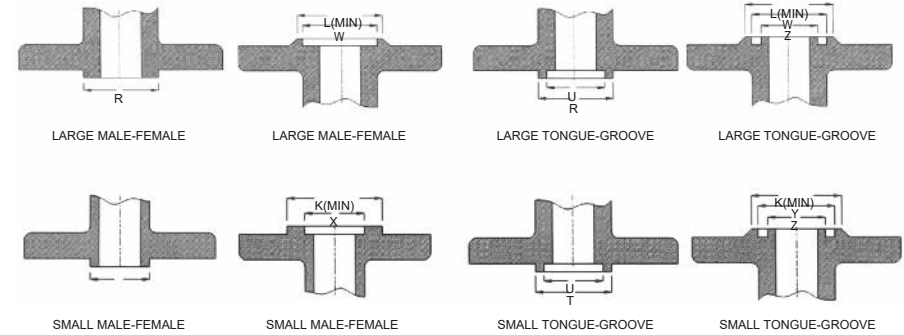
NPS	OD of Flange " O "	Diameter of Bolt Circle " BC "	Diameter of RF " R "	Valve Port " P " ≥	Thickness of Flange " Q " ≥	Number of Bolt	Diameter of Bolt Holes	Diameter of Bolts
1/2	121	82.5	35	φ13	22.5	4	φ23	
3/4	130	88.9	43	φ17	25.5	4	φ23	
1	149	101.6	51	φ22	29	4	φ26	
1 1/4	159	111.1	64	φ28	29	4	φ26	
1 1/2	178	123.8	73	φ35	32	4	φ29	
2	215.9	165.1	91.9	φ47	38.1	8	φ25.4	7/8"
2 1/2	244.3	190.5	104.6	φ57	41.2	8	φ28.5	1"
3	241.3	190.5	127	φ72	38.1	8	φ25.4	7/8"
4	292.1	235	157.2	φ98	11.5	8	φ31.8	1 1/8"
6	381	317.5	215.9	φ146	55.6	12	φ31.8	1 1/8"
8	469.9	393.7	269.8	φ190	63.5	12	φ38.1	1 3/8"
10	546.1	469.9	323.9	φ238	69.9	16	φ38.1	1 3/8"
12	609.6	533.4	381	φ282	79.2	20	φ38.1	1 3/8"
14	641.4	558.8	412.8	φ311	85.9	20	φ41.2	1 1/2"
16	704.9	616	469.9	φ355	88.9	20	φ44.5	1 5/8"
18	787.4	685.8	533.4	φ400	101.6	20	φ50.8	1 7/8"
20	857.3	749.3	584.2	φ444	108	20	φ53.9	2"
24	1041.4	901.7	692.2	φ533	139.7	20	φ66.6	2 1/2"

CLASS 1500 RF FLANGE TO ASME B16.5

NPS	OD of Flange " O "	Diameter of Bolt Circle " BC "	Diameter of RF " R "	Valve Port " P " ≥	Thickness of Flange " Q " ≥	Number of Bolt	Diameter of Bolt Holes	Diameter of Bolts
1/2	121	82.5	35	φ13	22.5	4	φ23	
3/4	130	88.9	43	φ17	25.5	4	φ23	
1	149	101.6	51	φ22	29	4	φ26	
1 1/4	159	111.1	64	φ28	29	4	φ26	
1 1/2	178	123.8	73	φ35	32	4	φ29	
2	215.9	165.1	91.9	φ47	38.1	8	φ25.4	7/8"
2 1/2	244.3	190.5	104.6	φ57	41.2	8	φ28.5	1"
3	266.7	203.2	127	φ69	47.8	8	φ31.8	1 1/8"
4	311.2	241.3	157.2	φ92	53.9	8	φ35.1	1 1/4"
6	393.7	317.5	215.9	φ136	82.6	12	φ38.1	1 3/8"
8	482.6	393.7	269.8	φ177	92	12	φ44.5	1 5/8"
10	584.2	482.6	323.9	φ222	108	12	φ50.4	1 7/8"
12	673.1	571.5	381	φ263	124	16	φ53.9	2"
14	749.3	635	412.8	φ288	133.4	16	φ60.5	2 1/4"
16	825.5	704.9	469.9	φ330	146.1	16	φ66.6	1 1/2"
18	914.4	774.7	533.4	φ371	162.1	16	φ73.2	1 3/4"
20	984.3	831.9	584.2	φ415	177.8	16	φ79.3	3"
24	1168.4	990.6	692.2	φ498	203.2	16	φ92	3 1/2"

## American Flange Standard ANSIB16.5

Dim. of facing to ASME B16.5

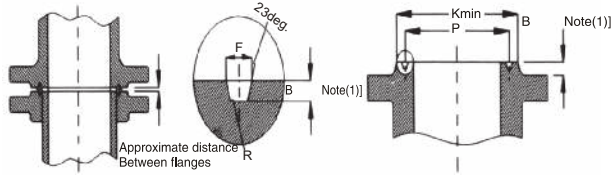


DIMENSIONS OF FACINGS (ALL PRESSURE RATING CLASSES)

NPS	OD			ID of large & Small tongue U	OD of raised portion ≥		OD			D of large & small groove Z
	Large male & Large tongue R	Small male S	Small tongue T		Small female & groove K	Large female & groove L	Large female & large groove W	Small female X	Small groove Y	
1/2	34.9	18.3	35.1	25.4	44	46	36.5	19.9	36.5	23.8
3/4	42.9	23.8	42.9	33.3	52	54	44.4	25.4	44.4	31.8
1	50.8	30.2	47.8	38.1	57	62	52.4	31.8	49.2	36.5
1 1/4	63.5	38.1	57.2	47.6	67	75	65.1	39.7	58.7	46
1 1/2	73	44.4	63.5	54	73	84	74.6	46	65.1	52.4
2	91.95	57.15	82.55	73.15	91.95	103.12	93.73	58.67	84.07	71.37
2 1/2	104.65	69.33	95.25	85.25	104.65	115.82	106.43	69.85	96.77	84.07
3	127.00	84.07	117.35	107.95	127.00	138.18	128.52	85.85	119.13	106.43
3 1/2	139.70	96.77	130.05	120.65	139.70	150.88	141.22	98.55	131.83	119.13
4	157.23	109.47	144.53	131.83	157.23	168.18	158.75	111.25	146.05	130.05
5	185.67	135.65	172.97	160.27	185.67	196.85	187.45	138.18	174.75	158.75
6	215.90	162.05	203.20	190.50	215.90	227.08	217.42	163.58	204.72	188.98
8	269.75	212.85	254.00	238.25	269.75	280.93	271.53	214.38	255.52	236.47
10	323.85	266.70	304.80	285.75	323.85	335.03	325.37	268.22	306.32	284.23
12	381.00	317.50	361.95	342.90	381.00	382.18	382.52	319.02	363.47	341.38
14	412.75	349.25	393.70	374.65	412.75	423.93	414.27	350.77	395.22	373.13
16	469.90	400.05	447.55	425.45	469.90	481.08	471.42	401.57	449.33	423.93
18	533.40	450.85	511.05	488.95	533.40	544.58	534.92	452.37	512.83	487.43
20	584.20	501.65	558.80	533.40	584.20	595.38	585.72	503.17	560.32	531.88
24	692.15	603.25	666.75	641.35	692.15	703.33	693.67	604.77	668.27	639.83

## American Flange Standard ANSIB16.5

RTJ Flange end to ASME B16.5



Dimensions of RTJ flange for all Class

NPS						Groove No.	Groove Dimensions			
150#	300#	600#	900#	1500#	2500#		Pitch dia. " P "	Depth " E "	Width " F "	Radium at bottom " R "
	1/2	1/2				R11	34.14	5.54	7.14	0.8
				1/2		R12	39.67	6.35	8.74	0.8
	3/4	3/4			1/2	R13	42.88	6.35	8.74	0.8
				3/4		R14	44.45	6.35	8.74	0.8
1						R15	47.63	6.35	8.74	0.8
	1	1		1	3/4	R16	50 4/5	6.35	8.74	0.8
1 1/4						R17	57.15	6.35	8.74	0.8
	1 1/4			1 1/4	1	R18	60.33	6.35	8.74	0.8
1 1/2						R19	65.07	6.35	8.74	0.8
	1 1/2	1 1/2		1 1/2		R20	68.27	6.35	8.74	0.8
					1 1/4	R21	72.23	7.92	11.91	0.8
2						R22	82.55	6.35	8.74	0.8
	2	2			1 1/2	R23	82.55	7.92	11.91	0.8
						R24	82.55	7.92	11.91	0.76
	2	2		2		R25	95.25	7.92	11.91	0.76
	2 1/2	2 1/2			2	R26	101.60	7.92	11.91	0.76
				2 1/2		R27	107.95	7.92	11.91	0.76
	3	3	3			R28	111.13	9.53	13.49	1.52
				3		R31	123.83	7.92	11.91	0.76
	4	4	4			R32	127.00	9.53	13.49	1.52
				4		R37	149.23	7.92	11.91	0.76
					4	R38	157.18	11.13	16.66	1.52
	6	6	6			R39	161.93	7.92	11.91	0.76
				6		R45	211.12	7.92	11.91	0.76
					6	R46	211.12	9.53	13.49	1.52
	8	8	8			R47	228.60	12.70	19.84	1.52
				8		R49	269.88	7.92	11.91	0.76
					8	R50	269.88	11.13	16.66	1.52
	10	10	10			R51	279.40	14.27	23.01	1.52
				10		R53	323.85	7.92	11.91	0.76
					10	R54	323.85	11.13	16.66	1.52
	12	12	12			R55	342.90	17.48	30.18	2.29
				12		R57	381.00	7.92	11.91	1.76
					12	R58	381.00	14.27	23.01	1.52
	14	14				R60	406.40	17.48	33.33	2.29
				14		R61	419.10	7.92	11.91	0.76
					14	R62	419.10	11.13	16.66	1.52
	16	16				R63	419.10	15.88	26.97	2.29
				16		R65	469.90	7.92	11.91	0.76
					16	R66	469.90	11.13	16.66	1.52
	18	18				R67	469.90	17.47	30.18	2.29
				18		R69	533.40	7.92	11.91	0.76
					18	R70	533.40	12.70	19.84	1.52
	20	20				R71	533.40	17.47	30.18	2.29
				20		R73	584.20	9.53	13.49	1.52
					20	R74	584.20	12.70	19.84	1.52
					20	R75	584.20	17.47	30.18	2.29

(1) E Height or raised portion is equal to the depth of groove dimension E, the tolerances are different.

(2) ASME B16.5 See ASME B16.5 for the detailed data.

## Chinese Machinery Industry Standard

JB/T2203-1999

### Structural length of spring type safety valve

#### 1. Scope

PN1.0-32.0MPa , DN10-200mm

#### 2.

##### 2.1

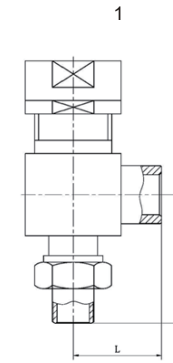


Figure 1

Figure1

mm

Nominal Diameter DN	Structure length			
	Nominal pressure PN Mpa			
	1.0		1.6、4.0	
	L	L1	L	L1
10	30	45	35	35
15	30	45	35	35
20	35	50	40	40
25	40	60	50	50
32	45	70		
40	50	80		

2、2

5

2

2

3

4

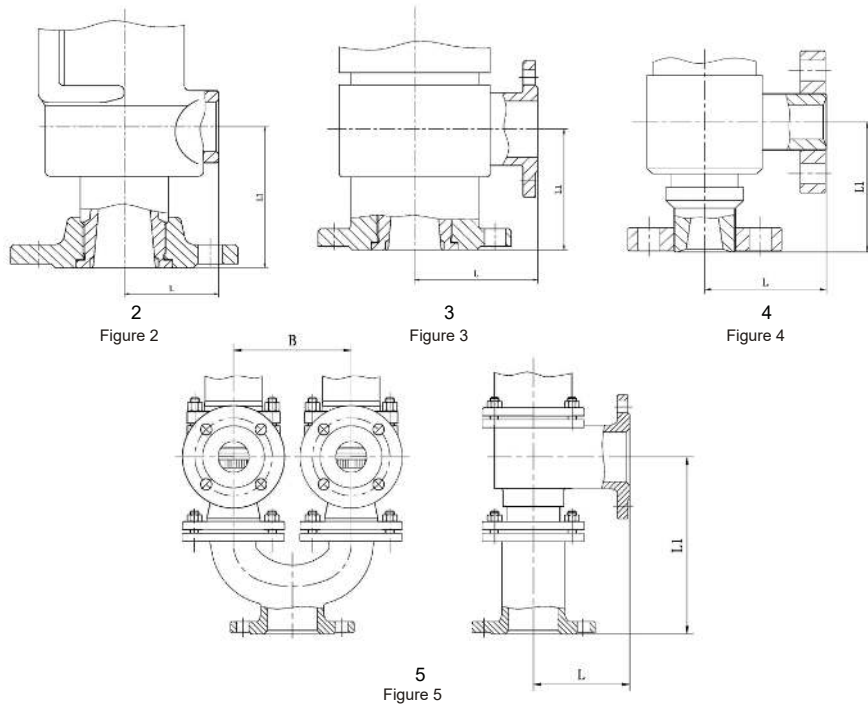


Figure1

mm

Nominal Diameter DN	Type																
	Low Lift						Enright duplex-type				Full Lift						
	Nominal pressure PN Mpa																
	1.0		1.6, 4.0		16.0		32.0		1.6, 4.0		16.0		32.0				
Structure length																	
L		L1		L		L1		L		L1		L		L1			
15							42	75	95	95						95	95
25			100	85													
32			115	100	125	100	130	130	130	130						150	150
40			120	110	140	110						120	110	135	120	180	180
50	65	130	135	120	135	120						135	120	160	130	165	155
80	90	150	170	135	160	130		145	310	205	170	135	175	160	195	185	
100							160	355	255	205	160	220	200				
150												250	210				
200												305	260				

Working medium: air  
 Temperature: T = 300° K  
 Over pressure: 10%  
 Rated emission factor: kdr = 0.72

Rated Capacity for Full Lift Safety Valve(Kg/h)

Rated Pressure Ps(Mpa)	Rated discharge Pressure (no Pd=0.1(Mpa)	Flow diameter											
		15	20	25	32	40	50	65	80	100	125	150	
0.06	0.166	177	315	493	807	1261	1971	3331	5045	7883	12317	17737	
0.08	0.188	201	357	558	914	1428	2232	3772	5714	8928	13950	20087	
0.10	0.210	224	399	623	1021	1596	2493	4213	6382	9972	15582	22438	
0.13	0.243	260	462	721	1182	1846	2885	4875	7385	11540	18031	25964	
0.16	0.276	295	524	819	1342	2097	3277	5538	8388	13107	20479	29490	
0.20	0.320	342	608	950	1556	2431	3799	6420	9726	15196	23744	34191	
0.25	0.375	401	712	1113	1824	2849	4452	7524	11397	17808	27825	40068	
0.30	0.430	459	817	1276	2091	3267	5105	8627	13069	20420	31906	45945	
0.40	0.540	577	1026	1603	2626	4103	6411	10834	16412	25643	40068	57698	
0.50	0.650	695	1325	1929	3161	4939	7717	13041	19755	30867	48230	69451	
0.60	0.760	812	1444	2256	3696	5775	9023	15248	23098	36091	56392	81204	
0.70	0.870	930	1635	2582	4231	6610	10329	17455	26441	41314	64554	92958	
0.80	0.980	1047	1862	2909	4766	7446	11635	19662	29784	46538	72716	104711	
0.90	1.090	1165	2070	3235	5300	8282	12940	21869	33128	51762	80878	116464	
1.00	1.200	1282	2279	3562	5835	9118	14246	24076	36471	56985	89040	128217	
1.1	1.31	1400	2488	3888	6370	9953	15552	26283	39814	62209	97202	139971	
1.2	1.42	1517	2697	4215	6905	10789	16858	28490	43157	67433	105364	151724	
1.3	1.53	1635	2906	4541	7440	11625	18164	30697	46500	72656	113526	163477	
1.4	1.64	1752	3115	4868	7975	12461	19470	32904	49843	77880	121688	175230	
1.5	1.75	1870	3324	5194	8510	13297	20776	35111	53186	83104	129850	186984	
1.6	1.86	1987	3533	5520	9045	14132	22082	37318	56530	88328	138012	198737	
1.8	2.08	2222	3951	6173	10115	15804	24694	41732	63216	98775	154336	222243	
2.0	2.30	2457	4369	6826	11184	17476	27306	46146	69902	109222	170660	245750	
2.2	2.52	2693	4787	7479	12254	19147	29917	50560	76588	119670	186984	269256	
2.5	2.85	3045	5414	8459	13859	21654	33835	57181	86618	135341	211470	304516	
2.8	3.18	3398	6040	9438	15464	24162	37753	63802	96618	150112	235956	339776	
3.2	3.62	3868	6876	10744	17603	27505	42977	72630	110020	171906	268603	386789	
3.6	4.06	4338	7712	12050	19743	30848	48200	81458	123393	192801	301251	433802	
4.0	4.50	4808	8548	13356	21191	34191	53424	90286	136765	213696	333899	480815	
4.5	5.05	5396	9593	14988	24557	38370	59953	101321	153481	239814	374709	539581	
5.0	5.60	5983	10637	16621	27231	42549	66483	112356	170197	265932	415519	598348	
5.5	6.15	6571	11682	18253	29906	46728	73013	123391	186912	292051	456329	657114	
6.0	6.70	7159	12727	19886	32581	50907	79542	134426	203628	318169	497139	715880	
6.4	7.14	7629	13563	21191	34720	54250	84766	143254	217001	339064	529787	762893	
7.0	7.80	8334	14816	23150	37930	59265	92601	156496	237060	370406	578759	833413	
8.0	8.90	9509	16906	26415	43279	67623	105661	178566	270491	422642	660379	950945	
9.0	10.00	10685	18995	29680	48628	75981	118720	200636	303923	474879	741999	1068478	
10.0	11.10	11860	21085	32945	53977	84339	131779	222706	337354	527116	823618	1186011	
11.0	12.20	13035	23174	36210	59326	92696	144838	244776	370786	579352	905238	1303543	
13.0	14.40	15386	27353	42739	70024	109412	170956	289916	437649	683826	1068478	1538608	
16.0	17.70	18912	33621	52533	86071	134486	210134	355126	537943	840536	1313337	1891206	
19.0	21.00	22438	39890	62328	102118	159559	249311	421336	638237	997246	1558197	2243804	
22.0	24.30	25964	46158	72122	118165	184633	288489	487546	738532	1153956	1803056	2596401	
25.0	27.60	29490	52427	81917	134212	209707	327667	553756	838826	1310666	2047916	2948999	
29.0	32.00	34191	60785	94976	155608	243138	379903	642036	972552	1519613	2374395	3419129	
32.0	35.30	37717	67053	104770	171655	268212	419081	708246	1072847	1676323	2619255	3771727	

## Rated Capacity for Low Lift Safety Valve

Working medium:air  
 Temperature:T=300° K  
 Over pressure:10%

### Rated Capacity for Low Lift Safety Valve (Kg/h)

Rated pressure Ps(Mpa)	Rated discharge Pressure (no) Pd=0.1(Mpa)	Flow diameter										
		12	16	20	25	32	40	50	65	80	100	125
0.06	0.166	11.0	19.6	30.7	95.8	157	245	383	648	981	1533	2395
0.08	0.188	12.5	22.2	34.7	108	178	278	434	733	1111	1736	2712
0.10	0.210	14	24.8	38.8	121	199	310	485	819	1241	1939	3030
0.13	0.243	16.2	28.7	44.9	140	230	359	561	948	1436	2244	3506
0.16	0.276	18.3	32.6	51	159	261	408	637	1077	1631	2549	3982
0.20	0.320	21.3	37.8	59.1	185	303	473	739	1248	1891	2955	4617
0.25	0.375	24.9	44.3	69.3	216	355	554	866	1463	2216	3463	5410
0.30	0.430	28.6	50.8	79.4	248	407	635	993	1678	2541	3971	6204
0.40	0.540	35.9	63.8	99.7	312	511	798	1247	2107	3191	4986	7791
0.50	0.650	43.2	76.8	120	375	615	960	1500	2536	3841	6002	9378
0.60	0.760	50.5	89.8	140	439	719	1123	1745	2965	4491	7018	10965
0.70	0.870	57.8	103	161	502	823	1285	2008	3394	5141	8033	12552
0.80	0.980	65.2	116	181	566	927	1448	2262	3823	5791	9049	14139
0.90	1.090	72.5	129	201	629	1031	1610	2516	4252	6441	10065	15726
1.0	1.200	79.8	142	222	693	1135	1773	2770	4682	7092	11081	17313
1.1	1.31	87.1	155	242	756	1239	1935	3024	5111	7742	12096	18900
1.2	1.42	94.4	168	262	819	1343	2098	3278	5540	8392	13112	20487
1.3	1.53	102	181	283	883	1447	2260	3532	5969	9042	14128	22074
1.4	1.64	109	194	303	946	1551	2423	3786	6398	9692	15143	23662
1.5	1.75	116	207	323	1010	1655	2585	4040	6827	10342	16159	25249
1.6	1.86	124	220	343	1073	1759	2748	4294	7256	10992	17175	26836
1.8	2.08	138	246	384	1200	1967	3073	4802	8115	12292	19206	30010
2.0	2.30	153	272	425	1327	2175	3398	5309	8973	13592	21238	33184
2.2	2.52	168	298	465	1454	2383	3723	5817	9831	14892	23269	36358
2.5	2.85	189	337	526	1645	2695	4211	6579	11119	16842	26316	41119
2.8	3.18	211	376	587	1835	3007	4698	7341	12406	18793	29363	45880
3.2	3.62	241	428	669	2089	3423	5348	8357	14123	21393	33426	52228
3.6	4.06	270	480	750	2343	3839	5998	9372	15839	23993	37489	58577
4.0	4.50	299	532	831	2597	4255	6648	10388	17556	26593	41552	64925
4.5	5.05	336	597	933	2914	4775	7461	11658	19701	29844	46630	72860
5.0	5.60	372	622	1034	3232	5295	8273	12927	21847	33094	51709	80795
5.5	6.15	409	727	1136	3549	5815	9086	14197	23993	36344	56788	88731
6.0	6.70	445	792	1237	3867	6335	9899	15467	26138	39594	61866	96666
6.4	7.14	475	844	1319	4121	6751	10524	16482	27855	42195	65929	103014
7.0	7.80	519	922	1440	4501	7375	11524	18006	30430	46095	72023	112536
8.0	8.90	592	1052	1644	5136	8415	13149	20545	34721	52595	82180	128407
9.0	10.00	665	1182	1847	5771	9455	14774	23084	39013	59096	92338	144277
10.0	11.10	738	1312	2050	6406	10495	16399	25624	43304	65597	102495	160148

## Rated Capacity for Full Lift Safety Valve

Working medium:saturated water vapor  
 Over pressure:3%  
 Rated emission factor:kdr = 0.72

### Rated Capacity for Full Lift Safety Valve(Kg/h)

Rated pressure Ps(Mpa)	Rated discharge Pressure (no) Pd=0.1(Mpa)	Flow diameter									
		20	25	32	40	50	65	80	100	125	150
0.06	0.162	192	300	492	769	1201	2029	3074	4804	7506	10808
0.08	0.182	217	338	555	866	1354	2288	3466	5415	8461	12184
0.10	0.203	241	377	617	964	1507	2546	3857	6027	9417	13560
0.13	0.234	278	434	711	1111	1736	2934	4444	6944	10850	15624
0.16	0.265	314	491	805	1258	1965	3321	5031	7861	12283	17688
0.20	0.306	363	568	930	1454	2271	3838	5814	9085	14195	20440
0.25	0.375	425	663	1087	1698	2653	4484	6793	10613	16584	23880
0.30	0.409	486	759	1243	1943	3036	5130	7771	12142	18973	27320
0.40	0.512	608	950	1557	2432	3800	6422	9728	15200	23750	34201
0.50	0.615	730	1141	1870	2921	4565	7714	11685	18258	28528	41081
0.60	0.718	853	1332	2183	3411	5329	9006	13642	21316	33306	47961
0.70	0.821	975	1523	2496	3900	6093	10298	15599	24374	38084	54841
0.80	0.924	1097	1714	2809	4389	6858	11590	17556	27432	42862	61721
0.90	1.027	1220	1906	3122	4878	7622	12882	19513	30490	47640	68602
1.00	1.13	1342	2097	3435	5368	8387	14174	21470	33547	52418	75482
1.1	1.23	1464	2288	3748	5857	9151	15466	23427	36605	57196	82362
1.2	1.34	1587	2479	4062	6346	9916	16758	25384	39663	61974	89242
1.3	1.44	1709	2670	4375	6835	10680	18050	27341	42721	66752	96122
1.4	1.54	1831	2861	4688	7325	11445	19342	29299	45779	71530	103003
1.5	1.65	1953	3052	5001	7814	12209	20634	31256	48837	76308	109883
1.6	1.75	2076	3243	5314	8303	12974	21925	33213	51895	81085	116763
1.8	1.95	2320	3626	5940	9282	14503	24509	37127	58010	90641	130523
2.0	2.16	2565	4008	6567	10260	16032	27093	41041	64126	100197	144284
2.2	2.37	2810	4390	7193	11239	17560	29677	44955	80242	109753	158044
2.5	2.67	3177	4963	8132	12706	19854	33553	50826	79415	124087	178685
2.8	2.98	3544	5537	9072	14174	22147	37429	56697	88589	138420	199325
3.2	3.40	4033	6301	10324	16131	25205	42597	64525	100821	157532	226846
3.6	3.81	4522	7066	11577	18088	28263	47764	72353	113052	176644	254367
4.0	4.22	5011	7830	12829	20045	31321	52932	80181	125283	195755	281888
4.5	4.73	5623	8786	14395	22492	35143	59392	89967	140573	219645	316289
5.0	5.25	6234	9741	15960	24938	38966	65852	99752	155862	243535	350690
5.5	5.77	6846	10697	17526	27384	42788	72311	109537	171151	267424	385091
6.0	6.28	7458	11653	19092	29831	46610	78771	119322	186441	291314	419492
6.4	6.69	7947	12417	20344	31788	49668	83939	127150	198672	310425	447013
7.0	7.31	8681	13564	22223	34723	52455	91691	138892	217019	339093	488294
8.0	8.34	9904	15475	25354	39616	61900	104610	158463	247598	386872	557096
9.0	9.37	11127	17386	28485	44508	69544	117530	178033	278177	434651	625898
10.0	10.40	12350	19297	31617	49401	77189	130449	197603	308755	482430	694700
11.0	11.43	13633	21301	34900	54531	85205	143997	218126	340821	532534	766848
13.0	13.49	16399	25624	41982	65597	102496	173218	262389	409983	640598	922461

## Rated Capacity for Low Lift Safety Valve

Working medium:saturated water vapor  
Over pressure:3%

### Capacity for Low Lift Safety Valve (Kg/h)

Rated pressure Ps(Mpa)	Rated discharge Pressure (no) Pd=0.1(Mpa)	Flow diameter									
		25	32	40	50	65	80	100	125	150	
0.06	0.162	58.4	95.6	149	234	395	598	934	1459	2102	
0.08	0.182	65.8	108	168	263	445	674	1053	1645	2369	
0.10	0.203	73.2	120	187	293	495	750	1172	1831	2637	
0.13	0.234	84.4	138	216	338	570	864	1350	2110	3038	
0.16	0.265	95.5	157	245	382	646	978	1529	2388	3439	
0.20	0.306	110	181	283	442	746	1131	1766	2760	3974	
0.25	0.375	129	221	330	516	872	1321	2064	3225	4643	
0.30	0.409	148	242	378	590	998	1511	2361	3689	5312	
0.40	0.512	185	303	473	739	1249	1892	2956	4618	6650	
0.50	0.615	222	364	568	888	1500	2272	3550	5547	7988	
0.60	0.718	259	424	663	1036	1751	2653	4145	6476	9326	
0.70	0.821	296	485	758	1185	2002	3033	4739	7405	10664	
0.80	0.924	333	546	853	1333	2254	3414	5334	8334	12001	
0.90	1.027	371	607	949	1482	2505	3794	5929	9263	13339	
1.0	1.13	408	668	1044	1631	2756	4175	6523	10192	14677	
1.1	1.23	445	729	1139	1779	3007	4555	7118	11121	16015	
1.2	1.34	482	790	1234	1928	3258	4936	7712	12050	17353	
1.3	1.44	519	851	1329	2077	3510	5316	8037	12979	18690	
1.4	1.54	556	912	1424	2225	3761	5697	8901	13909	20028	
1.5	1.65	594	972	1519	2374	4012	6077	9496	14838	21366	
1.6	1.75	631	1033	1615	2523	4263	6458	10091	15767	22704	
1.8	1.95	705	1155	1805	2820	4766	7219	11280	17625	25380	
2.0	2.16	779	1277	1995	3117	5268	7980	12469	19483	28055	
2.2	2.37	854	1399	2185	3415	5771	8741	13658	21341	30731	
2.5	2.67	965	1581	2471	3860	6524	9883	15442	24128	34744	
2.8	2.98	1077	1764	2756	4306	7278	11024	17226	26915	38758	
3.2	3.40	1225	2007	3137	4901	8283	12547	19604	30631	44109	
3.6	3.81	1374	2251	3517	5496	9288	14069	21982	34347	49460	
4.0	4.22	1523	2495	3898	6090	10292	15591	24361	38064	54812	
4.5	4.73	1708	2799	4373	6833	11548	17494	27334	42709	61501	
5.0	5.25	1894	3103	4849	7577	12805	19396	30307	47354	68190	
5.5	5.77	2080	3408	5325	8320	14061	21299	33279	51999	74879	
6.0	6.28	2266	3712	5800	9063	15317	23202	36252	56644	81568	
6.4	6.69	2414	3956	6181	9658	16321	24724	38631	60360	86919	
7.0	7.31	2637	4321	6752	10550	17829	27007	42198	65935	94946	
8.0	8.34	3009	4930	7703	12036	20341	30812	48144	75225	108324	
9.0	9.37	3381	5539	8654	13522	22853	34618	54094	84516	121702	
10.0	10.40	3752	6418	9606	15009	25365	38423	60036	93806	135081	

## Rated Capacity for Low Lift Safety Valve

Working medium:water  
Over pressure:10%  
Outlet pressure:atmospheric pressure

### Rated Capacity for Low Lift Safety Valve (Kg/h)

Rated pressure Ps(Mpa)	Rated discharge Pressure (no) Pd=0.1(Mpa)	Flow diameter										
		12	16	20	25	32	40	50	65	80	100	125
0.06	0.066	327	582	910	2843	4657	7277	11371	19217	29109	45483	71067
0.08	0.088	378	672	1050	3282	5378	8403	13130	22189	33612	52519	82061
0.10	0.110	423	752	1174	3670	6013	9395	14680	24808	37580	58718	91747
0.13	0.143	482	857	1339	4184	6856	10712	16737	28286	42847	66949	104608
0.16	0.176	535	951	1485	4642	7606	11884	18568	31380	47535	74273	116052
0.20	0.220	598	1063	1661	5190	8503	13286	20760	35084	53146	83040	129750
0.25	0.275	668	1188	1857	5803	9507	14855	23210	39226	59419	92842	145065
0.30	0.330	732	1302	2034	6356	10414	16272	25426	42969	65090	1017436	158911
0.40	0.440	846	1503	2349	7340	12025	18790	29359	49617	75159	117436	183494
0.50	0.550	945	1681	2626	8206	13445	21008	32824	55473	84031	131298	205153
0.60	0.660	1036	1841	2877	8989	14728	23013	35957	60768	92051	143830	224734
0.70	0.770	1119	1989	3107	9710	15908	24857	38838	65637	99426	155354	242740
0.80	0.880	1196	2126	3322	10380	17007	26573	41520	70169	106291	166080	259500
0.90	0.990	1268	2255	3523	11010	18038	27185	44039	74425	112739	176154	275241
1.0	1.10	1337	2377	3714	11605	19014	29709	46421	78451	118837	185683	290130
1.1	1.21	1402	2493	3895	12172	19942	31159	48687	82280	124638	194746	304291
1.2	1.32	1465	2604	4068	12713	20829	32545	50851	85939	130108	203406	317821
1.3	1.43	1524	2710	4234	13232	21679	33874	52928	89448	135495	211711	330799
1.4	1.54	1582	2812	4394	13731	22498	35153	54926	92825	140610	219703	343286
1.5	1.65	1637	2911	4548	14213	23287	36386	56854	96083	145545	227414	355335
1.6	1.76	1691	3006	4697	14680	24051	37580	58718	99234	150318	234873	366988
1.8	1.98	1794	3189	4982	15570	25510	39859	62280	105253	159437	249120	389250
2.0	2.20	1891	3361	5252	16412	26890	42015	65649	110947	168061	262596	410306
2.2	2.42	1983	3525	5508	17213	28202	44066	68853	116362	176264	275413	430332
2.5	2.75	2114	3758	5872	18349	30064	46975	73398	124042	187898	293591	458736
2.8	3.08	2237	3977	6214	19419	31816	49713	77677	131274	198853	310707	485480
3.2	3.52	2392	4252	6643	20760	34013	53146	83040	140338	212582	332160	519000
3.6	3.96	2537	4510	7046	22019	36076	56369	88077	148851	225478	352309	550483
4.0	4.40	2674	4753	7427	23210	38028	59419	92842	156902	237674	371366	580260
4.5	4.95	2836	5042	7878	24618	40335	63023	98473	166420	252092	393893	615458
5.0	5.50	2989	5315	8304	25950	42516	66432	103800	175422	265728	415200	648750
5.5	6.05	3135	5574	8709	27217	44592	69674	108866	183984	278698	435466	680415
6.0	6.60	3275	5822	9097	28427	46574	72773	113707	192165	291091	454829	710670
6.4	7.04	3382	6013	9395	29359	48102	75159	117436	198467	300637	469745	733977
7.0	7.70	3537	6288	9825	30704	50606	78603	122818	207562	314414	491271	767611
8.0	8.80	3781	6722	10504	32824	53780	84031	131298	221893	336122	525191	820611
9.0	9.90	4011	7310	11141	34816	57042	89128	139262	235353	356512	557049	870390
10.0	11.00	4228	7516	11744	36699	20127	93949	146795	248084	375796	587182	917471



## Rated Capacity for Low Lift Safety Valve

Working medium:water  
 Over pressure:20%  
 Outlet pressure:atmospheric pressure

### Rated Capacity for Low Lift Safety Valve (Kg/h)

Rated pressure Ps(Mpa)	Rated discharge Pressure (no) Pd=0.1(Mpa)	Flow diameter										
		12	16	20	25	32	40	50	65	80	100	125
0.06	0.072	342	608	950	2969	4865	7061	11876	20071	30403	47505	74227
0.08	0.096	395	702	1097	3428	5617	8777	23176	23176	35107	54854	85710
0.10	0.120	442	785	1227	3833	6280	9813	39251	25912	39251	61329	95827
0.13	0.156	503	895	1399	4370	7160	11188	17481	29544	44753	69926	109259
0.16	0.192	559	993	1552	4848	7944	12412	19394	32776	49649	77576	121212
0.20	0.240	624	1110	1735	5421	8881	13877	21683	36644	55509	86732	135519
0.25	0.300	698	1241	1939	6061	9930	15515	24242	40970	62061	96970	151515
0.30	0.360	765	1360	2125	6639	10877	16996	26556	44880	67984	106225	165977
0.40	0.480	883	1570	2453	7666	12560	19625	30665	51823	78501	122658	191653
0.50	0.600	987	1755	2743	8571	14043	21942	34284	57940	87767	137136	214275
0.60	0.720	1082	1932	3005	9389	15383	24036	37556	63470	96144	150225	234727
0.70	0.840	1168	2077	3245	10141	16616	25962	40565	68556	103847	162262	253534
0.80	0.960	1249	2220	3469	10842	17763	27754	43366	73289	111018	173465	271039
0.90	1.080	1325	2355	3680	11499	18840	29438	45997	77735	117752	183987	287480
1.0	1.20	1396	2482	3879	12121	19859	31030	48485	81940	124121	193940	303031
1.1	1.32	1465	2604	4068	12713	20829	32545	50851	85939	130180	203406	317821
1.2	1.44	1530	2719	4249	13278	21755	33992	53113	89760	135968	212450	331954
1.3	1.56	1592	2830	4423	13820	22643	35380	55281	93425	141520	221125	345508
1.4	1.68	1652	2937	4589	14342	23498	36716	57368	96952	146862	229473	358551
1.5	1.80	1710	3040	4751	14845	24323	38004	59382	100355	152017	237527	371135
1.6	1.92	1766	3140	4906	15332	25120	39251	61329	103646	157003	245316	383307
1.8	2.16	1873	3331	5204	16262	26644	41632	65049	109933	166526	260197	406558
2.0	2.40	1975	3511	5485	17142	28085	43884	68568	115880	175534	274272	428550
2.2	2.64	2071	3682	5753	17979	29456	46025	71915	121536	184102	287659	449467
2.5	3.00	2208	3925	6133	19165	31401	49063	76661	129558	196253	306646	479134
2.8	3.36	2337	4154	6490	20283	33231	51924	81131	137111	207695	324523	507067
3.2	3.84	2498	4441	6939	21683	35526	55509	86732	146578	222035	346930	542078
3.6	4.32	2649	4710	7359	22998	37681	58879	91994	155469	235504	367975	574960
4.0	4.80	2793	4965	7758	24242	39719	62061	96790	163879	248243	387879	606062
4.5	5.40	2962	5266	8228	25713	42128	65825	102852	173820	263301	411408	642825
5.0	6.00	3122	5551	8673	27104	44407	69386	108416	183222	277544	433662	677597
5.5	6.60	3275	5822	9097	28427	46574	72773	113707	192165	291091	454829	710670
6.0	7.20	3420	6081	9501	29691	48645	76009	118763	200710	304034	475053	742271
6.4	7.68	3533	6280	9813	30665	50241	78501	122658	207292	314005	490633	766614
7.0	8.40	3694	6568	10262	32070	52543	82099	128279	216792	328394	513116	801744
8.0	9.60	3950	7021	10971	34284	56171	87767	137136	231760	351068	548544	857100
9.0	10.80	4189	7447	11636	36364	59578	93091	145455	245819	372364	581819	909092
10.0	12	4416	7850	12266	38331	62801	98127	153323	259116	392506	613291	958267

## Characteristic test curve of safety valve

(Type):125CH1A42-420P (Valve No):1438-07/1-1

### (Test Curve) (No.1)

