



# Cast iron flange type

**NEW**

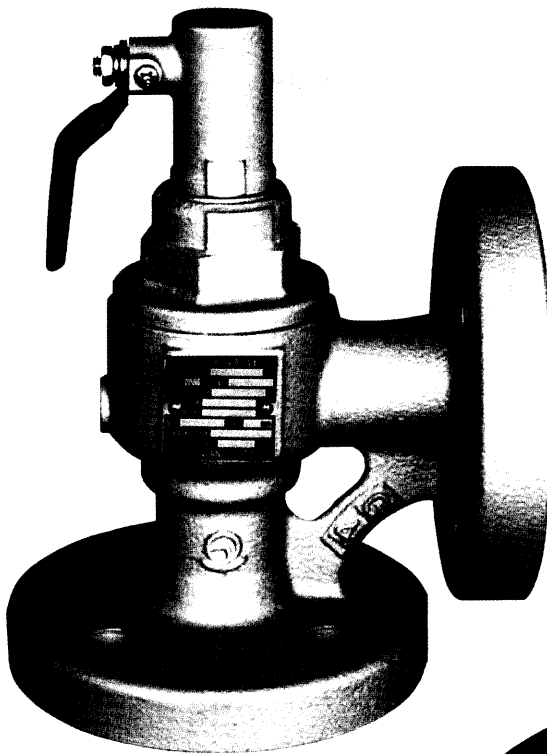
Lift type

## SAFETY RELIEF VALVE

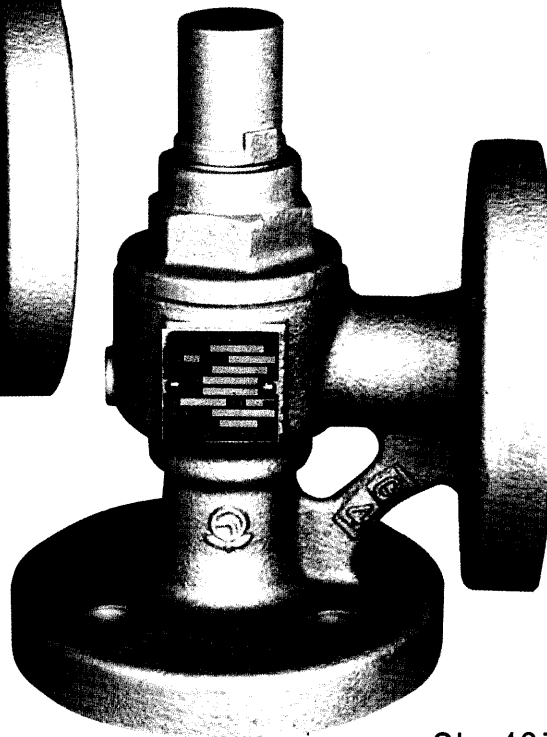
- SL-43, 44 type (metal seat type)
- SL-43V, 44V type (soft seat type)
- SL-44E type (for pump shock absorption type)

With cast iron products which feature convenient use and outstanding performance launch into the market

Small light  
Small light



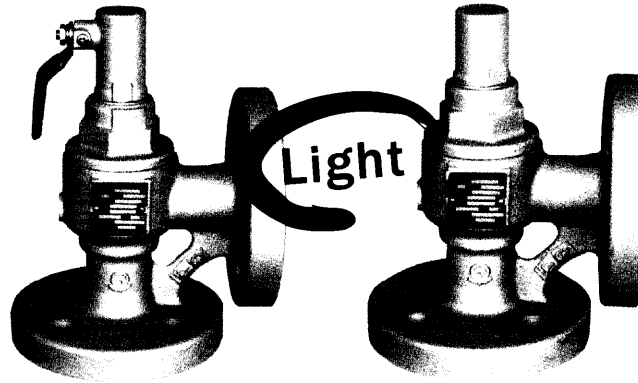
SL-43 Type  
(with handle)



SL-43 Type  
(Without handle)

# Cast iron Safety Relief Valve

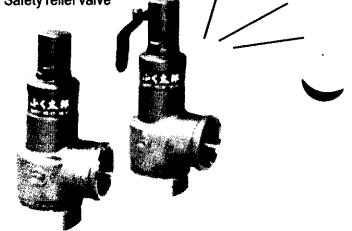
Compare with traditional products, it is light!



SL-43 type  
(with handle)

SL-44 type  
(without handle)

Standard type  
Safety relief valve



SL-38/SL-37

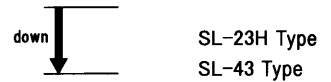
## ◎ Features

Other parts except body · spring box and valve base are universal with SL37, 38, therefore, it has same performance !

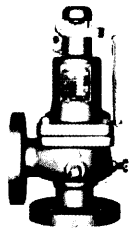
It is weight since the height is dropped

※ Compared with SL-23H, 24H: weight drops about 22~36%.  
Note: the surface dimension is the same as SL-23H, 24H.

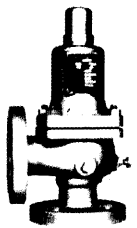
Big and small (size 40)



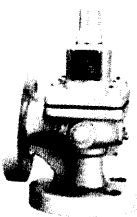
Adjustment bolt is also made of stainless steel for assuring long service life.



SL-23H type  
(with handle)



SL-24H type  
(without handle)



SL-24E type  
(for pump)

## ■ Specifications

Type	Standard item (Metal seated type)		Soft seat type	
Model	SL-43	SL-44	SL-43V	SL-44V
Code	SL43-G□	SL44-G□	SL43V-G□	SL44V-G□
	※ Code No. of Pressure Division is required in "□".			
Cover	With seal handle <sup>NOTE 1)</sup>	Without handle	With seal handle	Without handle
Applicable fluid	Steam · air · gas · fluid		Air · gas · fluid	
Setting pressure range	0.05~1.0MPa			
Fluid temperature	Max.150°C (Max.220°C <sup>NOTE 1)</sup> )	-5~184°C <sup>NOTE 2)</sup>	Max.120°C	
End connection	JIS 10KFF flange			
Material	Body · Spring Box			
	Cast iron			
	Disc (Seat)		Stainless steel, Disc:FKM	
Press test of body	Hydraulic 1.5MPa			
Installation mode	Vertical installation			

Note 1: when fluid is steam, it can be used as valve with open handle, and applicable temperature of fluid is up to 220°C.

Note 2: Applicable temperature of fluid is -5~220°C available up on your request.

## ■ Pressure Division

● SL-43,43V,44,44V Type (MPa)

Code No.	Pressure difference
1	0.05~0.1
2	exceed 0.1 and less than 0.2
3	exceed 0.2 and less than 0.5
4	exceed 0.5 and less than 1.0

● SL-44E Type (MPa)

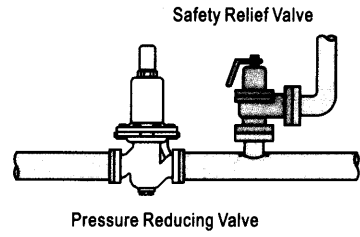
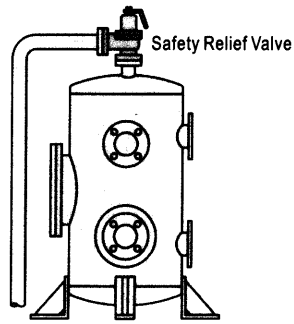
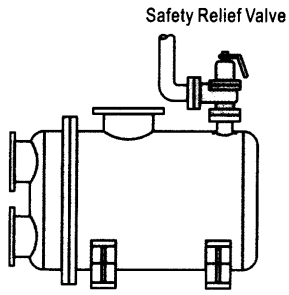
Code No.	Pressure difference
1	0.035~0.2
2	exceed 0.2 and less than 0.5
3	exceed 0.5 and less than 1.0

## ◎ For pump

★ Since the valve applies shock absorption structure, it can resist fast movement of Disc caused by fluctuation and pressure change.

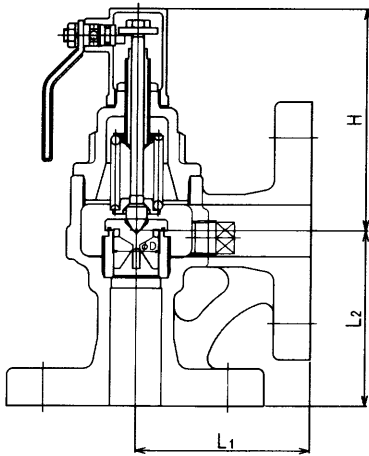
Type	Shock absorption type	
Model	SL-44E Type	
Code	SL44E-G□	
	※Code No. of Pressure Division is required in "□".	
Cover	Without handle	
Applicable fluid	Water · oil · fluid	
Setting pressure range	0.035~1.0MPa	
Fluid temperature	5~80°C	
End connection	JIS 10KFF flange	
Material	Body · Spring Box	
	Cast iron	
	Disc (Seat)	
	Stainless steel	
Press test of body	Hydraulic 1.5MPa	
Installation mode	Vertical installation	

Installation example

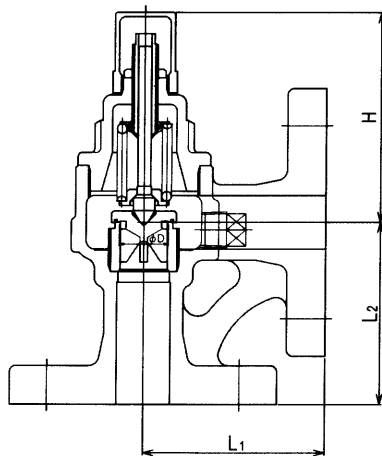


Structure

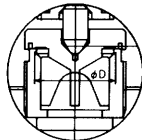
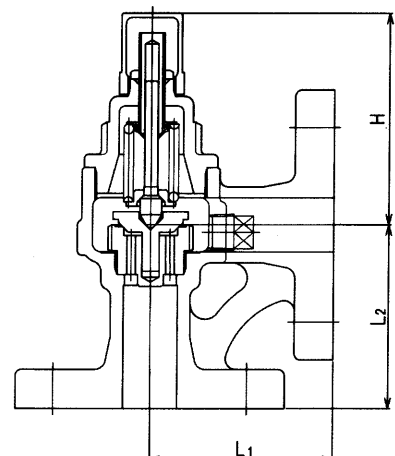
SL-43,43V type



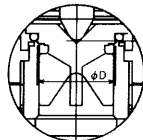
SL-44,44V type



SL-44E type



Size 32



SL-43V,44V Type  
Soft seat type

The structure is lightly different if the nominal diameter is different.

●SL-43,43V,44,44V Type

(mm)

14(13)	17.5	0.4(0.43)	70	70	99	89	2.5	2.4
19(18.6)	29.8	0.5(0.51)	75	75	103	94	3	2.9
23(21.9)	43.3	0.6(0.63)	85	85	108	98	4.6	4.5
32(29.4)	80.3	0.8(0.87)	90	90	131	122	6.2	6.1
40(36.7)	125.6	1.0(1.09)	100	95	137	128	7.8	7.7
50(47.1)	204.1	1.3(1.38)	110	105	171	158	11.7	11.5

※( ) means soft seat type SL-43V, 44V.

Flange code JIS 10KFF

●SL-44E Type

(mm)

0.25	70	70	89	2.5
0.3	75	75	94	3
0.4	85	85	98	4.5
0.5	95	90	122	6.1
0.6	100	95	128	7.8
0.8	110	105	158	11.7

Flange code JIS 10KFF

# SL-43,43V,44,44V Type nominal diameter select document /ejection amount of fluids

## Structure and specification

Formula :  $Q_m = 5.246CKd'A(P+0.1) \times 0.9$   $C=0.98$  ( $C=1$ , in case of setting pressure less than 0.4MPa)  
 $A = \pi D\ell$  (mm<sup>2</sup>)  $Kd'=0.96$   $P=(\text{setting pressure} \times 1.1)$  or the higher of (setting pressure +0.02). (kg/h)

SIZE	SETTING PRESSURE (MPa)										
	0.05	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
15	13.4	17.4	25.3	34.1	41.9	50.5	59	67.6	76.1	84.7	93.2
20	22.9	29.7	43.2	58	71.4	86	100	115	129	144	158
25	33.3	43.1	62.8	84.3	103	125	146	167	188	209	230
32	61.8	80	116	156	192	231	271	310	349	388	428
40	96.7	125	182	244	301	362	424	485	546	608	669
50	157	203	296	397	489	589	689	788	888	988	1080

※ Saturated steam

## Structure and specification of pressure container for air

Formula :  $Q_m = C'Kd'AP_i \sqrt{M/ZT} \times 0.9$   $C'=27.0$   $kd'=0.96$   $A = \pi D\ell$  (mm<sup>2</sup>)  $M=28.96$   
 $Z=1$   $T=293$   $P_i=(\text{setting pressure} \times 1.1 + 0.1)$  or the higher of (setting pressure +0.02+0.1). (kg/h)

SIZE	SETTING PRESSURE (MPa)										
	0.05	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
15	21.8	28.2	41	55.1	69.3	83.4	97.5	111	125	139	154
20	37.1	48	69.9	93.9	118	142	166	190	214	238	262
25	53.9	69.8	101	136	171	206	241	276	311	346	381
32	100	129	188	253	318	382	447	512	577	641	706
40	156	202	294	396	497	598	700	801	902	1000	1100
50	254	329	479	643	808	972	1130	1300	1460	1630	1790

※ Temperature : 20°C

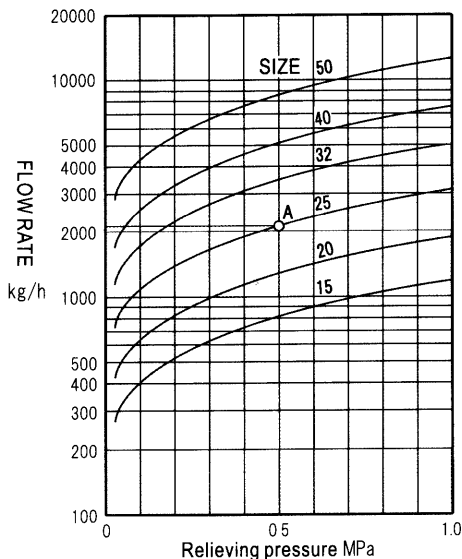
## Structure and specification

Formula :  $W = 87.7S \sqrt{(P_1+0.1) \kappa \gamma_1}$   
 Please consult us for the pressure and temperature which are not listed in the table below. (kg/h)

SIZE	SETTING PRESSURE (MPa)										
	0.05	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
15	375	531	742	875	976	1070	1150	1230	1310	1380	1450
20	640	905	1260	1490	1660	1820	1970	2110	2240	2360	2470
25	930	1310	1830	2160	2410	2650	2860	3060	3250	3430	3600
32	1720	2430	3400	4010	4480	4910	5310	5680	6030	6360	6680
40	2690	3810	5320	6280	7000	7690	8310	8890	9440	9950	10400
50	4380	6200	8650	10200	11300	12400	13500	14400	15300	16100	16900

※ Temperature : 15°C

## SL-44E type safety valve flow characteristics chart (Fig 1)



### ● Usage of Fig

1. Use Fig 1 when accumulation is 25%.
2. Use Fig 1 and 2 when accumulation is not 25%.

### ● For Example

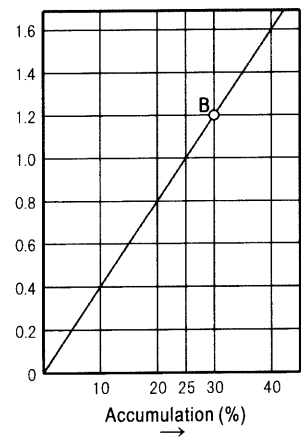
1. Nominal diameter 25, relieving pressure 0.5MPa, accumulation 25%, then the flow rate is: In Fig 1, start from point A (cross of relieving pressure 0.5 MPa and nominal diameter 25), flow rate is 2180kg/h.
2. Under same conditions, when accumulation is 30%, flow rate is: In Fig 2, start from point B, Approximate flow rate is 1.2, therefore, it is 2180kg/h X 1.2=2616kg/h.

### ● Method for conversing kg/h in L/min (reference)

Weight of 1 liter water (L)  $\approx$  1kg, then

$$L/\text{min} = \frac{\text{Value in above drawing (kg/h=L/h)}}{60}$$

## Approximate Flow rate (Fig 2)



VENN CO., LTD.

2-13, TAMAGAWA 2-CHOME,  
 OHTA-KU, TOKYO 146-0095, JAPAN  
 URL: <http://www.venn.co.jp>

TEL: +81-3-3759-0178  
 FAX: +81-3-3759-1414

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