



Normal safety valve with spring loading. (AN)

Mod. 295 - 296 | EN



EP

AP

ES

EP

AP

ES

Model 295

Model 296

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, at the first proportional to the pressure increase, and after instantly and totally.

Regulation

- UNE-EN ISO 4126-1
- UNE-EN ISO 4126-7
- UNE-EN 12516-2
- UNE-EN 12516-4
- UNE-EN 1092-1
- UNE-EN 1092-2
- UNE-EN 12266-1

Specifications

Size

- 1/2" x 1" to 1 1/4" x 2" (Mod. 295)
- DN15 x 25 to DN32 x 50 (Mod. 296)

Temperature range

- -60 °C to +250 °C

Applications

- Gas, steam and liquids

Materials

- Bronze
- Carbon steel
- Stainless steel

Maximum pressure

- Up to 25 bar

Certification



N°. PIECE	PIECE	MATERIAL		
		BRONZE	CARBON STEEL	STAINLESS STEEL
1	Body	Bronze (EN-CC491K)	Cast steel (EN-1.0619)	Stainless steel (EN-1.4408)
2	Bell	Bronze (EN-CC491K)	Cast steel (EN-1.0619)	Stainless steel (EN-1.4408)
3	Seating	Stainless steel (EN-1.4301)	Stainless steel (EN-1.4301)	Stainless steel (EN-1.4301)
4	Lever	Brass (EN-CW617N)	Stainless steel (EN-1.4301)	Stainless steel (EN-1.4301)
5	Hood	Brass (EN-CW617N) (1)	Cast steel (EN-1.1191) (2)	Stainless steel (EN-1.4305) (3)
6	Hollow screw	Brass (EN-CW617N)	Stainless steel (EN-1.4305)	Stainless steel (EN-1.4305)
7	Hollow scre nut	Stainless steel (EN-1.4401)	Stainless steel (EN-1.4305)	Stainless steel (EN-1.4305)
8	Rod	Stainless steel (EN-1.4301)	Stainless steel (EN-1.4401)	Stainless steel (EN-1.4401)
9	Ring (5)	Brass (EN-CW617N)	Stainless steel (EN-1.4301)	Stainless steel (EN-1.4301)
10	Lead	Brass (EN-CW617N)	Stainless steel (EN-1.4401)	Stainless steel (EN-1.4401)
11	Plug	Brass (EN-CW617N)	Stainless steel (EN-1.4401)	Stainless steel (EN-1.4401)
12	Deflector	Stainless steel (EN-1.4401)	Stainless steel (EN-1.4401)	Stainless steel (EN-1.4401)
13	Stud	Brass (EN-CW617N)	Stainless steel (EN-1.4401)	Stainless steel (EN-1.4401)
14	Sealing nut	Brass (EN-CW617N)	Stainless steel (EN-1.4401)	Stainless steel (EN-1.4401)
15	Cap	Stainless steel (EN-1.4401)	Stainless steel (EN-1.4401)	Stainless steel (EN-1.4401)
16	Sealing wire	Sealing wire	Hilo precintar	Hilo precintar
17	Safety ring (4)	Stainless steel (EN-1.4310)	Stainless steel (EN-1.4310)	Stainless steel (EN-1.4310)
18	Wire	Plastic	Plastic	Plastic
19	Sealing disk	PTFE (Teflon)	PTFE (Teflon)	PTFE (Teflon)
		Silicone's rubber	Silicone rubber	Silicone rubber
		Fluorelastomer (Viton)	Fluorelastomer (Viton)	Fluorelastomer (Viton)
20	Spring press	Brass (EN-CW617N)	Stainless steel (EN-1.4301)	Stainless steel (EN-1.4301)
21	Spring	Stainless steel (EN-1.4310)	Stainless steel (EN-1.4310)	Stainless steel (EN-1.4310)
22	Clip	Stainless steel (EN-1.4310)	Stainless steel (EN-1.4310)	Stainless steel (EN-1.4310)
23	Joint	PTFE (Teflon)	PTFE (Teflon)	PTFE (Teflon)
24	Washer	PTFE (Teflon)	PTFE (Teflon)	PTFE (Teflon)
25	Spring piston	Stainless steel (EN-1.4310)	Stainless steel (EN-1.4310)	Stainless steel (EN-1.4310)
26	Piston	Brass (EN-CW617)	Stainless steel (EN-1.4305)	Stainless steel (EN-1.4305)
27	Piston base	Brass (EN-CW617)	Stainless steel (EN-1.4305)	Stainless steel (EN-1.4305)
28	Separator	Stainless steel (EN-1.4301)	Stainless steel (EN-1.4301)	Stainless steel (EN-1.4301)
29	O-ring	Fluorelastomer (Viton)	Fluorelastomer (Viton)	Fluorelastomer (Viton)
R1 x R2		1/2" x 1" to 1 1/4" x 2"		
DN1 x DN2		15 x 25 to 32 x 50		
PN		PN-40		
OPERATING CONDITIONS	PS [bar]	25	25	25
	MAX. TEMP. [°C]	225	250	250
	MIN. TEMP. [°C]	-10	-10	-60

(1) From R. 1" x 1 1/2" / DN-25 x 40 in Bronze (EN-CC754S-GM). EP version in Brass (EN - CW617N).

(2) From R. 1" x 1 1/2" / DN-25 x 40 in Carbon Steel (EN-1.0619). EP version in Carbon Steel (EN - 1.1191).

(3) From R. 1" x 1 1/2" / DN-25 x 40 in Stainless Steel (EN-1.4408). EP version in Stainless Steel (EN - 1.4305).

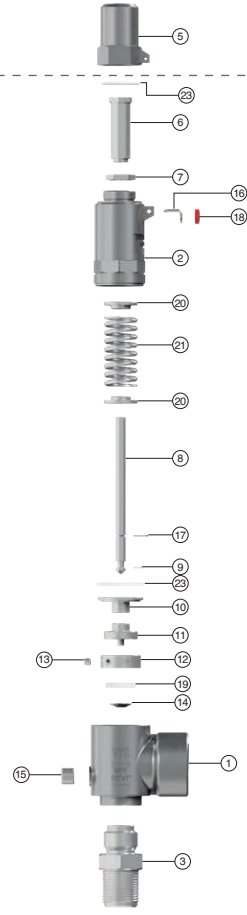
(4) From R. 1" x 1 1/2" / DN-25 x 40.

(5) Stainless Steel (EN-1.4568) for R. 1/2" x 1" / DN-15 x 25. Stainless Steel (EN-1.4310) for R. 3/4" x 1 1/4" / DN-20 x 32.

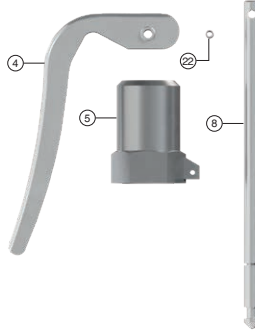
295



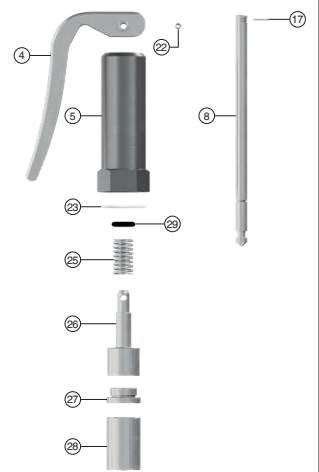
ES Isometric view



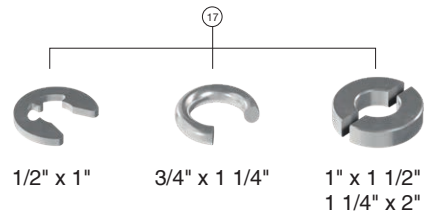
ES Exploded view



AP Exploded view



EP Exploded view

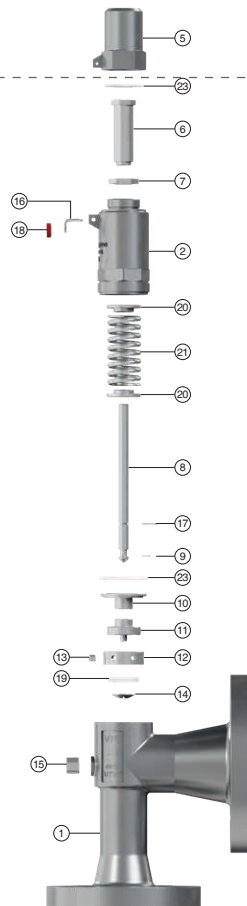


Seals

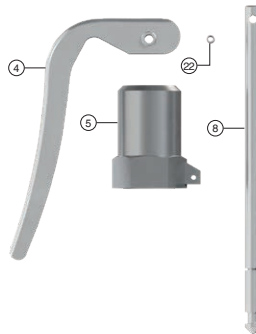
296



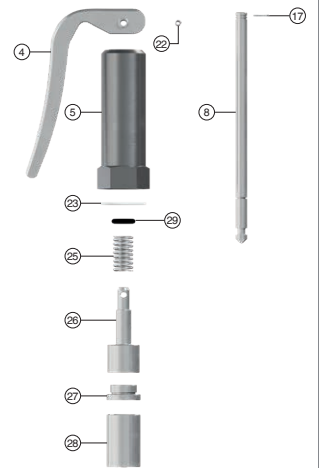
ES Isometric view



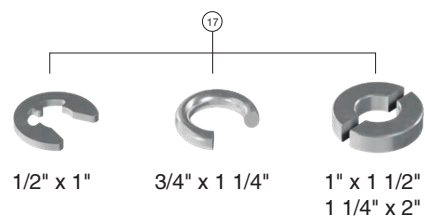
ES Exploded view



AP Exploded view



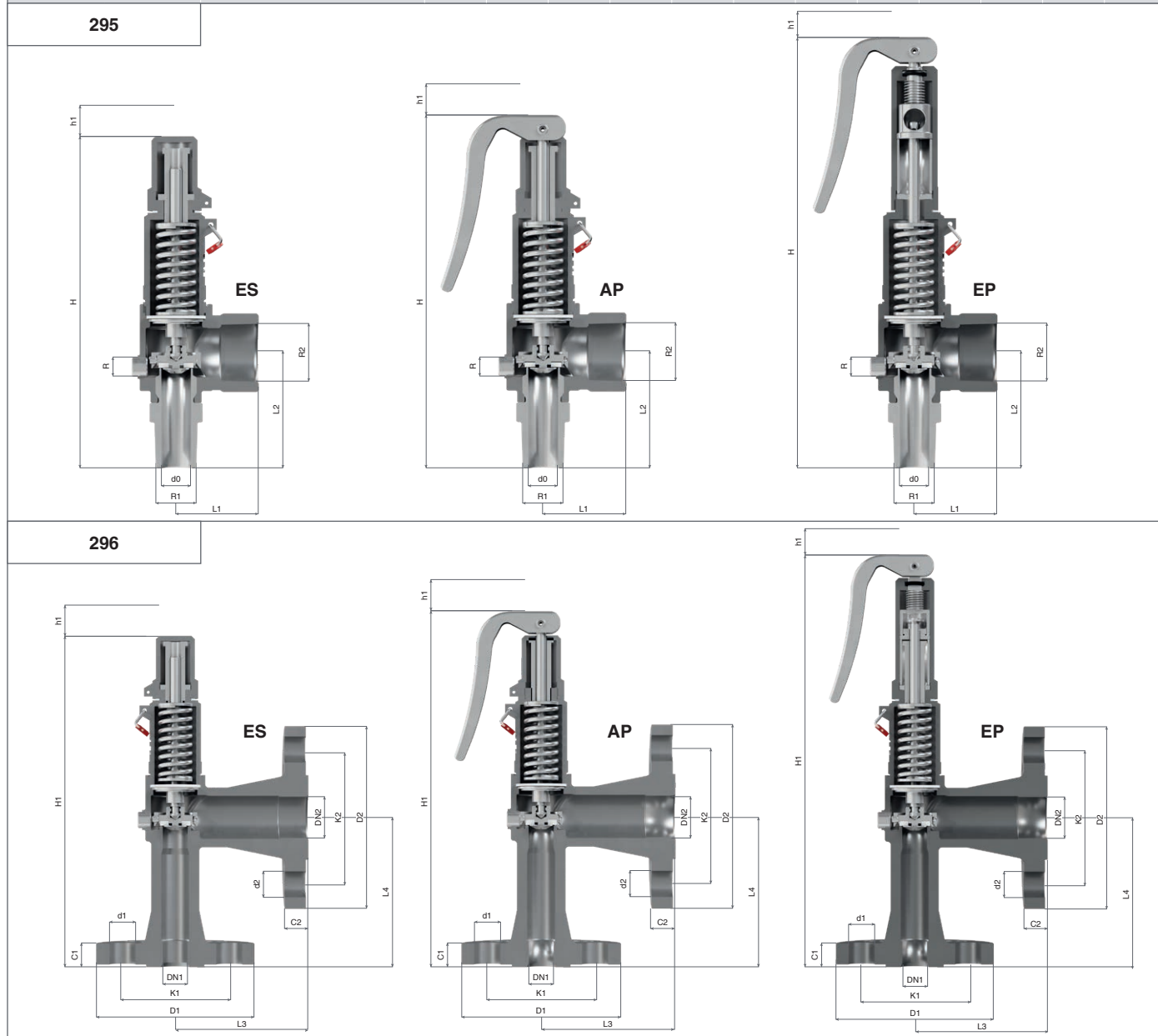
EP Exploded view



Seals

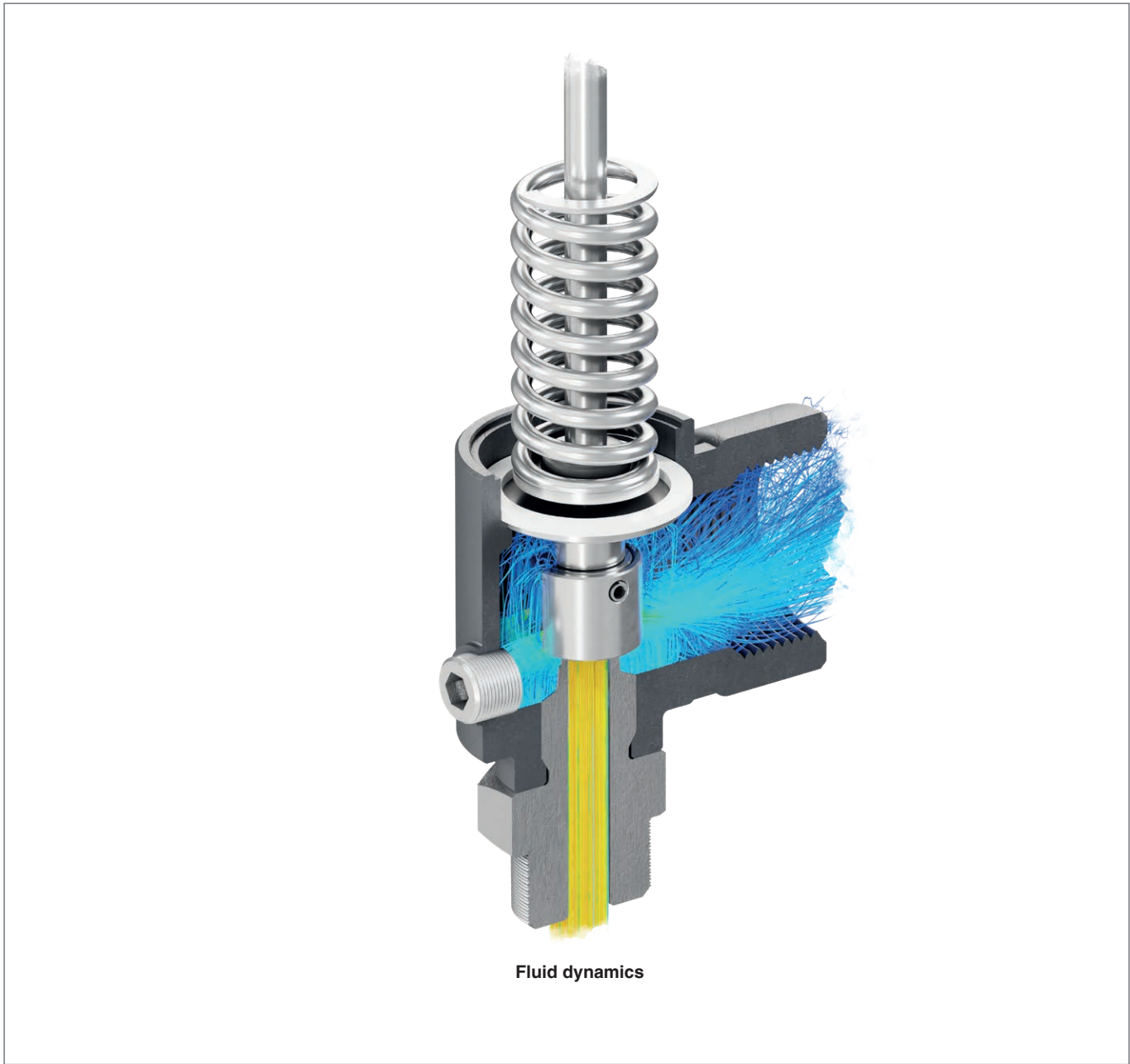
R1 x R2			MODEL 295																																
			1/2" x 1"			3/4" x 1 1/4"			1" x 1 1/2"			1 1/4" x 2"																							
			Whitworth cylindrical Male x Female thread ISO 228/1 (DIN-259)																																
DN1 x DN2 VERSION d0 [mm] A0 [mm2] h1 [mm] (295) H [mm] (296) H1 [mm] (295) L1 [mm] (295) L2 [mm] (296) L1 [mm] (296) L2 [mm]			MODEL 296																																
			15 x 25			20 x 32			25 x 40			32 x 50																							
			ES	AP	EP	ES	AP	EP	ES	AP	EP	ES	AP	EP																					
			15			15			20			28																							
			177			177			314			616																							
			34	48	89	41	56	96	55	74	107	73	93	132																					
			161	150	198	216	204	249	271	255	296	353	335	382																					
			213	202	250	262	250	295	316	300	341	393	376	422																					
			34			41			48			61																							
			39			49			60			70																							
			80			85			95			100																							
			90			95			105			110																							
R			1/8"1/8"1/8"1/8"																																
INLET FLANGE			PN-25/40 EN 1092-1 EN 1092-3			Whitworth cylindrical Female thread UNE-EN ISO 228-1																													
						D1 [mm]			95			105			115			140																	
						K1 [mm]			65			75			85			100																	
						d1 [mm]			14			14			14			18																	
						C1 [mm]			16			18 (16)•			18			18																	
OUTLET FLANGE			PN-10/16 EN 1092-1 EN 1092-3			SCREWS N°			4			4			4																				
						D2 [mm]			115			140			150			165																	
						K2 [mm]			85			100			110 (3)			125																	
						d2 [mm]			14			18			18			18																	
						C2 [mm]			18 (12)•			18 (14)•			18 (14)•			18 (16)•																	
WEIGHT [kg]						SCREWS N°			4			4			4																				
						(295) BRONZE			0,6			0,6			0,8			1,3		1,3		1,5		2,6		2,7		2,9		4,9		5,2		5,4	
						(295) CARBON STEEL			0,6			0,7			0,8			1,3		1,3		1,4		2,4		2,6		2,7		4,6		4,9		5,1	
						(295) STAINLESS STEEL			2,9			2,9			3,5			4,9		4,9		5,0		6,4		6,5		7,0		10,4		10,7		11,0	
						(296) BRONZE			2,6			2,7			3,4			4,5		4,6		4,9		6,3		6,4		6,9		9,8		10,1		10,8	
CODE						BRONZE 2002-295.			60212			60211			60213			63412		63411		63413		61012		61011		61013		61412		61411		61413	
						CARBON STEEL 2002-295.			60242			60241			60243			63442		63441		63443		61042		61041		61043		61442		61441		61443	
						STAINLESS STEEL 2002-295.			60222			60221			60223			63422		63421		63423		61022		61021		61023		61422		61421		61423	
						BRONZE 2002-296.			60212			60211			60213			63412		63411		63413		61012		61011		61013		61412		61411		61413	
						CARBON STEEL 2002-296.			60242			60241			60243			63442		63441		63443		61042		61041		61043		61442		61441		61443	
						STAINLESS STEEL 2002-296.			60222			60221			60223			63422		63421		63423		61022		61021		61023		61422		61421		61423	

• Bronze. EN-1092-3.



SPRING PRESSURE AND REGULATION RANGES						
R1 x R2			1/2" x 1"	3/4" x 1 1/4"	1" x 1 1/2"	1 1/4" x 2"
DN1 x DN2			15 x 25	20 x 32	25 x 40	32 x 50
REGULATION PRESSURE [barg]	MAXIMUM (LIQUIDS AND GASES)		25	25	25	25
	MAXIMUM (SATURATED STEAM)		25	25	25	25
	MINIMUM	STEAM AND GASES	0,5	0,5	0,5	0,5
		LIQUIDS (1)	0,2	0,2	0,2	0,2
SPRING REGULATION RANGE [barg]	0,2 - 0,7	CODE	56341	56348	56356	56364
	0,5 - 1,6	CODE	56342	56349	56357	56365
	1,4 - 3,5	CODE	56343	56350	56358	56366
	3,0 - 5,5	CODE	56344	56351	56359	56367
	5,0 - 10,0	CODE	56345	56352	56360	56368
	9,0 - 15,0	CODE	56346	56353	56361	56369
	14,0 - 20,0	CODE		56354	56362	56370
	19,0 - 25,0	CODE	56347	56355	56363	56371

(1) For set pressures less than 0,5 bar previous consult with our technical department.



Fluid dynamics

Depending on demand

1.- Silicone's rubber, Fluorelastomer (Viton) seals, PTFE (Teflon)... etc., achieving leakage levels less than:

$$0,3 \times 10^{-3} \frac{\text{Pa cm}^3}{\text{seg.}}$$

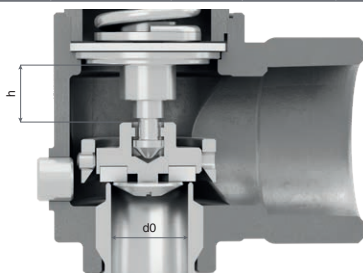
The ranges of application allow certain flexibility although we recommend limiting them to:

TEMPERATURE RANGE IN °C OF THE SEALS			
SEALS		MINIMUM	MAXIMUM
SILICONE RUBBER	S	-60	200
FLUORELASTOMER (VITON)	V	-20	200
PTFE (TEFLON)	T	-200	260

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

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

RECOMMENDED RANGES OF APPLICATION						
R1 x R2		1/2" x 1"	3/4" x 1 1/4"	1" x 1 1/2"	1 1/4" x 2"	
DN1 x DN2		15 x 25	20 x 32	25 x 40	32 x 50	
d0 [mm]		15	15	20	28	
h [mm]		2,20	3,75	5,00	7,00	
h/d0 [mm]		0,14	0,25	0,25	0,25	
DISCHARGE COEFFICIENTS [kdr]	STEAM AND GAS	0,5 a 1 [bar]	0,29	0,55	0,55	0,55
		1,0 a 25,0 [bar]	0,35	0,62	0,62	0,62
	LIQUID	0,5 a 25,0 [bar]	0,27	0,54	0,54	0,54



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% or 0,1% bar	The higher of ± 15% or 0,3% bar
LIQUIDS	The higher of ± 3% or ± 0,1% bar	The higher of ± 10% or 0,1% bar	The higher of ± 20% or 0,6% bar

Specifications

- 90° angular passage.
- Actuated by direct-acting helical spring.
- Simple construction ensuring minimal maintenance.
- Materials carefully selected for their resistance to wear and corrosion.
- Internal body design conceived to provide a favorable flow profile.
- Seat and sealing discs precisely finished to ensure tightness, even exceeding the requirements of EN 12266-1.
- High discharge capacity.
- Deflector nut designed to facilitate steam expansion, provide sudden opening, and in any fluid, adjust the blow-off, pressure drop, or blowdown.
- Absolute precision in opening and closing.
- Equipped with a drain screw for condensate removal.
- Lever orientation by rotation.
- All valves are sealed at the requested set pressure, simulating service conditions, and are thoroughly tested and verified.
- All components are numbered, recorded, and controlled. Upon request, the valve can be supplied with certifications of materials, casts, tests, and performance, as well as the instruction manual in accordance with P.E.D. 2014/68/EU.

DISCHARGE CAPACITY												
R1 x R2	1/2" x 1"			3/4" x 1 1/4"			1" x 1 1/2"			1 1/4" x 2"		
DN1 x DN2	15 x 25			20 x 32			25 x 40			32 x 50		
d0 [mm]	15			15			20			28		
A0 [mm2]	177			177			314			616		
p [barg]	I	II	III	I	II	III	I	II	III	I	II	III
0,5	46	58	1884	87	109	3767	155	194	6697	304	381	13126
1,0	60	77	2550	114	146	5101	203	260	9068	398	510	17773
1,5	91	118	3123	161	208	6247	285	370	11106	559	726	21767
2,0	108	142	3607	192	252	7213	341	447	12824	669	877	25135
2,5	126	166	4032	223	295	8065	397	524	14337	778	1027	28101
3,0	144	191	4417	254	338	8835	452	601	15706	887	1178	30783
3,5	161	215	4771	285	381	9542	507	678	16964	995	1329	33250
4,0	179	240	5101	316	425	10201	562	755	18136	1102	1479	35546
4,5	196	264	5410	347	468	10820	617	832	19236	1210	1630	37702
5,0	213	288	5703	378	511	11405	672	909	20276	1317	1781	39741
5,5	231	313	5981	409	554	11962	726	985	21266	1424	1931	41681
6,0	248	337	6247	439	598	12494	781	1062	22211	1531	2082	43534
6,5	265	362	6502	470	641	13004	835	1139	23118	1637	2233	45312
7,0	282	386	6747	500	684	13495	890	1216	23991	1743	2383	47022
7,5	300	411	6984	531	727	13969	944	1293	24833	1850	2534	48673
8,0	317	435	7213	561	770	14427	998	1370	25648	1956	2685	50269
9,0	351	484	7651	622	857	15302	1106	1523	27203	2168	2986	53318
10,0	385	533	8065	683	943	16130	1214	1677	28675	2379	3287	56203
11,0	420	581	8458	743	1030	16917	1322	1831	30074	2590	3589	58946
12,0	454	630	8835	804	1116	17669	1429	1985	31412	2801	3890	61567
13,0	488	679	9195	865	1203	18391	1537	2138	32694	3012	4191	64081
14,0	522	728	9542	925	1289	19085	1644	2292	33928	3223	4493	66500
15,0	556	777	9877	985	1376	19755	1752	2446	35119	3434	4794	68834
16,0	590	826	10201	1046	1462	20402	1859	2600	36271	3644	5095	71091
17,0	625	874	10515	1106	1549	21030	1967	2753	37387	3855	5397	73279
18,0	659	923	10820	1167	1635	21640	2074	2907	38471	4066	5698	75404
20,0	727	1021	11405	1288	1808	22811	2289	3215	40552	4487	6301	79483
22,0	795	1118	11962	1409	1981	23924	2505	3522	42532	4909	6903	83362
24,0	864	1216	12494	1530	2154	24988	2720	3830	44423	5331	7506	87069
25,0	898	1265	12752	1591	2241	25503	2828	3983	45339	5543	7808	88864

I - Saturated steam [kg/h].

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

III - Water at 20°C [l/h].

ATTENTION: Flow rates according to UNE EN ISO 4126-7 with 10% overpressure.



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