



SEMPELL

Sempell series "A" flanged safety valves according to API-526 standard

Features and Advantages

The following features have been incorporated and contribute to an extended service life, reduced cost of ownership and a superior application versatility

- Rigid Body construction.
- Two piece Spindle design.
- Standard Inconel 625 bellows and flange material for superior corrosion resistance, longer service life and a wider range of applications.
- Universal disc holder allows for simple and cost-effective conversions from conventional to balanced bellows design.
- Standard threaded bellows design for ease of maintenance and conversion from conventional to balanced bellows design.
- Improved corrosion resistance with standard 316 stainless steel adjusting bolt lock nut and nozzle ring set screw materials.
- Standard chrome steel spring for an operating range of -28°C to +343°C.
- Self aligning, low friction spring assembly.
- Easily converted to any type cap or lifting lever construction, liquid trim, soft-seat or balanced bellows configurations.



Applications

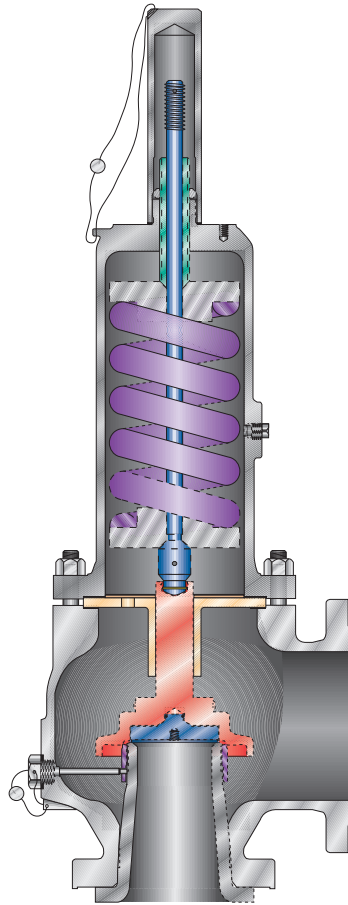
The Sempell series "A" safety valves meets the challenges set today by the complex manufacturing operations employed by the Process, Pharmaceutical, Power, Chemical, Refining and Gas Industries both On and Offshore.

Technical Data

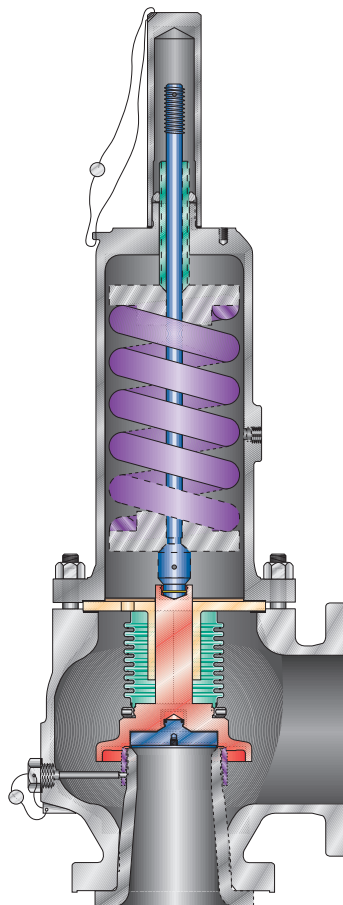
Sizes	: 1" D 2" to 8" T 10"
Orifices	: 71 to 16774 mm ²
Inlet Ratings	: ANSI Class 150, 300, 600, 900, 1500, 2500
Temperature Range	: -268°C to +538°C
Pressure Range	: 1.03 to 413.79 barg

Safety valves with ASME connections

Series " A "



Construction AC



Construction AB

Design

Designs suitable for gas, steam and liquid applications are available.

The type AC is a conventional, flanged, full lift, angle pattern safety valve for use on gases and vapours. The type ACL is the liquids application version of the type AC. Balanced bellows versions are available as type AB and ABL respectively.

The type AO is an open bonnet version for air, steam and clean gases.

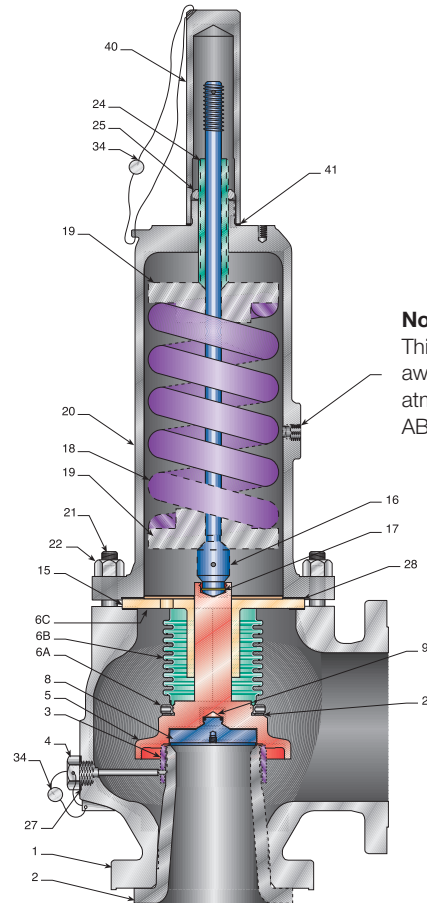
All valves are designed to fulfill the requirements laid down in API 526 and are capacity certified for Steam, Gas and Liquid to ASME B & PV Code Sec. VIII.

Sempell's reputation and continuous product development is your assurance of the reliability of this product range.

Valve Styles

AC	ACL
AB	ABL
AP	APL
AO	

Construction AB



Note
This vent must be piped away to a safe area at atmospheric pressure on AB, ABL, and APL models.

Notes

1. Subassembly (styles AB and ABL only)
 2. Corrosion resistant coating.
 3. May upgrade to Inconel® X750.
 4. Class 900#, 1500# and 2500# inlet ratings use 416 Stainless Steel.
- Recommended Spare Part.

Styles AC, AB, ACL and ABL standard materials of construction

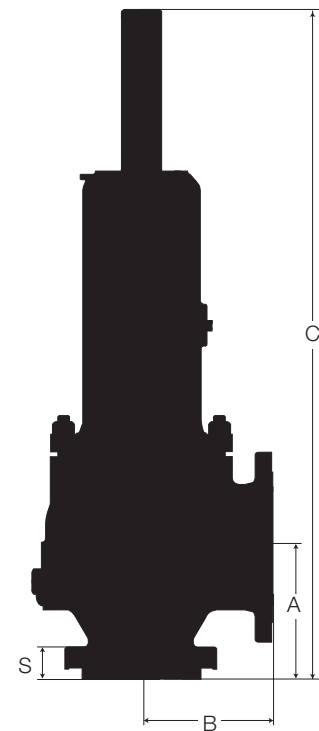
Ref. No.	Part Name	Standard Material	Part Name	All Stainless Steel Material
1	Body (AC,AB,ACL and ABL) ()5 and ()6	ASME SA216 GR. WCB	Body (AC,AB,ACL and ABL) ()5 and ()6	ASME SA351GR. CF8M
1	Body (AC,AB, ACL and ABL) ()7	ASME SA217 GR. WC6	Body (AC,AB, ACL and ABL) ()7	ASME SA351GR. CF8M
2	Nozzle	316 Stainless Steel	Nozzle	316 Stainless Steel
3	Nozzle Ring	316 Stainless Steel	Nozzle Ring	316 Stainless Steel
4	Set Screw	316 Stainless Steel	Set Screw	316 Stainless Steel
5	Disc Holder	316L Stainless Steel	Disc Holder	316L Stainless Steel
6A	Bellows Tailpiece ¹	316L Stainless Steel	Bellows Tailpiece ¹	316L Stainless Steel
6B	Bellows ¹	Inconel 625	Bellows ¹	Inconel 625
6C	Bellows Flange ¹	Inconel 625	Bellows Flange ¹	Inconel 625
8•	Disc Insert	316 Stainless Steel	Disc Insert	316 Stainless Steel
9•	Retention Clip	Inconel X750	Retention Clip	Inconel X750
15	Guide	ASTM A297 GR. HE SST	Guide	ASTM A297 GR. HE SST
16	Spindle	416 Stainless Steel	Spindle	316 Stainless Steel
17	Spindle Cotter Pin	Stainless Steel	Spindle Cotter Pin	Stainless Steel
18	Spring (AC,AB,ACL and ABL) ()5	Chrome Steel ²	Spring (AC,AB,ACL and ABL) ()5	Stainless Steel
18	Spring (AC,AB,ACL and ABL) ()6 and ()7	Alloy Steel ^{2,3}	Spring (AC,AB,ACL and ABL) ()6 and ()7	Inconel X750
19	Spring Washers	Carbon Steel	Spring Washers	316 Stainless Steel
20	Bonnet (AC,AB,ACL and ABL) ()5 and ()6	ASME SA216 GR. WCB	Bonnet (AC,AB,ACL and ABL) ()5	ASME SA351GR. CF8M
20	Bonnet (AC,AB,ACL and ABL) ()7	ASME SA217 GR. WC6	Bonnet (AC,AB,ACL and ABL) ()7	ASME SA351GR. CF8M
21	Bonnet Stud	ASME SA193 GR. B7	Bonnet Stud	304 Stainless Steel
22	Bonnet Stud Nut	ASME SA194 CL 2H	Bonnet Stud Nut	304 Stainless Steel
24	Adjusting Bolt	316 Stainless Steel ⁴	Adjusting Bolt	316 Stainless Steel
25	Adjusting Bolt Nut	316 Stainless Steel	Adjusting Bolt Nut	316 Stainless Steel
27•	Set Screw Gasket	Organic Fiber Non-Asbestos	Set Screw Gasket	Organic Fiber Non-Asbestos
28•	Guide Gasket	Organic Fiber Non-Asbestos	Guide Gasket	Organic Fiber Non-Asbestos
29•	Tailpiece Gasket	Organic Fiber Non-Asbestos	Tailpiece Gasket	Organic Fiber Non-Asbestos
34	Seal and Wire	Lead and Stainless Steel	Seal and Wire	Lead and Stainless Steel
40	Threaded Cap	Carbon Steel	Threaded Cap	316 Stainless Steel
41•	Cap Gasket	Organic Fiber Non-Asbestos	Cap Gasket	Organic Fiber Non-Asbestos

Safety valves with ASME connections

Series " A "

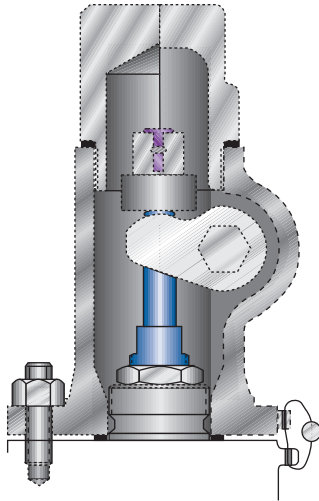
Dimensions and Weights (carbon steel types only) Metric Units

Connection Size & Rating Inlet x Outlet	Orifice	Dimensions mm				Approx. Weight kg
		A	B	C	S	
1"-150 x 2"-150"	D,E	104,8	114,3	502	40	16
1"-300 x 2"-150" *		104,8	114,3	502	40	16
1"-300 x 2"-150"		104,8	114,3	502	40	16
1"-600 x 2"-150"		104,8	114,3	502	40	16
1 1/2"-900 x 2"-300"		104,8	139,7	521	51	28
1 1/2"-1500 x 2"-300"		104,8	139,7	521	51	28
1 1/2"-2500 x 3"-300"		139,7	177,8	552	64	34
1 1/2"-150 x 2"-150"	F	123,8	120,6	591	44	23
1 1/2"-300 x 2"-150" *		123,8	120,6	591	44	23
1 1/2"-300 x 2"-150"		123,8	152,4	591	44	23
1 1/2"-600 x 2"-150"		123,8	152,4	591	44	23
1 1/2"- 900 x 3"-300"		123,8	165,1	584	51	29
1 1/2"-1500 x 3"-300"		123,8	165,1	584	51	29
1 1/2"- 2500 x 3"-300"		139,7	177,8	679	64	39
1 1/2"-150 x 3"-150"	G	123,8	120,6	591	44	23
1 1/2"-300 x 3"-150" *		123,8	120,6	591	44	23
1 1/2"-300 x 3"-150"		123,8	152,4	591	44	23
1 1/2"-600 x 3"-150"		123,8	152,4	591	44	27
1 1/2"-900 x 3"-300"		123,8	165,1	660	51	40
2"-1500 x 3"-300 "		155,6	171,5	686	70	90
2"-2500 x 3"-300"		155,6	171,5	686	70	90
1 1/2"-150 x 3"-150"	H	130,2	123,8	597	43	25
1 1/2"-300 x 3"-150" *		130,2	123,8	597	43	25
2"-300 x 3"-150"		130,2	123,8	597	46	27
2"-600 x 3"-150"		154	161,9	679	46	34
2"-900 x 3"-150"		154	161,9	718	59	50
2"-1500 x 3"-300 "		154	161,9	718	59	50
2"-150 x 3"-150"	J	136,5	123,8	603	43	30
2"-300 x 3"-150" *		136,5	123,8	603	43	30
3"-300 x 4"-150"		184,1	181	726	68	40
3"-600 x 4"-150"		184,1	181	777	68	52
3"-900 x 4"x 150"		184,1	171,4	826	68	64
3"- 1500 x 4"-300"		184,1	181	826	68	70
3"-150 x 4"-150"	K	155,6	161,9	756	54	52
3"-300 x 4"-150" *		155,6	161,9	756	54	52
3"-300 x 4"-150"		155,6	161,9	756	54	52
3"-600 x 4"-150"		184,1	181	838	54	73
3"-900 x 6"x 150"		198,4	215,9	991	68	84
3"-1500 x 6"-300"		196,8	215,9	991	68	88
3"-150 x 4"-150" A7"	L	155,6	165,1	864	51	69
3"-300 x 4"-150" *		155,6	165,1	864	51	69
4"-300 x 6"-150"		179,4	181	864	54	87
4"-600 x 6"-150"		179,4	203,2	895	60	103
4"-900 x 6"-150"		196,8	222,2	1010	75	122
4"-1500 x 6"-300"		196,8	222,2	1010	75	122
4"-150 x 6"-150"	M	177,8	184,1	851	54	91
4"-300 x 6"-150" *		177,8	184,1	851	54	91
4"-300 x 6"-150"		177,8	184,1	914	54	101
4"-600 x 6"-150"		177,8	203,2	1067	62	120
4"-900 x 6"-150"		196,8	222,2	1086	65	132
4"-150 x 6"-150"	N	196,8	209,5	1099	54	118
4"-300 x 6"-150" *		196,8	209,5	1099	54	118
4"-300 x 6"-150"		196,8	209,5	1099	54	127
4"-600 x 6"-150"		196,8	222,2	1099	60	135
4"-150 x 6"-150"	P	181	228,6	1080	54	122
4"-300 x 6"-150" *		181	228,6	1124	54	122
4"-300 x 6"-150"		225,4	254	1181	54	130
4"-600 x 6"-150"		225,4	254	1213	65	182
6"-150 x 8"-150"	Q	239,7	241,3	1213	59	218
6"-300 x 8"-150" *		239,7	241,3	1213	59	218
6"-300 x 8"-150"		239,7	241,3	1314	59	223
6"-600 x 8"-150"		239,7	241,3	1353	75	256
6"-150 x 8"-150"	R	240	241	1353	59	256
6"-300 x 8"-150" *		240	241	1353	59	256
6"-300 x 10"-150"		240	267	1353	59	273
6"-600 x 10"-150"		240	267	1511	70	286
8"-150 x 10"-150"	T	276,2	279,4	1511	65	400
8"-300 x 10"-150" *		276,2	279,4	1511	65	400
8"-300 x 10"-150"		276,2	279,4	1511	65	409
8"-300 x 10"-150"		276,2	279,4	1511	65	422



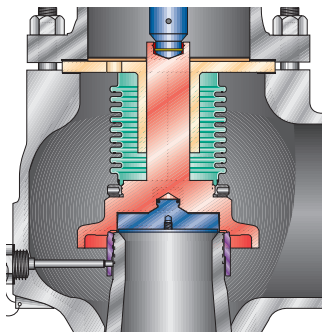
Notes

1. Pressure and temperature ratings are per API-526.
 2. Height shown "C" is for Standard Type J threaded Cap.
 3. Pre 1995 API-526 2 1/2" Connections available for D, E, F, G and J orifice in place of current 3" size.
- * Lightweight CI 300 rating per API-526 (CI 150 rated body).



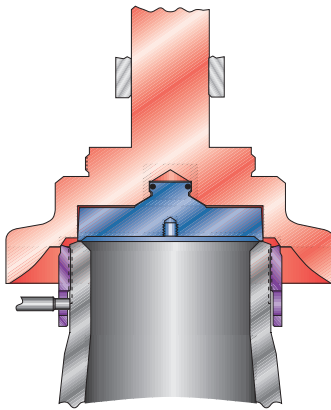
Cap with Packed Lifting Lever

Pressure tight cap design ensures safe and reliable operation of valve lifting lever.



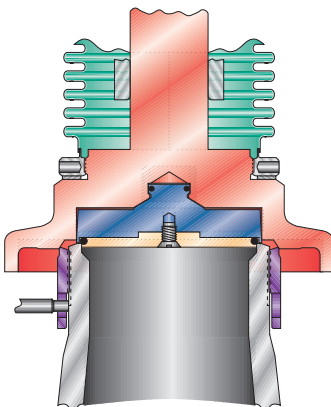
Bellows

Types AB and ABL balanced bellows valves provide optimum valve performance when the developed back pressure in exhaust systems or discharge manifolds becomes excessive. Manufactured from Inconel 625 fatigue-resistant material, the bellows provides improved corrosion resistance compared to 316L stainless steel. A universal threaded disc holder allows for simple conversion from conventional to bellows valve as well as cost-effective bellows replacement. An auxiliary balancing piston design can supplement the bellows.



Liquid Trim

The ACL design is capacity certified on gas and vapor service and can be applied in two-phase flow applications. This seat configuration offers a significant increase in capacity at 10% overpressure resulting in the economic use of a smaller valve, which, in turn, represents a reduction in inlet and discharge piping costs.



'O'- Ring Seat Design

All styles can be provided with flat metal-to-metal seats or soft seats. The two piece construction of the disc holder/disc insert provides thermal balancing and assures maximum seat tightness in accordance with the requirements of API Standard 527. Where system operating conditions permit, soft seat or elastomer seat construction is available as an option.

Safety valves with ASME connections

Series "A" - Style designations

