

Angle pressure limiting valve with conveyed discharge - 254 - 256

/ General description of the equipment

- Right-angle F/F brass PRESSURE LIMITING VALVES with conveyed discharge, adjustable from 0 to 10/16 bar, with the following characteristics:

CODE ARTICLE	DN	SEAL MATERIAL	PN from 3/8 to 2"	PN from 2"1/2 to 3"
Art. 254	From 3/8" to 3"	brass	16	10
Art. 256		EPDM		



Image for illustrative purposes only. Features may vary from the actual product.

- Only the following codes are adjustable up to 16 bar:**
- 91254AD0516 254 1/2 VALV.SIC.T.MET.F/F TAR.16B.
- 91254AF0516 254 1" VALV.SIC.T.MET.F/F TAR.16 B.
- 91254AH0516 254 1"1/2 V.SIC.T.MET.F/F TAR.16 B.
- 91254AG0516 254 1"1/4 V.SIC.T.MET.F/F TAR.16 B.
- 91254AJ0516 254 2" VALV.SIC.TEN.MET.F/F TAR.16B
- 91254AE0516 254 3/4 VALV.SIC.T.MET.F/F TAR.16B.

Connections	ISO EN ISO 228-1 threads	
Permitted fluids	PED art. 4 paragraph 1 letter c) point i) group 2 fluids	
Minimum/maximum permissible temperature (TS)	Metal seal art. 254	From -40 to + 230° C
	EPDM seal art. 256	From -20 to + 100° C

- PED classification (Directive 2014/68/EU)

DN	PS	PED TABLE	CLASSIFICATION	MARKING
3/8"	16	6	ARTICLE 4, PARAGRAPH 3	DN Flow direction
1/2"				
3/4"				
1"				
1 1/4"				
1 1/2"				
2"	10	6	CAT I	DN Flow direction
2 1/2"				
3"				

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Water capacity (UNI 9335 paragraph 7.5)

$$Q = 1.610 \times K \times A \times \sqrt{p \times P_1}$$

Where:

		U.M.	value
Q	Capacity to be exhausted	m ³ /h	See table
p	Volume mass	Kg/m ³	0,001
P ₁	Exhaust pressure = P + 1 bar (Max overpressure: P _s = ± 20%)	bar	See table
A	Area of the orifice	mm ²	See table
K	Discharge coefficient	Coeff.	0.05

		DISCHARGE AREA [A] AS A FUNCTION OF THE SIZE								
		3/8	1/2	3/4	1"	1"1/4	1"1/2	2"	2"1/2	3"
		82	133	283	518	754	1134	1809	3215	4775
P	P1									
1	2	0,29	0,48	1,02	1,87	2,72	4,08	6,51	11,58	17,19
2	3	0,36	0,58	1,25	2,29	3,33	5,00	7,97	14,18	21,05
3	4	0,42	0,68	1,44	2,64	3,84	5,77	9,21	16,37	24,31
4	5	0,46	0,76	1,61	2,95	4,29	6,45	10,30	18,30	27,18
5	6	0,51	0,83	1,77	3,23	4,70	7,07	11,28	20,05	29,78
6	7	0,55	0,89	1,91	3,49	5,08	7,63	12,18	21,66	32,16
7	8	0,59	0,96	2,04	3,73	5,43	8,16	13,02	23,15	34,38
8	9	0,62	1,01	2,16	3,96	5,76	8,66	13,81	24,56	36,47
9	10	0,66	1,07	2,28	4,17	6,07	9,12	14,56	25,88	38,44
10	11	0,69	1,12	2,39	4,38	6,37	9,57	15,27	27,15	40,32
11	12	0,72	1,17	2,50	4,57	6,65	10,00	15,95		
12	13	0,75	1,22	2,60	4,76	6,92	10,40	16,60		
13	14	0,78	1,26	2,70	4,94	7,19	10,80	17,23		
14	15	0,81	1,31	2,79	5,11	7,44	11,18	17,83		
15	16	0,83	1,35	2,89	5,28	7,68	11,54	18,42		
16	17	0,86	1,39	2,97	5,44	7,92	11,90	18,98		

Attention, to calculate the capacity of other fluids, please enter the specific volume mass to be traced on technical literature.

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ST.25X.12.25.EN

Steam capacity (E data collection)

$$Q = (A) \times (0.9) \times (K) \times (113.8) \times (C) \times \sqrt{(P_1 / V_1)}$$

Where:

		U.M.	value
Q	Capacity to be exhausted	Kg/h	See table
A	Area of the orifice	cm ²	See table
K	Discharge coefficient	Coeff.	0.05
C	Expansion coefficient (as per ISPEL data collection)	Coeff	0.607
P	Calibration pressure/valve use	bar	See table
P ₁	Exhaust pressure = P + 1 bar (Max overpressure: Ps = ± 20%)	bar	See table
V ₁	Specific vapour volume at P ₁ pressure (Mollier diagram)	m ³ /Kg	See table

DISCHARGE AREA [A] AS A FUNCTION OF THE SIZE

						3/8	1/2	3/4	1"	1"1/4	1"1/2	2"	2"1/2	3"
P	P ₁	C	K	t [°C]	V ₁	0,82	1,33	2,83	5,18	7,54	11,34	18,09	32,15	47,75
1	2	0,607	0,05	119,6	0,903	3,8	6,2	13,1	24,0	34,9	52,5	83,7	148,7	220,9
2	3	0,607	0,05	132,9	0,618	5,6	9,1	19,4	35,5	51,6	77,7	123,9	220,2	327,0
3	4	0,607	0,05	142,9	0,4718	7,4	12,0	25,6	46,9	68,2	102,6	163,7	291,0	432,2
4	5	0,607	0,05	151,1	0,3825	9,2	14,9	31,8	58,2	84,7	127,4	203,3	361,3	536,6
5	6	0,607	0,05	158,1	0,3222	11,0	17,8	38,0	69,5	101,1	152,1	242,7	431,3	640,5
6	7	0,607	0,05	164,2	0,2785	12,8	20,7	44,1	80,7	117,5	176,7	281,9	501,0	744,1
7	8	0,607	0,05	169,6	0,2454	14,6	23,6	50,2	91,9	133,8	201,3	321,1	570,6	847,5
8	9	0,607	0,05	174,5	0,2195	16,3	26,5	56,3	103,1	150,1	225,7	360,1	639,9	950,4
9	10	0,607	0,05	179	0,1985	18,1	29,3	62,4	114,3	166,4	250,2	399,1	709,3	1053,5
10	11	0,607	0,05	183,2	0,1813	19,9	32,2	68,5	125,4	182,6	274,6	438,0	778,4	1156,2
11	12	0,607	0,05	187,1	0,1668	21,6	35,1	74,6	136,6	198,8	299,0	477,0		
12	13	0,607	0,05	190,7	0,1545	23,4	37,9	80,7	147,7	215,0	323,3	515,8		
13	14	0,607	0,05	195	0,1407	25,4	41,2	87,7	160,6	233,8	351,6	560,9		
14	15	0,607	0,05	198,2	0,1317	27,2	44,1	93,9	171,8	250,1	376,2	600,1		
15	16	0,607	0,05	201,4	0,1237	29,0	47,0	100,0	183,1	266,6	400,9	639,5		
16	17	0,607	0,05	204,3	0,1166	30,8	49,9	106,2	194,4	283,0	425,6	679,0		

Gas and vapour capacity (E data collection)

$$Q = \sqrt{\frac{(0.9) \times (K) \times 394.4 \times (C) \times (P_1) \times (A)}{(Z_1 \times T_1) \times PM}}$$

Where:

		U.M.	value
Q	Capacity to be exhausted	Kg/h	See table
A	Area of the orifice	cm ²	See table
K	Discharge coefficient	Coeff.	0.05
C	Expansion coefficient	Coeff	variable
P	Calibration pressure	bar	See table
P ₁	Exhaust pressure = calibration pressure + 1 bar	bar	See table
Z ₁	Compressibility factor (if unknown, use 1)	m ³ /Kg	variable
T ₁	Absolute exhaust temperature	°K	variable
PM	Molecular weight	Kg/Kmol	variable

Example:

Fluid	air
C	0,685
PM	28,970
Temperature	20 °C = 293 °K

						DISCHARGE AREA [A] AS A FUNCTION OF THE SIZE									
						3/8	1/2	3/4	1"	1"1/4	1"1/2	2"	2"1/2	3"	
P	P1	C	K	T [°K]	PM	0,82	1,33	2,83	5,18	7,54	11,34	18,09	32,15	47,75	
1	2	0,685	0,05	293,0	28,97	6,3	10,2	21,6	39,6	57,6	86,7	138,3	245,8	365,1	
2	3	0,685	0,05	293,0	28,97	9,4	15,3	32,5	59,4	86,5	130,1	207,5	368,7	547,7	
3	4	0,685	0,05	293,0	28,97	12,5	20,3	43,3	79,2	115,3	173,4	276,6	491,6	730,2	
4	5	0,685	0,05	293,0	28,97	15,7	25,4	54,1	99,0	144,1	216,8	345,8	614,5	912,8	
5	6	0,685	0,05	293,0	28,97	18,8	30,5	64,9	118,8	172,9	260,1	414,9	737,4	1095,3	
6	7	0,685	0,05	293,0	28,97	21,9	35,6	75,7	138,6	201,8	303,5	484,1	860,3	1277,9	
7	8	0,685	0,05	293,0	28,97	25,1	40,7	86,5	158,4	230,6	346,8	553,2	983,2	1460,4	
8	9	0,685	0,05	293,0	28,97	28,2	45,8	97,4	178,2	259,4	390,2	622,4	1106,1	1643,0	
9	10	0,685	0,05	293,0	28,97	31,3	50,8	108,2	198,0	288,2	433,5	691,5	1229,0	1825,5	
10	11	0,685	0,05	293,0	28,97	34,5	55,9	119,0	217,8	317,1	476,9	760,7	1351,9	2008,1	
11	12	0,685	0,05	293,0	28,97	37,6	61,0	129,8	237,6	345,9	520,2	829,9			
12	13	0,685	0,05	293,0	28,97	40,8	66,1	140,6	257,4	374,7	563,6	899,0			
13	14	0,685	0,05	293,0	28,97	43,9	71,2	151,5	277,2	403,5	606,9	968,2			
14	15	0,685	0,05	293,0	28,97	47,0	76,3	162,3	297,0	432,4	650,3	1037,3			
15	16	0,685	0,05	293,0	28,97	50,2	81,3	173,1	316,8	461,2	693,6	1106,5			
16	17	0,685	0,05	293,0	28,97	53,3	86,4	183,9	336,6	490,0	737,0	1175,6			

List/standards/certificates of used materials

COMPONENT	MATERIAL	
	from DN 3/8" to DN 2"	from DN 2 1/2" to DN 3"
Plug	2	2
Spring pusher	1	1
Spring	C72/AISI302	C72
Rubber-PTFE- EPDM seal pusher	1	1
Metal seal pusher	1	1
Screw	2/3	3
Seal	1/2	1/3
Gasket support	1	1
Gaskets	EPDM	EPDM
Washer	1	-
Gasket stop guide	1/2	1
Body	3 (2 for DN 1/2")	3
Locking nut	1/5	1/5
Adjustment screw	1/5	1/5

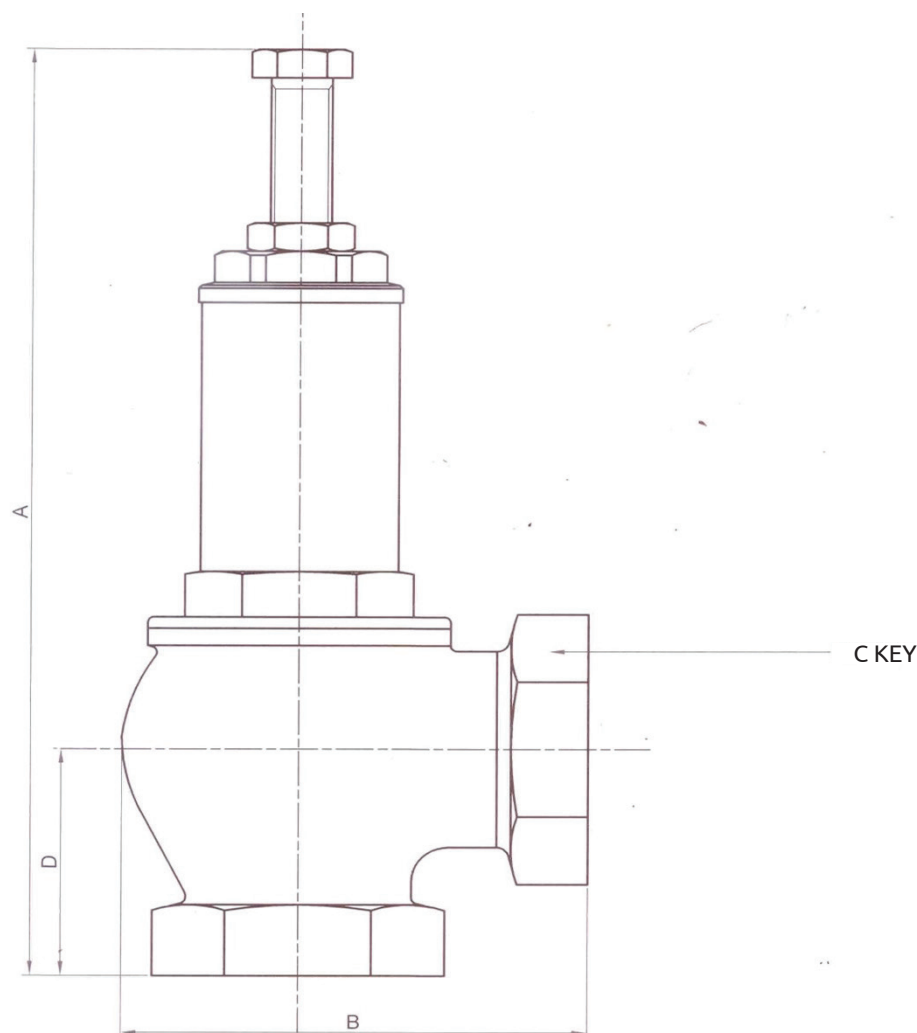
STANDARD	ALLOY	STANDARD TITLE	CODE
EN 12164	CW614N CW617N	Copper and copper alloys – Turning bars	1
EN 12420	CW614N CW617N	Copper and copper alloys – Forged and stamped products	2
EN 1982	CC754S	Copper and copper alloys – Ingots and castings	3
	Galvanised carbon steel		5

DENOMINATION	Required certificate	SUPPLIER
Parts under pressure	EN 10204 2.2	No requirements needed
Spring	EN 10204 3.1	

There is no documentary possibility of tracing the product

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/ Overall dimensions (Indicative drawing, the shape of the body may vary if brass-forged)



DN	A (mm)	B (mm)	C (mm)	D (mm)	WEIGHT (g)
3/8"	115	46	24	24,5	300
1/2"	130	48	28	30	350
3/4"	158	64	35	32	600
1"	163	76	41	40	900
1"1/4	192	90	49	44	1400
1"1/2	215	100	56	47	1830
2"	247	124	71	60	2900
2"1/2	280	135	88	69	4500
3"	293	145	100	77	5200