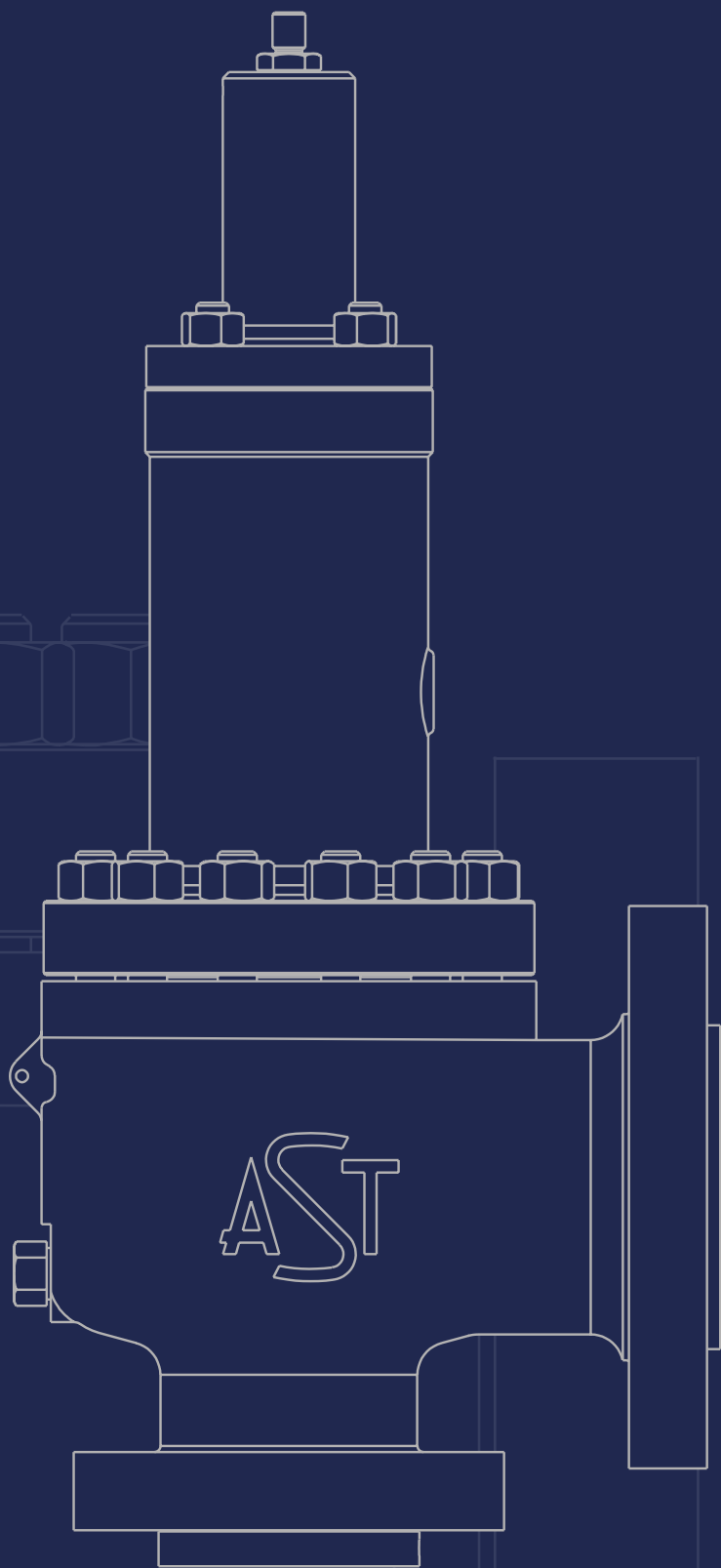


SMG-7000 SML-7000



SPRING LOADED
PRESSURE RELIEF VALVE



BEST UNDER PRESSURE



INDEX

Company Presentation	04
General Information	06
Conventional design	08
Balanced bellows design	09
Standard material classes	10
Special material classes	11
Dimensions and weights	12
Pressure limits	14
Accessories	16
Special execution	18
Nameplates	19
AST Production Range	20
How to reach us	22

Company Presentation



AST S.p.A. is one of the first Italian manufacturers of spring loaded pressure relief valves. **Founded in 1951**, the company is characterized by the high technology and customization of its products.

AST S.p.A. is now part of **AST Group** that also includes HIT VALVE and AST s.r.l.

AST S.p.A. is focused on pressure valves, control valve and steam conditioning devices, **HIT VALVE** on ball and gate valves for severe services and **AST s.r.l.** on BMS and DCS for Power and Process industries.

Thanks to the research and development performed on regular basis and to the **profitable cooperation with customers**, AST Group widened its products portfolio into the Oil & Gas business.

AST S.p.A. has completed **full range of spring loaded and pilot operated pressure relief valves** for **gas, liquid and steam service**, for standard and severe applications (**high pressure, high temperature, cryogenic service, dirty and high viscosity fluids**).

At the beginning of 70s, AST S.p.A. developed **control valves** to fulfill the most demanding requirements on the market, in particular for applications such as **melamine and urea plants**.

Control valve range includes different designs for standard service, pressure, **special low noise, anti-cavitation**

trims, **steam desuperheaters** and **steam conditioning systems**.

Since 2012, **HIT VALVE** has started designing and manufacturing pipeline **gate, ball and rotary control valves** for the most severe applications (**high pressure, high temperature, subsea, slurry**).

Since its foundation, **AST s.r.l.** has stood out on market as a recognized manufacturer of **BMS and DCS for Power and Process industries**, reinforcing AST Group leadership in the field of process automation and safety systems.

AST S.p.A. is certified **ISO 9001** quality assurance system company since 1993, operating under **OHSAS 18001** (Occupational Health and Safety Assessment) and **ISO 14001** (Environmental Management).

AST S.p.A. is featured by a strong and deep expertise that allow to support customer in all the project requirements with **high flexibility** and **great performances**.

AST S.p.A. is actively following market last trends in terms of **clean energy** requirements as CO2 capture, green ammonia energy vector, clean green hydrogen, LNG application, etc. by providing suitable engineered solution for each process.



VISION

AST is committed to being a premier leader of innovative products and services according to customer needs and requirements. It is of primary importance to us to enhance the history of AST S.p.A. and the quality of its products, while providing efficient, effective and responsive support to the market.

MISSION

AST mission is to provide responsive, innovative and cost effective products and services according to customer specific needs and requirements, and to serve the energy market. Part of our mission is to promote a smart growth of the company, to effectively communicate with our customers, agents and representatives, to preserve health, welfare, safety and environment while maintaining outstanding quality of our products.

VALUES

INTEGRITY

We act honestly, play fair and always strive to do the right thing.

RESPECT

We treat everyone with respect. We recognize the inherent dignity of every human being and celebrate the strength that comes from the diversity of people and ideas.

SERVICE

We are proud of our role as valve manufacturer and we are dedicated to service excellence of our products. We are committed to a responsive quality service, timely deliveries, courtesy, and fairness.

ACCOUNTABILITY

We are accountable and responsible for our actions and accept the consequences of our decisions.

TEAMWORK

We appraise teamwork and promote the principles of partnership, discussion and open communication.

ENVIRONMENT

We believe in environmental sustainability and act accordingly.



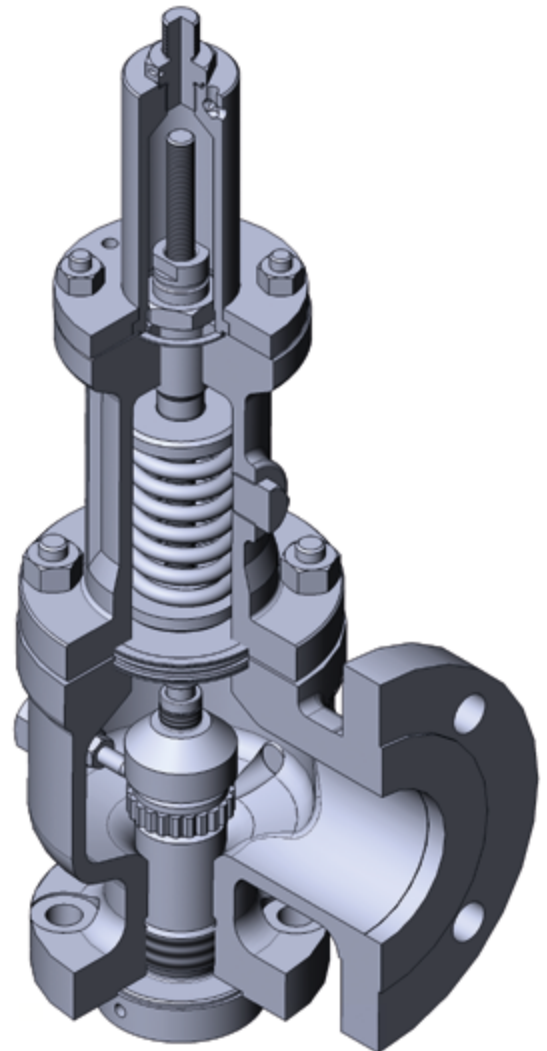
General Information

SERIES: SMG-7000, SML-7000

- Flanged, spring loaded, direct acting, full nozzle, conventional and balanced, pressure relief valves.
- **SMG-7000** certified for **gas and steam service** in accordance with main international standards and codes.
- **SML-7000** certified for **gas, steam and liquid service** in accordance with main international standards and codes.
- Dimensions and orifices according to API-526 Standard. Special executions available upon request.
- **Set pressure up to 700 barg** (higher pressures are available on demand).
- Temperature ranges from **-267 °C to 715 °C**.
- Body thickness compliant to **ASME B 16.34** standard.
- Standard flanges in compliance with **ASME B16.5**. Upon request AST is able to supply connections in compliance with: **EN1092-1, EN1759-1, GOST 12815**, clamp and project requirements.
- Wide range of construction materials (carbon steel, alloy steel, stainless steel, **titanium, duplex and super-duplex, nickel-alloy steels**) in compliance with the most demanding customer material datasheets.
- Designed, manufactured, tested and marked according to **ASME VIII, PED 2014/68/EU, ATEX 2014/34/EU, EAC TR CU 010, TR CU 012, TR CU 032** and **TS**.
- Special design valves have been developed over the years to satisfy the most demanding customer requirements.
- Non Destructive Examination can be performed in-house with level 2 qualified personnel. Special tests such as **cryogenic test, helium mass spectrometer fugitive emission test, high pressure gas test** and others can be easily performed by AST thanks to in-house availability of dedicated equipment and skilled personnel. AST S.p.A. factory has both spray booths and **Frosio level II certified personnel** for satisfying the most severe requirements on coating.
- Design optimized to minimize and **facilitate maintenance operations**. Seats can be easily lapped without special tools. Thanks to the long experienced flat seat design, **superior tightness** is easily obtained.

MAIN FEATURES

- **API 526** fully compliant design.
- Size range from **1"x2"** to **8"x12"**.
- Rating up to ASME 2500 and special solution up to **API 6A 15.000** psi.
- Full nozzle design.
- Casted body with integral flanges. Special solutions such as **block body** are available on demand.
- **Bolted cap** supplied as standard for superior and reliable tightness to reduce leakage to the environment. Unlike screwed cap type, bolted cap is suitable for lethal services.



DISCHARGE COEFFICIENT

Discharge coefficient for gases and vapors has been certified in accordance with EN ISO 4126-1 and ASME VIII.

SERIES	SERVICE	CODE	VALUE
SMG-7000	GAS/STEAM	ASME/EN	0,966
SML-7000	LIQ	ASME/EN	0,777
SML-7000	GAS/STEAM	ASME/EN	0,966

According to ASME VIII and EN ISO 4126-1, discharge coefficient has to be derated by a safety factor equal to 0,9.

OVERPRESSURE AND BLOWDOWN

OVERPRESSURE

Certified overpressure is equal to 10% with a minimum value of 0,1 bar for EN ISO 4126-1 and 0,2 bar for ASME VIII-1.

BLOWDOWN

AST valves are certified fully in compliance with the requirements of the relevant Code.

SEAT TIGHTNESS

AST S.p.A. seat tightness test is performed in accordance with API 527 requirements with leakage limits significantly lower than API 527 allowable values.

For special service and upon request, AST can provide higher seat tightness class with test performed at 95% of set pressure.

RESTRICTED LIFT AND INTERMEDIATE ORIFICES

AST S.p.A. pressure relief valve range includes restricted lift, intermediate orifices and extra capacity orifice T2 to fulfill specific project requirements in terms of capacity, pressure loss, noise reduction and stable performance.

These special orifice details are available upon request.

PRESSURE RANGE

According to API 526.

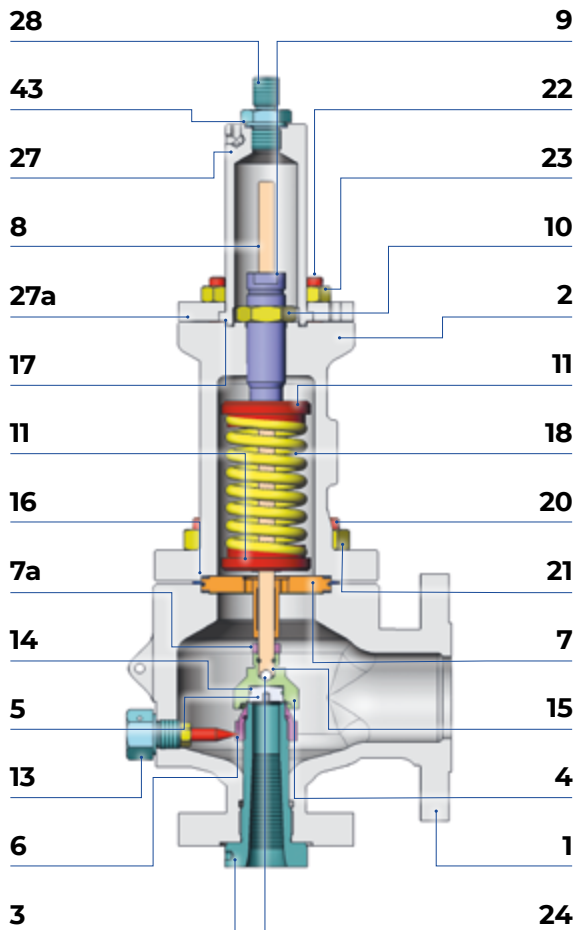
Availability to provide valves with set pressure lower than 1 barg (bottom limit for ASME VIII-1 application range) as well as set pressure values exceeding API 526 limits.

AST ORIFICE DESIGNATION	AST ORIFICE AREA		API 526 ORIFICE DESIGNATION
	[cm ²]	[in ²]	
-			-
D	0,785	0,121	D
D1	0,882	0,137	D
E	1,389	0,215	E
F	2,164	0,335	F
G	3,530	0,547	G
H	5,515	0,885	H
J	9,079	1,407	J
K	12,946	2,007	K
K2	16,619	2,576	-
L	20,109	3,117	L
M	25,339	3,928	M
N	30,582	4,740	N
P	45,007	6,976	P
P2	63,617	9,861	-
Q	77,913	12,077	Q
Q2	95,379	14,784	-
R	112,721	17,472	R
R2	148,058	22,949	-
T	183,374	28,423	T
T2	199,807	30,970	-

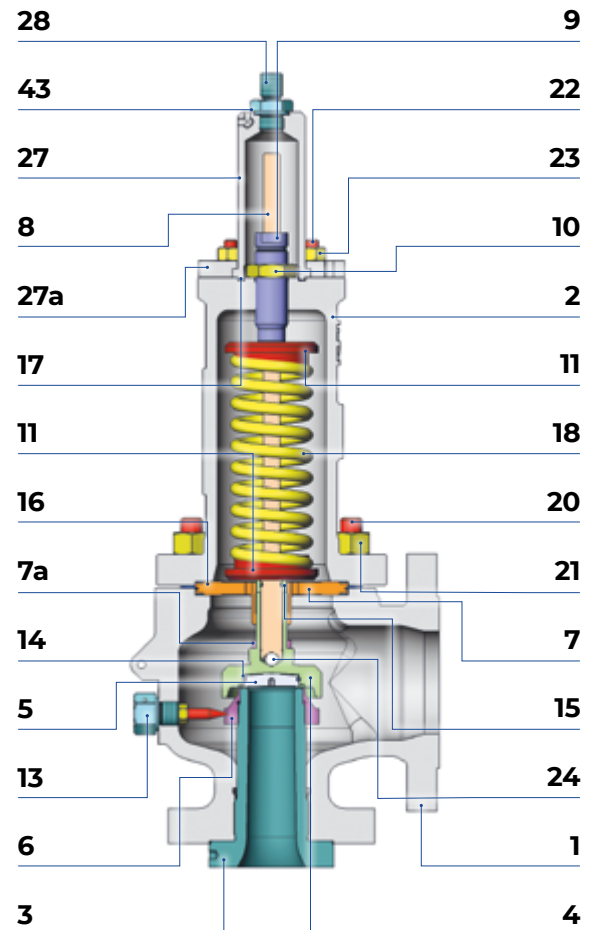
Conventional design

Conventional design is typically selected in case of discharge to atmosphere, in presence of constant superimposed backpressure and in case of built-up backpressure not exceeding the maximum allowable overpressure.

From orifice D to H



From orifice J to T



- | | | | |
|-----------------|---------------------|--------------|----------------|
| 1 Body | 7a Lift stopper | 15 Snap ring | 27a Cap flange |
| 2 Bonnet | 8 Stem | 16-17 Gasket | 28 Cap plug |
| 3 Nozzle | 9 Spring adj. Screw | 18 Spring | 43 Gasket |
| 4 Disc holder | 10 Locknut | 20-22 Studs | |
| 5 Disc | 11 Spring washer | 21-23 Nuts | |
| 6 Blowdown ring | 13 Adj. Ring screw | 24 Ball | |
| 7 Guide | 14 Snap ring | 27 Cap | |

Balanced bellows design

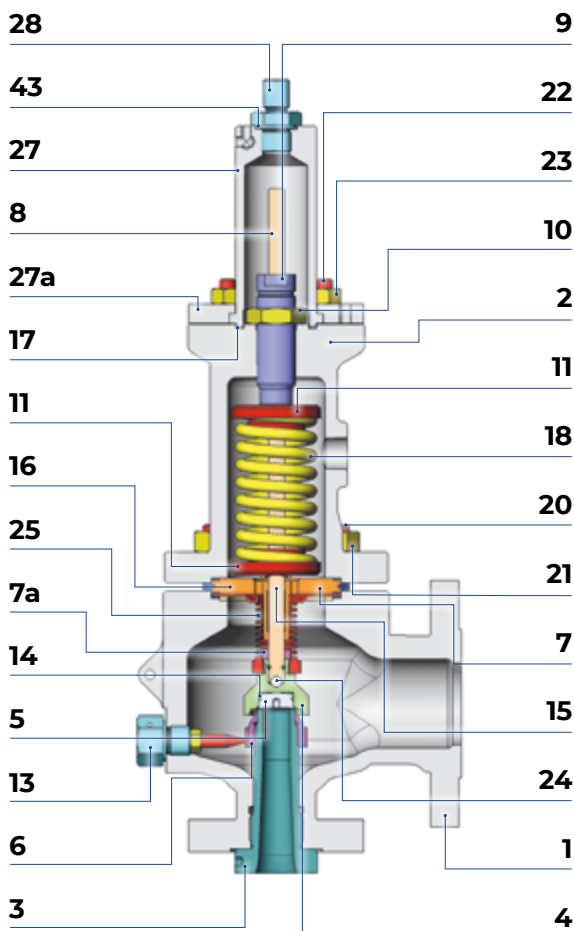
SML-7000 and SMG-7000 balanced design series are recommended in the following cases:

- When variable superimposed backpressure is present, in order to avoid opening pressure variation.
- When constant superimposed backpressure is present, if customer cannot accept set pressure change.
- When built-up backpressure is greater than allowable overpressure.

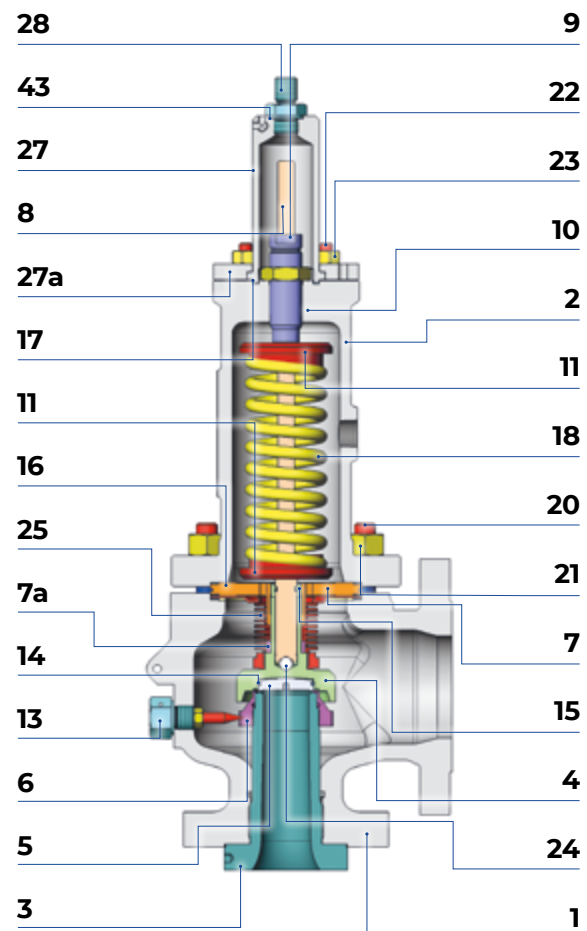
- For critical fluids, sour service (e.g. NACE MR0175/0103 and ISO 150156 compliance) or specific applications, in order to isolate spring and sliding parts inside the bonnet.

Bellows are available in a wide range of materials and design.

From orifice D to H



From orifice J to T



- | | | | |
|-----------------|---------------------|--------------|----------------|
| 1 Body | 7a Lift stopper | 15 Snap ring | 27 Cap |
| 2 Bonnet | 8 Stem | 16-17 Gasket | 27a Cap flange |
| 3 Nozzle | 9 Spring adj. Screw | 18 Spring | 28 Cap plug |
| 4 Disc holder | 10 Locknut | 20-22 Studs | 43 Gasket |
| 5 Disc | 11 Spring washer | 21-23 Nuts | |
| 6 Blowdown ring | 13 Adj. Ring screw | 24 Ball | |
| 7 Guide | 14 Snap ring | 25 Bellows | |



Standard material classes

ITEM	CLASS	CSNT	CSHT	CSLT	316	DX
	TEMPERATURE LIMITS (°C)	-29 / 425	-29 / 538	-46 / 345	-196 / 538	-46 / 260
1	BODY	A216 WCB	A217 WC6	A352 LCB / LCC	A351 CF8M	A995 GR.4A
2	BONNET	A216 WCB	A217 WC6	A352 LCB / LCC	A351 CF8M	A995 GR.4A
3	NOZZLE	A479 316 A351 CF8M A182 F316	A479 316 A351 CF8M	A479 316 A351 CF8M	A479 316 A351 CF8M	A479 S31803 A182 F51 A995 4A
4	DISC HOLDER	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Duplex
5	DISC	A479 316 A182 F316	A479 316 A182 F316	A479 316 A182 F316	A479 316 A182 F316	A479 S31803
6	BLOWDOWN RING	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Duplex
7	GUIDE	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Duplex
7a	LIFT STOPPER	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Duplex
8	STEM	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Duplex
9	SPRING ADJ. SCREW	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Duplex
10	LOCKNUT	Carbon steel	Carbon steel	Stainless steel	Stainless steel	Duplex
11	SPRING WASHERS	Carbon steel	Carbon steel	Stainless steel	Stainless steel	Duplex
13	ADJ. RING SCREW	Carbon steel	Carbon steel	Stainless steel	Stainless steel	Duplex
14 / 15	SNAP RING	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel
16 / 17 / 43	GASKETS	Graphite	Graphite	Graphite	Graphite	Graphite
18	SPRING	Chrome alloy / tungsten alloy	Tungsten alloy	Chrome alloy	Stainless steel / inconel	Inconel
20/22	STUDS	A193 B7	A193 B16	A320 L7	A320 B8M cl.1	A320 L7
21/23	NUTS	A194 2H	A194 4	A194 7	A194 8M	A194 7
24	BALL	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Na
25	BELLOWS	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Inconel
27	CAP	Carbon steel	High temp. Carbon Steel	Low temp. Carbon Steel	Stainless Steel	Stainless Steel
28	CAP PLUG	Carbon steel	Carbon steel	Stainless steel	Stainless steel	Duplex

Special material classes

ITEM	CLASS	SDX	INC	MON	HAS	825
	TEMPERATURE LIMITS (°C)	-46 / 250	-196 / 371	-196 / 475	-196 / 538	-196 / 538
1	BODY	A995 GR.6A ⁴	A494 CW6MC	A494 M35-1	A494 CX2MW	A494 CU5MCUC
2	BONNET	A995 GR.6A	A494 CW6MC	A494 M35-1	A494 CX2MW	A494 CU5MCUC
3	NOZZLE	A479 S32760 ⁴ A182 F55 A995 GR 6A	B446 N06625 B564 N06625 A494 CW6MC	B164 N04400 A494 M35-1	B574 N10276 A494 CX2MW	B425 N08825 B564 N08825 A494 CU5MCUC
4	DISC HOLDER	Super duplex	Inconel	Monel	Hastelloy	Alloy 825
5	DISC	A479 S32760 A182 F55	B637 N07718	B865 N05500	B574 N10276	B425 N08825 B564 N08825
6	BLOWDOWN RING	Super duplex	Inconel	Monel	Hastelloy	Alloy 825
7	GUIDE	Super duplex	Inconel	Monel	Hastelloy	Alloy 825
7a	LIFT STOPPER	Super duplex	Inconel	Monel	Hastelloy	Alloy 825
8	STEM	Super duplex	Inconel	Monel	Hastelloy	Alloy 825
9	SPRING ADJ. SCREW	Super duplex	Inconel	Monel	Hastelloy	Alloy 825
10	LOCKNUT	Super duplex	Inconel	Monel	Hastelloy	Alloy 825
11	SPRING WASHERS	Super duplex	Inconel	Monel	Hastelloy	Alloy 825
13	PIN	Super duplex	Inconel	Monel	Hastelloy	Alloy 825
14 / 15	SNAP RING	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel
16 / 17 / 43	GASKETS	Graphite	Graphite	Graphite	Graphite	Graphite
18	SPRING	Inconel	Inconel	Monel	Hastelloy	Inconel
19	DRAIN PLUG	Super duplex	Inconel	Monel	Hastelloy	Alloy 825
20/22	STUDS	A320 L7	B637 718	B164 N04400	B574 N10276	A320 B8M CL.1
21/23	NUTS	A194 7	B637 718	B164 N04400	B574 N10276	A194 8M
24	BALL	NA	NA	NA	NA	NA
25	BELLOWS	Inconel	Inconel	Monel	Hastelloy	Inconel
27	CAP	Super duplex	Inconel	Monel	Hastelloy	Alloy 825
28	CAP PLUG	Super duplex	Inconel	Monel	Hastelloy	Alloy 825

General notes:

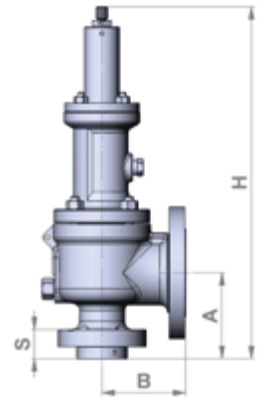
1_Seat can be supplied with hard-facing (AST standard material is Stellite, additional materials are available on demand).

2_Additional material classes are available on demand.

3_Inconel , Monel and Hastelloy are registered trademarks.

4_Grade not accepted for UV stamp valve.

Dimensions and weights



ITEM	ORIFICE	INLET X OUTLET DIMENSION [inch]	INLET X OUTLET RATING CLASS	A [mm]	B [mm]	H [mm]	S [mm]	WEIGHT [Kg]
1	D-D1	1x2	150x150	105	114	489	35	25
2	D-D1	1x2	300x150	105	114	489	35	25
3	D-D1	1x2	600x150	105	114	489	35	25
4	D-D1	1½x2	900x300	105	140	557	47	40
5	D-D1	1½x2	1500x300	105	140	557	47	40
6	D-D1	1½x3	2500x300	140	178	647	65	61
7	E	1x2	150x150	105	114	489	35	25
8	E	1x2	300x150	105	114	489	35	25
9	E	1x2	600x150	105	114	489	35	25
10	E	1½x2	900x300	105	140	557	47	40
11	E	1½x2	1500x300	105	140	557	47	40
12	E	1½x3	2500x300	140	178	647	65	61
13	F	1½x2	150x150	124	121	508	40	27
14	F	1½x2	300x150	124	121	508	40	28
15	F	1½x2	300x150	124	121	508	40	29
16	F	1½x2	600x150	124	121	508	40	29
17	F	1½x3	900x300	124	165	576	49	44
18	F	1½x3	1500x300	124	165	576	49	44
19	F	1½x3	2500x300	140	178	647	65	61
20	G	1½x3	150x150	124	121	508	40	30
21	G	1½x3	300x150	124	121	508	40	30
22	G	1½x3	300x150	124	152	576	40	38
23	G	1½x3	600x150	124	152	576	40	38
24	G	1½x3	900x300	124	165	576	49	44
25	G	2x3	1500x300	156	171	662	70	66
26	G	2x3	2500x300	156	171	662	70	66
27	H	1½x3	150x150	130	124	582	40	38
28	H	1½x3	300x150	130	124	582	40	38
29	H	2x3	300x150	130	124	582	40	38
30	H	2x3	600x150	154	162	662	56	55
31	H	2x3	900x150	154	162	662	56	55
32	H	2x3	1500x300	154	162	662	56	55

ITEM	ORIFICE	INLET X OUTLET DIMENSION [inch]	INLET X OUTLET RATING CLASS	A [mm]	B [mm]	H [mm]	S [mm]	WEIGHT [Kg]
33	J	2x3	150x150	137	124	589	42	41
34	J	2x3	300x150	137	124	589	42	41
35	J	3x4	300x150	184	181	747	56	83
36	J	3x4	600x150	184	181	747	56	83
37	J	3x4	900x150	184	181	747	56	83
38	J	3x4	1500x300	184	181	747	65	88
39	K	3x4	150x150	156	162	717	48	73
40	K	3x4	300x150	156	162	717	48	73
41	K	3x4	600x150	184	181	747	56	83
42	K	3x6	900x150	197	216	942	65	143
43	K	3x6	1500x300	197	216	942	65	143
44	L	3x4	150x150	156	165	717	48	73
45	L	3x4	300x150	156	165	717	48	74
46	L	4x6	300x150	179	181	920	54	132
47	L	4x6	600x150	178	203	1017	60	182
48	L	4x6	900x150	197	222	1050	75	223
49	L	4x6	1500x150	197	222	1050	75	223
50	M	4x6	150x150	178	184	920	54	132
51	M	4x6	300x150	178	184	920	54	132
52	M	4x6	600x150	178	203	1017	60	185
53	M	4x6	900x150	197	222	1050	75	223
54	N	4x6	150x150	197	210	939	54	145
55	N	4x6	300x150	197	210	939	54	146
56	N	4x6	600x150	197	222	1050	60	223
57	N	4x6	900x150	197	222	1050	75	223
58	P	4x6	150x150	181	229	923	46	138
59	P	4x6	300x150	181	229	923	54	143
60	P	4x6	300x150	225	254	1067	54	200
61	P	4x6	600x150	225	254	1067	65	205
62	P	4x6	900x150	225	254	1067	65	206
63	Q	6x8	150x150	240	241	1112	57	242
64	Q	6x8	300x150	240	241	1112	57	248
65	Q	6x8	600x150	240	241	1112	68	253
66	R	6x8	150x150	240	241	1112	57	242
67	R	6x8	300x150	240	241	1112	57	248
68	R	6x10	300x150	240	267	1112	68	264
69	R	6x10	600x150	240	267	1147	68	286
70	T	8x10	150x150	276	279	1292	62	393
71	T	8x10	300x150	276	279	1292	62	393
72	T	8x10	300x150	276	279	1417	62	407

Remark:

- AST S.p.A. reserves the right to update the a.m. information.
- Valves dimensions comply with API-526 standard in terms of face-to-face dimensions.
- H dimension can be greater in case of elongated bonnet for high set pressures.



Pressure limits

ITEM	ORIFICE	ASME B16.34		MAX INLET PRESSURE @ ROOM TEMPERATURE			
		INLET SIZE	OUTLET SIZE	CAS / TAS	SS	I 718	I X-750
		INCH	INCH	BARG	BARG	BARG	BARG
1	D- D1	1x2	150x150	19,7	19	19	19,7
2	D- D1	1x2	300x150	51	49,6	49,6	51
3	D- D1	1x2	600x150	102	99,3	99,3	102
4	D- D1	112x2	900x300	153	148,9	148,9	153
5	D- D1	112x2	1500x300	255,4	248,2	248,2	255,4
6	D- D1	112x3	2500x300	413,7	413,7	413,7	413,7
7	E	1x2	150x150	19,7	19	19	19,7
8	E	1x2	300x150	51	49,6	49,6	51
9	E	1x2	600x150	102	99,3	99,3	102
10	E	112x2	900x300	153	148,9	148,9	153
11	E	112x2	1500x300	255,4	248,2	248,2	255,4
12	E	112x3	2500x300	413,7	413,7	413,7	413,7
13	F	112x2	150x150	19,7	19	19	19,7
14	F	112x2	300x150	19,7	19	19	19,7
15	F	112x2	300x150	51	49,6	49,6	51
16	F	112x2	600x150	102	99,3	99,3	102
17	F	112x3	900x300	153	148,9	148,9	153
18	F	112x3	1500x300	255,4	248,2	248,2	255,4
19	F	112x3	2500x300	344,7	344,7	320,1	344,7
20	G	112x3	150x150	19,7	19	19	19,7
21	G	112x3	300x150	19,7	19	19	19,7
22	G	112x3	300x150	51	49,6	49,6	51
23	G	112x3	600x150	102	99,3	99,3	102
24	G	112x3	900x300	153	148,9	148,9	153
25	G	2X3	1500x300	255,4	248,21	216,7	255,4
26	G	2X3	2500X300	255,4	248,2	216,7	255,4
27	H	112x3	150x150	19,7	19	19	19,7
28	H	112x3	300x150	19,7	19	19	19,7
29	H	2x3	300x150	51	49,6	49,6	51
30	H	2x3	600x150	102	99,3	99,3	102
31	H	2x3	900x150	153	148,9	142	153
32	H	2x3	1500x300	189,6	189,6	142	189,6
33	J	2x3	150x150	19,7	19	19	19,7
34	J	2x3	300x150	19,7	19	19	19,7
35	J	3x4	300x150	51	49,6	49,6	51
36	J	3x4	600x150	102	99,3	99,3	102
37	J	3x4	900x150	153	148,9	102,6	153
38	J	3x4	1500x300	186,1	189,6	102,6	186,1

ITEM	ORIFICE	ASME B16.34		MAX INLET PRESSURE @ ROOM TEMPERATURE			
		INLET SIZE	OUTLET SIZE	CAS / TAS	SS	I 718	I X-750
		INCH	INCH	BARG	BARG	BARG	BARG
39	K	3x4	150x150	19,7	19	19	19,7
40	K	3x4	300x150	51	49,6	49,6	51
41	K	3x4	600x150	102	99,3	54,4	102
42	K	3x6	900x150	153,1	153,1	103,2	153,1
43	K	3x6	1500x300	153,1	153,1	103,2	153,1
44	L	3x4	150x150	19,7	19	19	19,7
45	L	3x4	300x150	19,7	19	19	19,7
46	L	4x6	300x150	51	49,6	49,6	51
47	L	4x6	600x150	69	69	69	69
48	L	4x6	900x150	103,4	103,4	103,4	103,4
49	L	4x6	1500x150	103,4	103,4	103,4	103,4
50	M	4x6	150x150	19,7	19	19	19,7
51	M	4x6	300x150	51	49,6	49,6	51
52	M	4x6	600x150	75,8	75,8	75,8	75,8
53	M	4x6	900x150	75,8	75,8	75,8	75,8
54	N	4x6	150x150	19,7	19	19	19,7
55	N	4x6	300x150	51	49,6	31,2	51
56	N	4x6	600x150	69	69	69	69
57	N	4x6	900x150	69	69	69	69
58	P	4x6	150x150	19,7	19	19	19,7
59	P	4x6	300x150	19,7	19	19	19,7
60	P	4x6	300x150	36,2	36,2	36,2	36,2
61	P	4x6	600x150	69	69	49,5	69
62	P	4x6	900x150	69	NA	49,5	69
63	Q	6x8	150x150	11,4	11,4	11,4	11,4
64	Q	6x8	300x150	20,7	20,7	20,7	20,7
65	Q	6x8	600x150	41,4	41,4	31,2	41,4
66	R	6x8	150x150	6,89	6,89	6,89	6,89
67	R	6x8	300x150	6,9	6,9	6,9	6,9
68	R	6x10	300x150	15,86	15,86	15,86	15,86
69	R	6x10	600x150	20,68	20,68	17	20,7
70	T	8x10	150x150	4,48	4,48	4,5	4,5
71	T	8x10	300x150	4,48	4,48	4,5	4,5
72	T	8x10	300x150	20,68	8,27	14,68	20,7

General remarks:

- Reported limits are the maximum allowable set pressure related to Material Class CSNT with spring in Alloy Steel, Tungsten Alloy Steel, Stainless Steel and Inconel Alloy (grade 718 and X-750).

- Set pressure exceeding these values are available after evaluation by AST technical department.

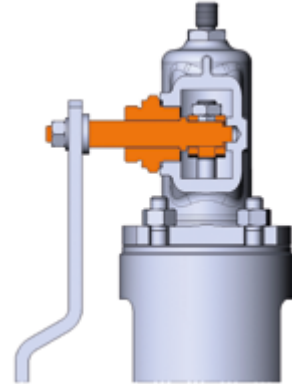
- CAS: Spring in Chrome Alloy Steel / TAS: Spring in Tungsten Alloy Steel.

- SS: Spring in Stainless Steel / I 718: Spring in Inconel 718 / I X-750: Spring in Inconel X-750.

Accessories

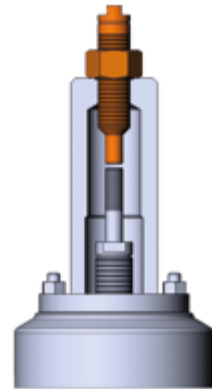
PLAIN LEVER

Plain lifting lever is recommended on open bonnet spring loaded pressure relief valves or for non-lethal and non-polluting services.



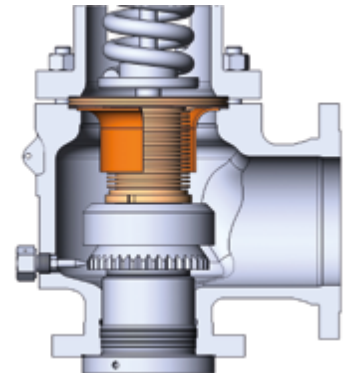
TEST GAG

Test gag allows to prevent spring loaded pressure relief valve opening by blocking stem lift.



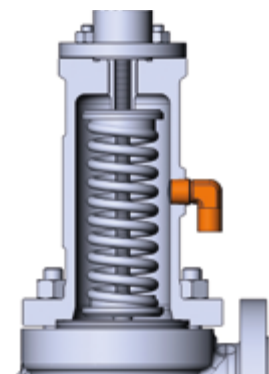
BELLOWS PROTECTOR

This device protects bellows from pressure peaks in case of high pressure applications, increasing service life.



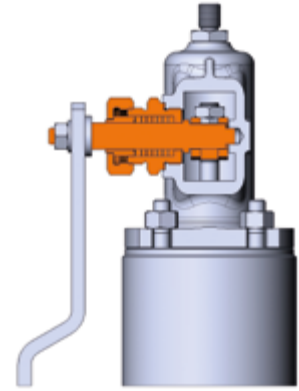
90° ELBOWS BUG SCREEN

In non-hazardous service, an elbow with bug screen could be installed on the bonnet vent of balanced spring loaded pressure relief valve to prevent insects and dirt from entering the bonnet.

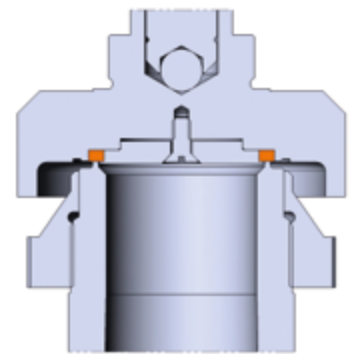


PACKED LEVER

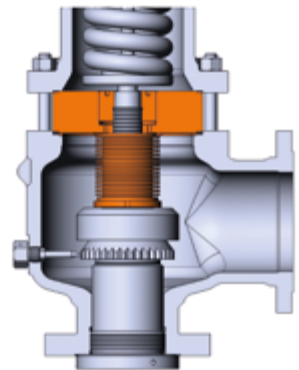
Packed lifting lever is usually provided on closed bonnet spring-loaded valves and for services where tightness on the discharge side is required.

**SOFT SEAT**

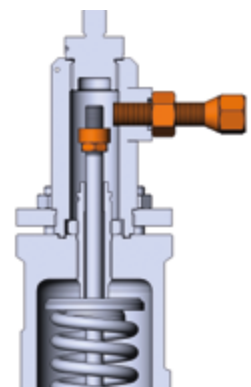
This solution may be considered when superior seat tightness class is required.

**BALANCING PISTON**

This device is provided upon demand on balanced valves to grant balancing action also in case of bellows rupture.

**OPENING INDICATOR**

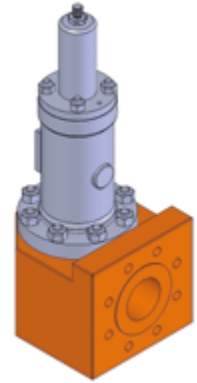
Opening indicator is used to monitor the spring loaded pressure relief valve opening.



Special execution

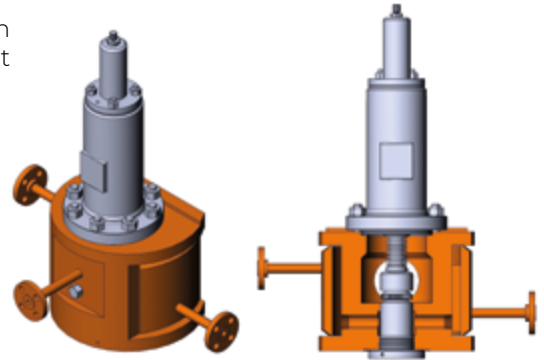
BLOCK BODY

Block body design for special application such as API 6A 10.000 psi and 15.000 pressure classes.



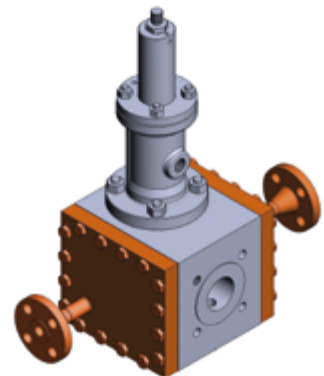
TEST G SEMI-JACKET & FLUSHING NOZZLES AG

Pressure relief valves for critical fluids with flushing, heating nozzles and semi-jacket design.



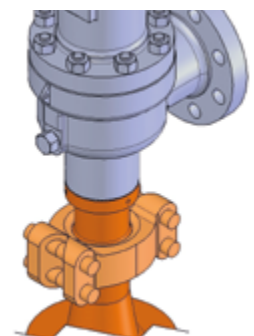
FULL-JACKET

Heating jacketed valves can be provided in case process medium shall be kept in temperature. Design can be customized upon request with additional flushing/heating/washing nozzles.



CLAMP CONNECTION

Clamp Connection design customized on specific project requirements.



Nameplates

Nameplate is the main source of information for a pressure relief valves.

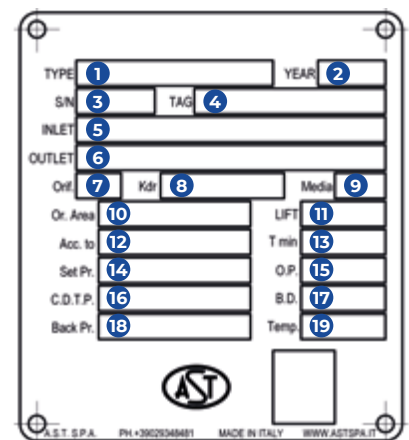
It reports valve serial number, which allows customer to trace all significant information on spring loaded

pressure relief valves and relevant spare parts. The serial number is also available punched on outlet valve flange.

The reported below nameplates are illustrative only and they could differ depending on the required certifications.

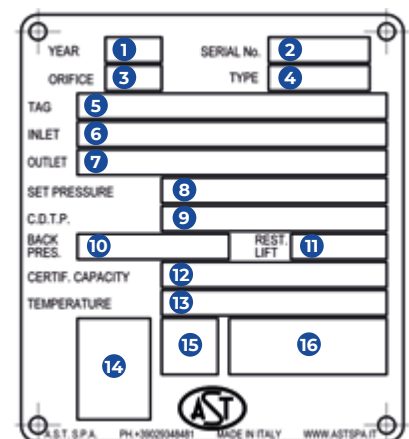
STANDARD NAMEPLATE

- 1 PRV series name
- 2 Year of production
- 3 Serial number
- 4 TAG number
- 5 Inlet size and pressure class
- 6 Outlet size and pressure class
- 7 Letter designation for orifice
- 8 Coefficient of discharge
- 9 Fluid state G=gas L=liquido S=steam
- 10 Orifice area
- 11 Rated lift
- 12 Reference standard
- 13 Minimum design temperature
- 14 Set pressure
- 15 Certified overpressure
- 16 Cold Differential Test Pressure
- 17 Certified blowdown
- 18 Back pressure
- 19 Maximum design temperature



UV STAMP NAMEPLATE

- 1 Year of production
- 2 Serial number
- 3 Orifice
- 4 PRV series name
- 5 TAG number
- 6 Inlet size and pressure class
- 7 Outlet size and pressure class
- 8 Set pressure
- 9 Cold Differential Test Pressure
- 10 Back pressure
- 11 Lift (for restricted lift only)
- 12 Certified capacity
- 13 Temperature range
- 14 NB certification mark
- 15 ASME and UV certification mark
- 16 Reference fluid for cert. capacity

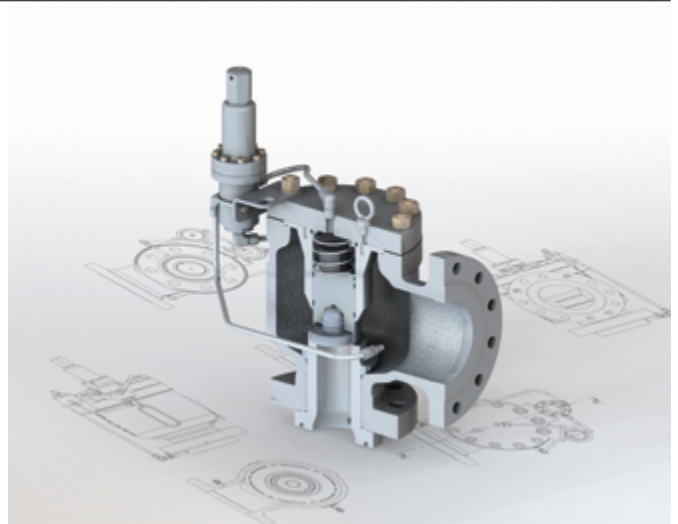


AST Production Range

SVP-7200

Full nozzle pilot operated pressure relief valves for gas, liquid and mixed phase service with the following features:

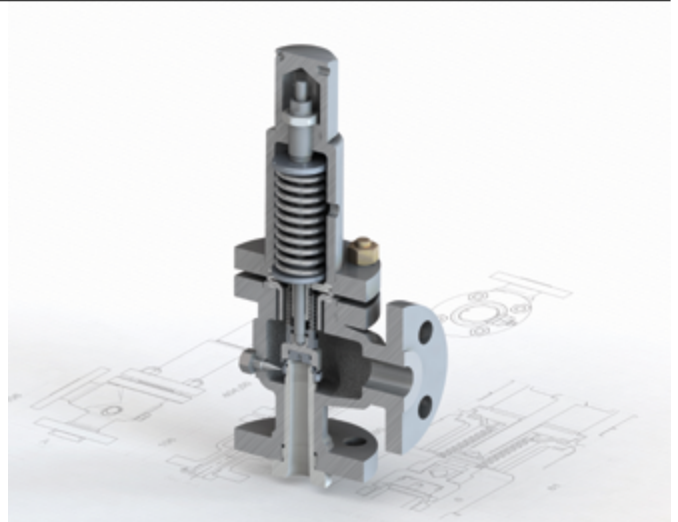
- Non-flowing pilot
- Modulating or pop action.
- API-526 orifice (full bore orifices available on demand)
- Size: from 1"x2" to 8"x12".
- Set pressure up to 700 barg. Special execution **up to API 6A 15000 PSI.**
- Special design: dual outlet, cryogenic and high temperature.



SU-SUL 700

Non-API 526 valves with flanged connection, integral flange, suitable for the discharge of gas, liquid and mixed phase.

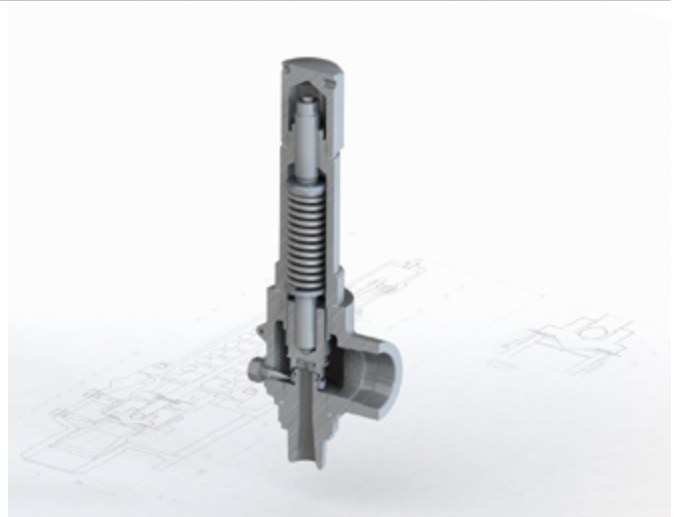
- Size: from ½x½ to 1½x1½.
- Rating: up to ASME B16.5 class 2500.
- Orifice: D, E and F orifices in acc. with API 526. Extra smaller orifices B and C are suitable for specific service.
- Special executions are available.



SMFN-SMF-SHL-7000

Non-API 526 valves with threaded connection suitable for the discharge of gas, liquid and mixed phase.

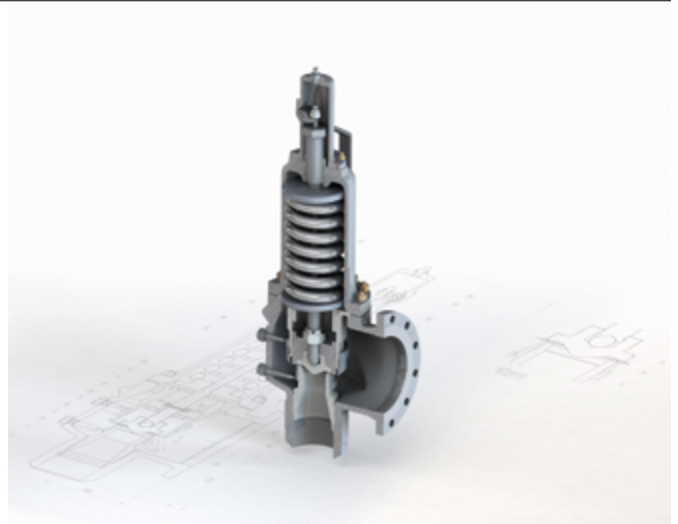
- Size: from ½x½ to 1½x1½.
- Rating: up to ASME B16.5 class 2500.
- Orifice: D, E and F orifices in acc. with API 526. Extra smaller orifices B and C are suitable for specific service.
- Special executions are available.



SMS-7100

Spring loaded pressure relief valves designed for steam service with overpressure and blowdown according to ASME I requirements.

- Size: from 1"x2" to 8"x12"
- Rating: up to ASME B16.5 class 2500.
- Orifice: from "D" to "R1".
- Special design until 700°C available.

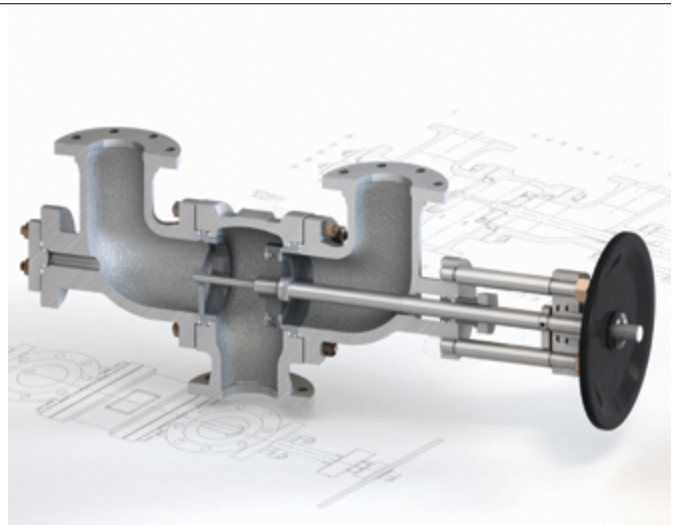


RV-6000

Changeover valves (three way devices) for flow selection in a pipeline typically used to connect two pressure relief valves to a single pressurized system allowing to have always one pressure relief valve in operation and one spare.

Available with interlocking and designed for the most severe services and environmental conditions.

- Size: from NPS ¾ to NPS 16
- Rating: up to ASME 2500




OTHER PRODUCTS


- **Controlled safety pressure relief systems (CSPRS)**
- **Pneumatic actuated pressure relieving ball valve** for preventing excessive system pressure accumulation.
- **Control Valves** with electric, hydraulic or pneumatic spring-diaphragm actuators.
- **Special design Control Valve for low-noise**, anti-cavitation and velocity-controlling trims for heavy duties applications.
- **Steam Desuperheaters.**
- **Steam Conditioning PRDS.**
- **Control Valves for Urea and Melamine applications.**


How to reach us



AST S.p.A.

 Via R. Merendi, 40
 I-20007 Cornaredo (MI)
 Italy

 T +39 02 934848.1

 info: info@astspa.it
 sales: sales@astspa.it



astspa.it

follow us 

WE KNOW
WE LEARN
WE DO

AST S.p.A.

CAT_SMA_2023_00

A technical drawing of a mechanical component, possibly a bracket or a part of a machine, rendered in a light blue line-art style. The drawing shows a complex shape with a circular hole on the left side, a rectangular section at the top, and a vertical section on the right. The drawing is positioned on the right side of the page, partially overlapping the dark blue background.