



Full lift safety valve with spring loading.(AIT)

Mod. 385 | ASME | SI



EP



AP



ES

Operation

The valve works as an automatic pressure releasing regulator activated by the static pressure existing at the entrance to the valve and is characterized by its ability to open instantly and totally.

Regulation

- PED 2014/68/EU
- UNE-EN ISO 4126-1
- UNE-EN 12516-2
- ASME B1.20.1
- ASME VIII Div.1/API 520

Specifications

Size

- 1/4"x1" to 1 1/4"x2"

Temperature range

- -60 °C to +260 °C

Applications

- Gas, steam and liquid

Materials

- Cast steel
- Stainless steel

Maximum pressure

- Up to 70 bar

Certification



N°. PIECE	PIECE	MATERIAL	
		CAST STEEL	STAINLESS STEEL
1	Body	Cast steel (EN-1.0619) (SA-216 Gr. WCB)	Stainless steel (EN-1.4408) (SA-351 Gr. CF8M)
2	Bell	Cast steel (EN-1.0619) (SA-216 Gr. WCB)	Stainless steel (EN-1.4408) (SA-351 Gr. CF8M)
3	Hood	Cast steel (EN-1.1191) (AISI 1045) (1)	Stainless steel (EN-1.4305) (AISI 303) (2)
4	Plug	Stainless steel (EN-1.4401) (AISI 316)	Stainless steel (EN-1.4401) (AISI 316)
5	Elevador	Stainless steel (EN-1.4401) (AISI 316)	Stainless steel (EN-1.4401) (AISI 316)
6	Seating	Stainless steel (EN-1.4401) (SA-479 Gr. 316)	Stainless steel (EN-1.4401) (SA-479 Gr. 316)
7	Purge cap	Stainless steel (EN-1.4401) (SA-479 Gr. 316)	Stainless steel (EN-1.4401) (SA-479 Gr. 316)
8	Guide	Stainless steel (EN-1.4401) (SA-479 Gr. 316)	Stainless steel (EN-1.4401) (SA-479 Gr. 316)
9	Rod	Stainless steel (EN-1.4401) (SA-479 Gr. 316)	Stainless steel (EN-1.4401) (SA-479 Gr. 316)
10	Hollow screw	Stainless steel (EN-1.4305) (AISI 303)	Stainless steel (EN-1.4305) (AISI 303)
11	Hollow screw nut	Stainless steel (EN-1.4305) (AISI 303)	Stainless steel (EN-1.4305) (AISI 303)
12	Piston (EP)	Stainless steel (EN-1.4305) (AISI 303)	Stainless steel (EN-1.4305) (AISI 303)
13	Gudgeon	Stainless steel (EN-1.4310) (AISI 301)	Stainless steel (EN-1.4310) (AISI 301)
14	Spring	Stainless steel (EN-1.4310) (AISI 301)	Stainless steel (EN-1.4310) (AISI 301)
15	Piston spring (EP)	Stainless steel (EN-1.4310) (AISI 301)	Stainless steel (EN-1.4310) (AISI 301)
16	Spring press	Stainless steel (EN-1.4301) (AISI 304)	Stainless steel (EN-1.4301) (AISI 304)
17	Separator	Stainless steel (EN-1.4301) (AISI 304)	Stainless steel (EN-1.4301) (AISI 304)
18	Lever	Stainless steel (EN-1.4301) (AISI 304)	Stainless steel (EN-1.4301) (AISI 304)
19	Ring (3)	Stainless steel (EN-1.4301) (AISI 304)	Stainless steel (EN-1.4301) (AISI 304)
20	Coupling	PTFE (Teflon)	PTFE (Teflon)
21	Sealing disk	PTFE (Teflon) (4)	PTFE (Teflon) (4)
22	O-ring (EP)	Fluorelastomer (Viton)	Fluorelastomer (Viton)
23	Sealing wire	Sealing wire	Sealing wire
24	Seal	Plastic	Plastic
R1 x R2		1/4" x 1" to 1 1/4" x 2"	
OPERATING CONDITIONS	PS air/liquid [barg]	70	
	PS saturated steam [barg]	45	
	MAX. TEMP. [°F]	260	
	MIN. TEMP. [°F]	-10	-60

(1) From 1"x1 1/2" in Cast steel (EN-1.0619). Version EP in Cast steel (EN-1.1191)

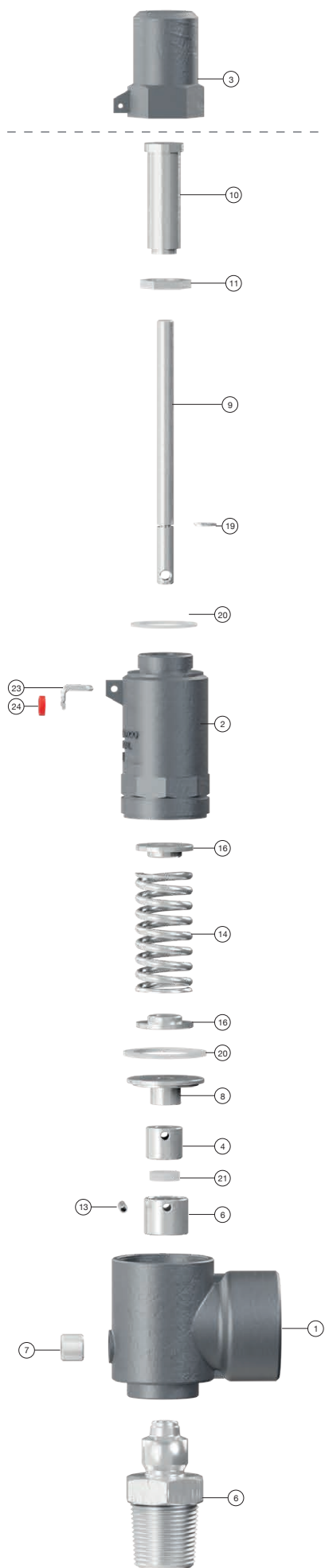
(2) From 1"x1 1/2" in Stainless steel (EN-1.4408). Version EP in Stainless steel (EN-1.4305)

(3) Stainless steel (EN-1.4568) for 1/2"x1" Stainless steel (EN-1.4310) for 3/4"x1 1/4"

(4) Sealing disk in Perfluorelastomer (FFKM) for 1/4" x 1", 3/8" x 1", 1/2" x 1" and 3/4" x 1 1/4" dimensions up to 35 bar.



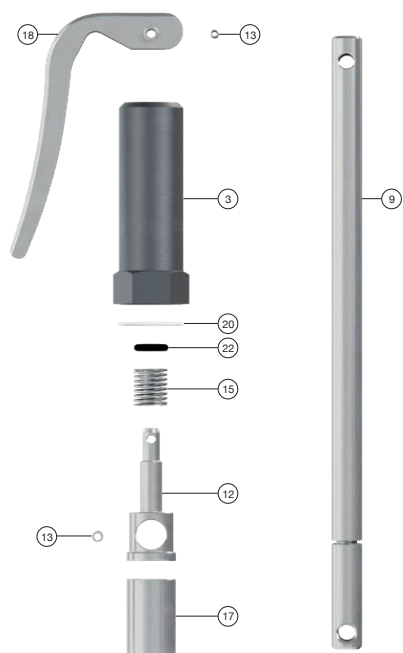
Isometric view ES



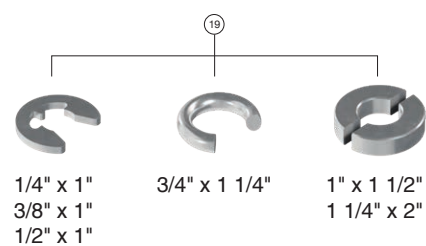
Exploded view ES



Exploded view AP

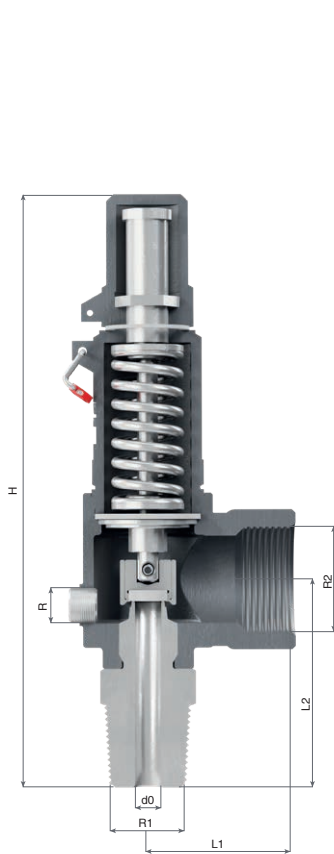


Exploded view EP

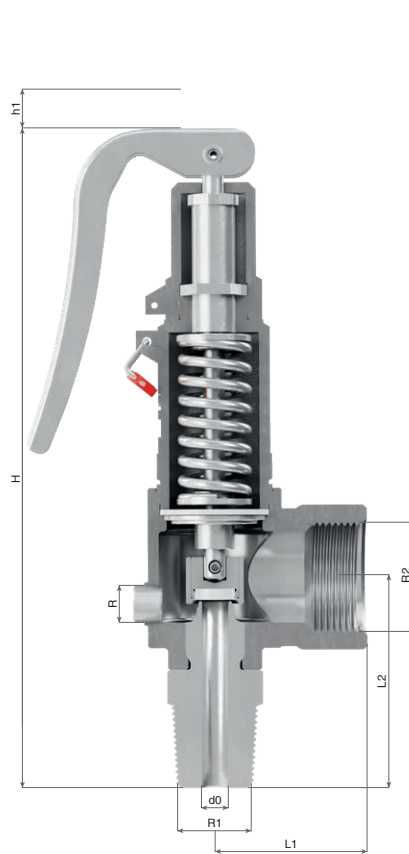


Rings

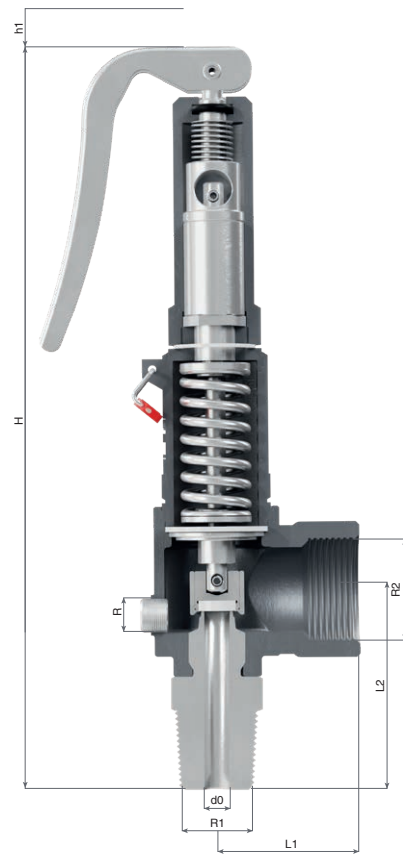
DIMENSIONS																			
R1 x R2		1/4" x 1"			3/8" x 1"			1/2" x 1"			3/4" x 1 1/4"			1" x 1 1/2"			1 1/4" x 2"		
MODEL		ES	AP	EP	ES	AP	EP	ES	AP	EP	ES	AP	EP	ES	AP	EP	ES	AP	EP
d0 [mm]		7,5			7,5			7,5			7,5			10			14		
A0 [mm2]		44,2			44,2			44,2			44,2			78,5			153,9		
H [mm]		155	168	205	155	168	205	158	171	208	212	225	259	259	271	303	339	355	389
h1 [mm]		34			34			34			41			48			61		
L1 [mm]		42			42			42			48			54			68		
L2 [mm]		44			44			47			59			67			78		
R		1/8"																	
		Female threaded Gas Whitworth cylindrical UNE-EN ISO 228-1																	
WEIGHT [kg]	CAST STEEL	0,67	0,71	0,80	0,67	0,71	0,81	0,69	0,73	0,83	0,98	1,02	1,19	2,38	2,46	2,71	4,66	4,78	5,13
	STAINLESS STEEL																		
CODE	CAST STEEL 2002-385.	00442	00441	00443	03842	03841	03843	00242	00241	00243	03442	03441	03443	01042	01041	01043	01442	01441	01443
	STAINLESS STEEL 2002-385.	00422	00421	00423	03822	03821	03823	00222	00221	00223	03422	03421	03423	01022	01021	01023	01422	01421	01423



ES



AP



EP

PRESSURES AND SPRING REGULATION RANGES						
R1 x R2			1/4" x 1" 3/8" x 1" 1/2" x 1"	3/4" x 1 1/4"	1" x 1 1/2"	1 1/4" x 2"
SET PRESSURE [barg]	MAXIMUM (LIQUIDS AND GASES)		70			
	MAXIMUM (SATURATED STEAM)		45			
	MINIMUM	STEAM AND GASES	25,1			
		LIQUIDS				
SPRING REGULATION RANGES [barg]	25,1 - 40,0	CODE	56127	56129	56132	56135
	36,7 - 60,0	CODE	56128	56130	56133	56136
	56,0 - 70,0	CODE		56131	56134	56137
DISCHARGE COEFFICIENTS						
R1 x R2			1/4" x 1" 3/8" x 1" 1/2" x 1"	3/4" x 1 1/4"	1" x 1 1/2"	1 1/4" x 2"
d0 [mm]			7,5	7,5	10	14
h [mm]			2,2	2,2	3	4
h/d0 [mm]			0,29	0,29	0,30	0,29
STEAM AND GASES [Kdr]			0,35	0,62	0,62	0,62
LIQUIDS [Kdr]			0,27	0,54	0,54	0,54



Fluid dynamics

OPENING, OVERPRESSURE AND RESET PRESSURES			
FLUID	OPENING PRESSURE	OVERPRESSURE	RESET PRESSURE
SATURATED STEAM AND GASES	The higher of ± 3% or ± 0,1% bar	The higher of ± 10% o 0,1% bar	The higher of ± 15% o 0,3% bar
LIQUIDS	The higher of ± 3% o ± 0,1% bar	The higher of ± 10% o 0,1% bar	The higher of ± 20% o 0,6% bar

RECOMMENDED RANGES OF APPLICATION				
MODEL		AP	ES	EP
FLUID	SATURATED STEAM	* (1)		*
	GAS	* (1)	*	*
	LIQUID	*	*	*

(1) When working with expensive or harmful fluids, use only ES or EP models.

DISCHARGE CAPACITY												
R1 x R2	1/4" x 1" 3/8" x 1" 1/2" x 1"		3/4" x 1 1/4"				1" x 1 1/2"			1 1/4" x 2"		
d0 [mm]	7,5						10			14		
A0= $\frac{\pi \cdot d_0^2}{4}$ [mm2]	44						79			154		
p [barg]	I	II	III	I	II	III	I	II	III	I	II	III
25,1	225	317	3194	398	562	6389	708	1000	11357	1388	1959	22260
26,0	233	328	3251	413	582	6502	734	1034	11559	1439	2027	22656
27,0	242	341	3313	428	603	6626	761	1073	11779	1492	2103	23088
28,0	250	353	3374	443	625	6747	788	1111	11996	1545	2178	23511
29,0	259	365	3433	458	647	6867	815	1150	12208	1598	2253	23927
30,0	267	377	3492	474	668	6984	842	1188	12417	1651	2329	24336
31,0	276	389	3550	489	690	7100	869	1226	12622	1704	2404	24739
32,0	285	402	3607	504	712	7213	896	1265	12824	1757	2479	25135
33,0	293	414	3663	520	733	7325	924	1303	13023	1810	2555	25524
34,0	302	426	3718	535	755	7435	951	1342	13218	1864	2630	25908
35,0	311	438	3772	550	776	7544	978	1380	13411	1917	2705	26286
36,0	319	450	3825	566	798	7651	1005	1419	13602	1971	2781	26659
37,0	328	463	3878	581	820	7756	1033	1457	13789	2024	2856	27027
38,0	337	475	3930	596	841	7861	1060	1496	13974	2078	2931	27390
39,0	345	487	3982	612	863	7963	1087	1534	14157	2131	3007	27748
40,0	354	499	4032	627	884	8065	1115	1572	14337	2185	3082	28101
41,0	363	512	4082	643	906	8165	1142	1611	14516	2239	3157	28450
42,0	371	524	4132	658	928	8264	1170	1649	14691	2293	3233	28795
43,0	380	536	4181	674	949	8362	1197	1688	14865	2347	3308	29136
44,0	389	548	4229	689	971	8458	1225	1726	15037	2401	3383	29473
45,0	398	560	4277	705	993	8554	1253	1765	15207	2455	3459	29806
46,0		573	4324		1014	8649		1803	15375		3534	30135
47,0		585	4371		1036	8742		1841	15541		3609	30461
48,0		597	4417		1057	8835		1880	15706		3685	30783
49,0		609	4463		1079	8926		1918	15869		3760	31102
50,0		621	4508		1101	9017		1957	16030		3835	31418
51,0		634	4553		1122	9106		1995	16189		3911	31731
52,0		646	4598		1144	9195		2034	16347		3986	32040
53,0		658	4642		1166	9283		2072	16504		4061	32347
54,0		670	4685		1187	9370		2111	16659		4137	32651
55,0		682	4728		1209	9457		2149	16812		4212	32952
56,0		695	4771		1230	9542		2187	16964		4287	33250
57,0		707	4814		1252	9627		2226	17115		4363	33545
58,0		719	4856		1274	9711		2264	17265		4438	33838
59,0		731	4897		1295	9795		2303	17413		4513	34129
60,0		743	4939		1317	9877		2341	17560		4589	34417
61,0		756	4980		1339	9959		2380	17705		4664	34703
62,0		768	5020		1360	10041		2418	17850		4739	34986
63,0		780	5061		1382	10121		2456	17993		4815	35267
64,0		792	5101		1403	10201		2495	18136		4890	35546
65,0		804	5140		1425	10281		2533	18277		4965	35822
66,0		817	5180		1447	10359		2572	18417		5041	36097
67,0		829	5219		1468	10438		2610	18556		5116	36369
68,0		841	5258		1490	10515		2649	18694		5191	36640
69,0		853	5296		1511	10592		2687	18831		5267	36908
70,0		865	5334		1533	10669		2726	18967		5342	37175

I - Saturated steam [kg/h].

II - Air at 0°C and 1,013 bar in [Nm³/h].

III - Water at 20°C [l/h].

ATTENTION: Flow rates according to ASME VIII Div.1/API 520 with 10% overpressure.