



PROPORTIONAL SAFETY VALVE zARMAK



Body material	Nominal pressure	Nominal diameter	Max. temperature	Ex. index
T Brass	C 16 bar	DN 10-25	200°C	781














CE 1433

FEATURES

- valves made according to PN EN ISO 4126-1
 - high tightness
- For valve with soft sealing
- quiet work of valve
 - raised tightness of closure
 - protection of disc sealing surface against limescale settling as well as against any small mechanical dirt

APPLICATION*

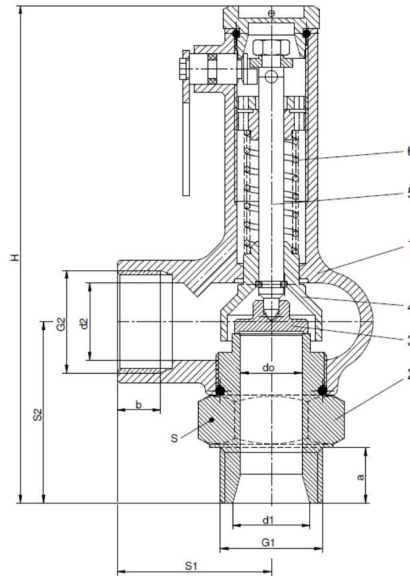
*not all of the applications are suitable for all of the executions

industries	 INDUSTRY	 SHIPBUILDING INDUSTRY	 HEATING	 REFRIGERATION AND AIR CONDITIONING	 GAS	 POWER ENGINEERING	 PETROCHEMICAL INDUSTRY
media	 DRINKING WATER	 GLYCOL	 INDUSTRIAL WATER	 STEAM	 COMPRESSED AIR	 NEUTRAL FLUIDS	

Data given can be changed without notice.

Edition 01/2018

MATERIALS, DIMENSIONS



	Body material	T	
	Type	standard	with soft sealing disc
		01-1, 02-1, 03-1, 04-1, 05-1, 06-1, 07-1, 08-1	01-2(3), 02-2(3), 03-2(3), 04-2(3), 05-2(3), 06-2(3), 07-2(3), 08-2(3)
1	Body	CuZn39Pb1AlC	
2	Nozzle	X39CrMo17-1 1.4122	
3	Disc	X39CrMo17-1 1.4122	X39CrMo17-1/EPDM or /NBR 1.4122/EPDM or /NBR
4	Lifting bell	CuZn40Pb2 5.3106	
5	Spindle	X20Cr13 1.4021	
6	Spring	51CrV4** 1.8159	
Temperature range		-10...200°C	-10...120°C EPDM -10...90°C NBR

* for marine type (05, 06, 07, 08) spindle made of: X17CrNi16-2

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FIG.781

Body material		Type	T				
DN			10x15	15x15	20x20	25x25	
d ₀ (mm)			10	12	16	20	
A (mm ²)			78,5	113	201	314	
a (mm)			12	13	15	18	
G ₁ (cal)			¾	½	¾	1	
b (mm)			9	9	13	14	
G ₂ (cal)			½	½	¾	1	
S ₁ (mm)			35	35	40	50	
S ₂ (mm)			41	44	52	59	
S (mm)			6-kt 27	6-kt 27	6-kt 32	6-kt 41	
H (mm)			144	147	155	162	
Pressure of the beginning of the opening (bar)	min		Standard	0,3			
	max			16		10	
	min	with soft sealing disc	1				
	max		16		16		
Weight (kg)		0,67	0,71	0,86	1,20		

FLOW RATES

Media	Ranges	DN			
		10x15	15x15	20x20	25x25
Body material: T Standard type: 01-1, 02-1, 05-1, 07-1 Type with soft sealing disc: 01-2 (3), 02-2(3), 05-2(3), 07-2(3) Nominal pressure: PN16					
S/G	b ₁ = 0,1 bar for 0,3 ≤ p < 0,5 bar	0,19			
	b ₁ = 0,1 bar for 0,5 ≤ p ≤ 1 bar	0,20			
	b ₁ = 10% for 1 < p < 1,5 bar b ₁ = 10% for p ≥ 1,5 bar	0,25			
L	b ₁ = 0,1 bar for p ≤ 1 bar b ₁ = 10% for p > 1 bar	0,01			
Body material: T Standard type: 03-1, 04-1, 06-1, 08-1 Type with soft sealing disc: 03-2(3), 04-2(3), 06-2(3), 08-2(3) Nominal pressure: PN16					
L	b ₁ = 0,1 bar for p ≤ 1 bar b ₁ = 10% for p > 1 bar	-----		0,20	0,23

PRESSURE-TEMPERATURE RATINGS

		PN	140°C	RT	50°C	100°C	150°C	200°C
CuZn39Pb1AlC	16 bar	16	16	16	16	16	16	13,5

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CAPACITY TABLE FOR AIR

Standard type: 01-1, 02-1, 05-1, 07-1									
Type with soft sealing disc: 01-2 (3), 02-2(3), 05-2(3), 07-2(3)									
DNxDN PN16	10x15	15x15	20x20	25x25	DNxDN PN16	10x15	15x15	20x20	25x25
A – flight computational area [mm ²]	78,5	113	201	314	A – flight computational area [mm ²]	78,5	113	201	314
Pressure of the beginning of the opening bar(g)	Air 20°C [kg/h]				Pressure of the beginning of the opening bar(g)	Air 20°C [kg/h]			
0,30	16,3	23,5	41,8	65,3	4,00	90,1	130	231	360
0,35	17,3	24,9	44,3	69,1	4,50	99,2	143	254	397
0,40	18,2	26,2	46,6	72,8	5,00	108	156	278	434
0,45	19,0	27,4	48,8	76,2	5,50	118	169	301	470
0,50	20,9	30,1	53,5	83,6	6,00	127	182	325	507
0,55	21,7	31,3	55,6	86,9	6,50	136	196	348	544
0,60	22,5	32,4	57,6	90,0	7,00	145	209	372	580
0,65	23,3	33,5	59,5	93,0	7,50	154	222	395	617
0,70	24,0	34,5	61,4	95,9	8,00	163	235	419	654
0,75	24,7	35,5	63,2	98,7	9,00	182	262	466	727
0,80	25,4	36,5	64,9	101	10,00	200	288	512	801
0,90	26,7	38,4	68,3	107	11,00	218	315	559	
1,00	28,0	40,3	71,7	112	12,00	237	341	606	
1,10	29,5	42,4	75,5	118	13,00	255	367	653	
1,20	31,0	44,6	79,3	124	14,00	274	394	700	
1,30	32,4	46,7	83,0	130	15,00	292	420	747	
1,50	44,2	63,6	113	177	16,00	310	447	794	
1,60	46,0	66,3	118	184					
1,80	49,7	71,5	127	199					
2,00	53,4	76,8	137	213					
2,20	57,0	82,1	146	228					
2,40	60,7	87,4	155	243					
2,60	64,4	92,7	165	258					
2,80	68,1	98,0	174	272					
3,00	71,7	103	184	287					
3,50	80,9	116	207	324					

Capacity calculated at overpressure $b_1 = 0,1$ bar or $b_1 = 10\%$

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CAPACITY TABLE FOR WATER

Standard type: 03-1, 04-1, 06-1, 08-1					
Type with soft sealing disc: 03-2(3), 04-2(3), 06-2(3), 08-2(3)					
DNxDN PN16	20x20	25x25	DNxDN PN16	20x20	25x25
A - flight computational area [mm ²]	201	314	A - flight computational area [mm ²]	201	314
Pressure of the beginning of the opening bar(g)	Water 20°C [kg/h]		Pressure of the beginning of the opening bar(g)	Water 20°C [kg/h]	
0,30	1 279,4	2 305,1	4,00	4 288,9	7 705,0
0,35	1 357,7	2 446,0	4,50	4 549,0	8 172,4
0,40	1 431,8	2 579,2	5,00	4 795,1	8 614,5
0,45	1 502,2	2 706,0	5,50	5 029,2	9 035,0
0,50	1 569,6	2 827,1	6,00	5 252,8	9 436,7
0,55	1 634,2	2 943,3	6,50	5 467,3	9 822,0
0,60	1 696,3	3 055,1	7,00	5 673,7	10 192,8
0,65	1 756,3	3 163,0	7,50	5 872,8	10 550,6
0,70	1 814,4	3 267,4	8,00	6 065,4	10 896,6
0,75	1 870,6	3 368,6	9,00	6 433,3	11 557,6
0,80	1 925,2	3 466,8	10,00	6 781,3	12 182,7
0,90	2 030,1	3 655,4	11,00	7 112,3	
1,00	2 129,9	3 834,9	12,00	7 428,6	
1,10	2 234,6	4 023,1	13,00	7 731,9	
1,20	2 334,6	4 203,0	14,00	8 023,8	
1,30	2 430,5	4 375,5	15,00	8 305,4	
1,50	2 611,9	4 718,4	16,00	8 577,8	
1,60	2 698,1	4 873,1			
1,80	2 862,8	5 168,7			
2,00	3 018,5	5 448,3			
2,20	3 166,7	5 714,2			
2,40	3 308,3	5 968,3			
2,60	3 444,1	6 212,0			
2,80	3 574,8	6 446,5			
3,00	3 714,3	6 672,8			
3,50	4 011,9	7 207,4			

Capacity calculated at overpressure $b_1 = 0,1$ bar or $b_1 = 10\%$

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CAPACITY TABLE FOR WATER

Standard type: 01-1, 02-1, 05-1, 07-1									
Type with soft sealing disc: 01-2 (3), 02-2(3), 05-2(3), 07-2(3)									
DNxDN PN16	10x15	15x15	20x20	25x25	DNxDN PN16	10x15	15x15	20x20	25x25
A - flight computational area [mm ²]	78,5	113	201	314	A - flight computational area [mm ²]	78,5	113	201	314
Pressure of the beginning of the opening bar(g)	Water 20°C [kg/h]				Pressure of the beginning of the opening bar(g)	Water 20°C [kg/h]			
0,30	22,7	33,1	59,9	94,5	4,00	79,8	115,4	206,7	324,5
0,35	24,2	35,3	63,7	100,4	4,50	84,7	122,6	219,6	344,6
0,40	25,6	37,3	67,3	106,1	5,00	89,5	129,4	231,7	363,6
0,45	27,0	39,2	70,7	111,5	5,50	93,9	135,9	243,3	381,7
0,50	28,2	41,0	74,0	116,6	6,00	98,2	142,1	254,3	399,0
0,55	29,4	42,8	77,2	121,6	6,50	102,4	148,0	264,9	415,5
0,60	30,6	44,5	80,2	126,3	7,00	106,3	153,7	275,1	431,5
0,65	31,8	46,1	83,1	130,9	7,50	110,1	159,2	284,9	446,9
0,70	32,9	47,7	86,0	135,3	8,00	113,9	164,6	294,5	461,8
0,75	33,9	49,3	88,7	139,6	9,00	120,9	174,8	312,7	490,3
0,80	35,0	50,8	91,4	143,8	10,00	127,6	184,4	329,9	517,2
0,90	36,9	53,6	96,5	151,9	11,00	134,0	193,6	346,3	
1,00	38,8	56,4	101,4	159,5	12,00	140,1	202,4	361,9	
1,10	40,8	59,2	106,5	167,5	13,00	145,9	210,8	377,0	
1,20	42,7	62,0	111,4	175,2	14,00	151,6	219,0	391,4	
1,30	44,6	64,6	116,1	182,6	15,00	157,0	226,8	405,4	
1,50	48,0	69,6	125,0	196,5	16,00	162,2	234,4	418,9	
1,60	49,6	72,0	129,2	203,1					
1,80	52,8	76,5	137,3	215,7					
2,00	55,7	80,8	144,9	227,7					
2,20	58,6	84,8	152,2	239,1					
2,40	61,3	88,7	159,1	250,0					
2,60	63,9	92,5	165,8	260,4					
2,80	66,3	96,1	172,2	270,5					
3,00	68,8	99,5	178,4	280,2					
3,50	74,4	107,7	193,1	303,1					

Capacity calculated at overpressure $b_1 = 0,1$ bar or $b_1 = 10\%$

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CAPACITY TABLE FOR SATURATED STEAM

Standard type: 01-1, 02-1, 05-1, 07-1 Type with soft sealing disc: 01-2 (3), 02-2(3), 05-2(3), 07-2(3)									
DNxDN PN16	10x15	15x15	20x20	25x25	DNxDN PN16	10x15	15x15	20x20	25x25
A - flight computational area [mm ²]	78,5	113	201	314	A - flight computational area [mm ²]	78,5	113	201	314
Pressure of the beginning of the opening bar(g)	Saturated steam [kg/h]				Pressure of the beginning of the opening bar(g)	Saturated steam [kg/h]			
0,30	10,4	14,9	26,5	41,5	4,00	55,8	80,4	143,0	223,4
0,35	10,9	15,7	27,9	43,6	4,50	61,6	88,6	157,6	246,2
0,40	11,4	16,4	29,2	45,6	5,00	66,9	96,4	171,4	267,7
0,45	11,9	17,1	30,4	47,5	5,50	72,6	104,5	185,9	290,4
0,50	13,0	18,7	33,3	52,0	6,00	78,0	112,2	199,6	311,8
0,55	13,5	19,4	34,5	53,9	6,50	83,5	120,2	213,9	334,1
0,60	14,0	20,1	35,7	55,8	7,00	89,0	128,1	227,8	355,9
0,65	14,4	20,8	36,9	57,7	7,50	94,5	136,0	241,9	377,9
0,70	14,9	21,5	38,2	59,6	8,00	99,9	143,9	255,9	399,7
0,75	15,4	22,2	39,5	61,7	9,00	110,9	159,7	284,0	443,7
0,80	15,9	23,0	40,8	63,8	10,00	121,9	175,4	312,1	487,5
0,90	17,1	24,6	43,8	68,4	11,00	132,7	191,1	339,9	
1,00	17,8	25,6	45,6	71,2	12,00	143,6	206,7	367,6	
1,10	18,6	26,8	47,6	74,4	13,00				
1,20	19,4	28,0	49,7	77,7	14,00				
1,30	20,3	29,2	51,9	81,1	15,00				
1,50	27,6	39,7	70,7	110,4	16,00				
1,60	28,8	41,5	73,8	115,2					
1,80	31,4	45,2	80,4	125,6					
2,00	33,5	48,2	85,8	134,0					
2,20	35,6	51,3	91,2	142,5					
2,40	37,9	54,5	97,0	151,5					
2,60	40,3	57,9	103,1	161,0					
2,80	42,6	61,3	109,1	170,4					
3,00	44,7	64,3	114,4	178,8					
3,50	50,3	72,5	128,9	201,4					

Capacity calculated at overpressure $b_1 = 0,1$ bar or $b_1 = 10\%$

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NOTES

- If condensate accumulates, the blow-out installation should be drain holed the lowest point, in case of liquids, the blow-out installation should be inclined.
- The valve should be mounted in vertical position.

TYPE

Figure	Body material	Nominal diameter	Nominal pressure	Type
781	T Brass CuZn39Pb1AlC	10-25 mm	C 16 bar	01-1 standard type for gases and steam; sealing metal/metal
		10-25 mm	C 16 bar	02-1 gas tight type for gases and steam; sealing metal/metal
		10-25 mm	C 16 bar	03-1 type with reduced lift for liquids; sealing metal/metal
		10-25 mm	C 16 bar	04-1 type with reduced lift, gas-tight; sealing metal/metal
		10-25 mm	C 16 bar	05-1 marine type for gases and steam; sealing metal/metal
		10-25 mm	C 16 bar	06-1 marine type with reduced lift; sealing metal/metal
		10-25 mm	C 16 bar	07-1 marine type, gas-tight; sealing metal/metal
		10-25 mm	C 16 bar	08-1 marine type reduced lift, gas-tight; sealing metal/metal
		10-25 mm	C 16 bar	01-2 standard type for gases and steam; sealing disc NBR
		10-25 mm	C 16 bar	02-2 gas tight types for gases and steam; sealing disc NBR
		10-25 mm	C 16 bar	03-2 type with reduced lift for liquids; sealing disc NBR
		10-25 mm	C 16 bar	04-2 type with reduced lift, gas-tight; sealing disc NBR
		10-25 mm	C 16 bar	05-2 marine type for gases and steam; sealing disc NBR
		10-25 mm	C 16 bar	06-2 marine type with reduced lift; sealing disc NBR
		10-25 mm	C 16 bar	07-2 marine type, gas-tight; sealing disc NBR
		10-25 mm	C 16 bar	08-2 marine type with reduced lift, gas-tight; sealing disc NBR
		10-25 mm	C 16 bar	01-3 standard type for gases and steam; sealing disc EPDM
		10-25 mm	C 16 bar	02-3 gas tight type for gases and steam; sealing disc EPDM
		10-25 mm	C 16 bar	03-3 type with reduced lift for liquids; sealing disc EPDM
		10-25 mm	C 16 bar	04-3 type with reduced lift, gas-tight; sealing disc EPDM

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FIG.781

10-25 mm	C 16 bar	05-3 marine type for gases and steam; sealing disc EPDM
10-25 mm	C 16 bar	06-3 marine type with reduced lift; sealing disc EPDM
10-25 mm	C 16 bar	07-3 marine type, gas-tight; sealing disc EPDM
10-25 mm	C 16 bar	08-3 marine type with reduced lift, gas-tight; sealing disc EPDM

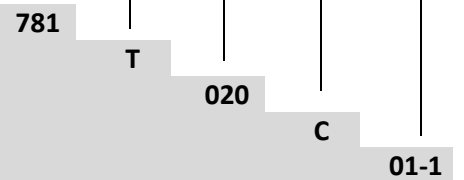
ORDERING

Figure	Body material	Nominal diameter	Nominal pressure	Type
781	T Brass CuZn39Pb1AlC	10-25 mm	C 16 bar	01-1 standard type for gases and steam; sealing metal/metal

Order example acc. index

781 T 020 C 01-1

Proportional safety valve, threaded ends, angle form
 Brass CuZn39Pb1AlC
 Nominal diameter (mm)
 Nominal pressure PN 16
 Standard type for gases and steam; sealing metal/metal



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