

# AL-140, 140H

3

Safety Relief Valve

Full bore type	Lift type	Safety valve	Relief valve
Safety relief valve	Lever type	Closed type	Dash-pot structure
Handle type	Stainless	High pressure gas testing products	
Diaphragm	Non-leakage		

## ■ Features

1. Safety valve of all stainless steel made. SCS14A (equivalent to SUS316) with outstanding corrosion resistance is used for the rim parts.
2. Popping structure ensures reliable discharge.
3. Simple structure and easy to handle.
4. Closed structure prevents fluid leakage.



AL-140



AL-140H

## ■ Specifications

Model	AL-140	AL-140H
Structure	Closed type	
Application	Steam, Air, Cold and hot water, Oil, Other non-dangerous fluids	
Working pressure	0.05-1.0 MPa	1.0-2.0 MPa
Maximum temperature	220°C *	
Material	Spring case	Cast stainless steel
	Valve, valve seat	Cast stainless steel (SCS14A)
Connection	JIS Rc screwed	

\* The maximum temperature is 150°C when using for water, oil, or other liquids.

· Please refer to the chart in P. 81-82 for set pressure range.

## ■ Dimensions and Weights

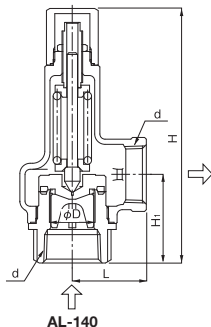
### · AL-140

Nominal size	Dimension (mm)						Flow area πDℓ (mm <sup>2</sup> )	Weight (kg)
	d	D	L	H <sub>1</sub>	H			
15A	Rc 1/2	16	34	40	128.5	20.1	0.7	
20A	Rc 3/4	21	38	42	129	34.6	0.8	
25A	Rc 1	26	43	51.5	148	53.0	1.1	
32A	Rc 1-1/4	33	50	61.5	182	93.3	2.0	
40A	Rc 1-1/2	41	60	64	206	135.2	3.0	
50A	Rc 2	51	75	76	246.5	208.2	5.0	

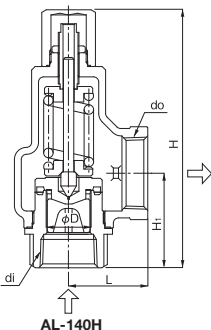
### · AL-140H

Nominal size	Dimension (mm)						Flow area πDℓ (mm <sup>2</sup> )	Weight (kg)
	d <sub>i</sub> x D x d <sub>o</sub>	L	H <sub>1</sub>	H				
15A	Rc 1/2 x 16 x Rc 3/4	36	42	126.5	20.1	0.9		
20A	Rc 3/4 x 21 x Rc 1	38	46	130.5	34.6	1.0		
25A	Rc 1 x 26 x Rc 1-1/4	46	55	150.5	53.0	1.5		
32A	Rc 1-1/4 x 33 x Rc 1-1/2	54	61.5	195	93.3	2.5		
40A	Rc 1-1/2 x 41 x Rc 2	63	67	227.5	135.2	4.6		
50A	Rc 2 x 51 x Rc 2-1/2	77	80	303.5	208.2	8.8		

· Screwed connection size of the outlet side is 1 size larger than the nominal size.



AL-140



AL-140H

■ Certified Capacity Table for AL-140, AL-140H

• AL-140 for steam (saturation temperature) <Pressure vessel structure standard>

(kg/h)

Nominal size	Pressure MPa										
	0.05	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
15A	15	20	29	40	50	60	70	80	90	100	109
20A	27	35	51	69	87	104	121	138	155	172	189
25A	42	54	78	105	133	159	186	212	237	263	289
32A	70	91	132	178	224	268	313	356	400	443	487
40A	105	136	198	266	335	402	468	534	599	664	729
50A	163	211	306	411	518	621	723	824	924	1025	1129

• AL-140H for steam (saturation temperature)

(kg/h)

Nominal size	Pressure MPa										
	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
15A	109	119	129	139	149	158	168	178	188	198	207
20A	189	206	222	239	256	273	290	306	324	340	357
25A	289	315	341	367	393	418	444	470	496	522	547
32A	487	531	574	617	661	704	747	791	835	878	921
40A	729	795	860	924	990	1054	1119	1184	1250	1315	1380
50A	1126	1227	1327	1427	1528	1627	1728	1828	1930	2030	2130

• AL-140 for air (20°C) <Pressure vessel structure standard>

(kg/h)

Nominal size	Pressure MPa										
	0.05	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
15A	25	33	48	65	81	98	114	131	147	164	181
20A	44	57	83	111	140	169	197	226	254	283	311
25A	67	87	127	171	215	258	302	346	390	433	477
32A	113	147	214	288	362	435	509	582	656	730	803
40A	169	221	321	431	542	652	762	872	982	1093	1203
50A	262	341	496	666	836	1006	1176	1346	1516	1687	1857

• AL-140H for air (20°C)

(kg/h)

Nominal size	Pressure MPa										
	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
15A	181	197	214	230	247	264	280	297	313	330	347
20A	311	340	368	397	426	454	483	511	540	568	597
25A	477	521	565	608	652	696	740	783	827	871	915
32A	803	877	950	1024	1098	1171	1245	1318	1392	1466	1539
40A	1203	1313	1423	1533	1644	1754	1864	1974	2084	2195	2305
50A	1857	2027	2197	2367	2537	2707	2877	3047	3217	3388	3558

• AL-140 for water (accumulation: 25%) <Yoshitake standard>

(m<sup>3</sup>/h)

Nominal size	Pressure MPa										
	0.05	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
15A	0.4	0.5	0.9	1.1	1.3	1.5	1.6	1.8	1.9	2.0	2.1
20A	0.6	0.9	1.6	2.0	2.3	2.6	2.8	3.1	3.3	3.5	3.7
25A	1.0	1.5	2.5	3.1	3.6	4.0	4.4	4.7	5.1	5.4	5.7
32A	1.8	2.6	4.5	5.5	6.3	7.1	7.8	8.4	9.0	9.5	10.0
40A	2.7	3.8	6.5	7.9	9.2	10.3	11.3	12.2	13.0	13.8	14.6
50A	4.1	5.9	10.0	12.3	14.2	15.9	17.4	18.8	20.1	21.3	22.4

• AL-140H for water (accumulation: 25%)

(m<sup>3</sup>/h)

Nominal size	Pressure MPa										
	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
15A	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	2.9	3.0
20A	3.7	3.9	4.0	4.2	4.4	4.5	4.7	4.8	5.0	5.1	5.2
25A	5.7	6.0	6.2	6.5	6.7	7.0	7.2	7.4	7.6	7.8	8.0
32A	10.0	10.5	11.0	11.4	11.9	12.3	12.7	13.1	13.5	13.8	14.2
40A	14.6	15.3	15.9	16.6	17.2	17.8	18.4	19.0	19.5	20.1	20.6
50A	22.4	23.5	24.6	25.6	26.6	27.5	28.4	29.3	30.1	30.9	31.8

• Please contact us for the calculation procedure for nominal size selection.