

t	gastight version of spring housing	for neutral and non-neutral media. The environment is protected from being affected by the medium.
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■ MEDIUM

GF	gaseous and liquid	Cryogenic liquified gases, vapours and liquids, for oxygen max. 40bar/ max. 60°C
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■ TYPE OF LIFTING MECHANISM

L	with lifting lever
0	without lifting device

■ AVAILABLE NOMINAL DIAMETERS AND CONNECTION SIZES

Nominal diameter DN		8			10			15		
Inlet		1/4" (8)	3/8" (10)	1/2" (15)	3/8" (10)	1/2" (15)	3/4" (20)	1/2" (15)	3/4" (20)	1" (25)
Outlet	3/8" (10)	■	■	■						
	1/2" (15)	■	■	■	■	■				
	1" (25)					■	■	■	■	■

■ TYPE OF CONNECTION INLET / OUTLET THREADED CONNECTIONS

m / f	Standard	Male thread BSP-P / Female thread BSP-P	DIN EN ISO 228-1 / DIN EN ISO 228-1
f / f	On request	Female thread BSP-P / Female thread BSP-P	DIN EN ISO 228-1 / DIN EN ISO 228-1
NPT-m / f	On request	Male thread NPT / Female thread BSP-P	ANSI B1.20.1 / DIN EN ISO 228-1

With insect protection:

m/z	On request	Male thread BSP-P / Insect protection screen	DIN EN ISO 228-1 / –
f/z	On request	Female thread BSP-P / Insect protection screen	DIN EN ISO 228-1 / –
NPT-m/z	On request	Male thread NPT / Insect protection screen	ANSI B1.20.1 / –

■ SEALS

PTFE	Polytetrafluoroethylene	O-ring with FDA Approval	–200°C to +200°C
PTFE+Kohle	Polytetrafluoroethylene + carbon	O-ring	–200°C to +200°C

■ OPTIONS

Locking sleeve unit	Chapter Accessories
Inlet and seat made of brass CW 617 N	Order code: S27
Special versions on request.	

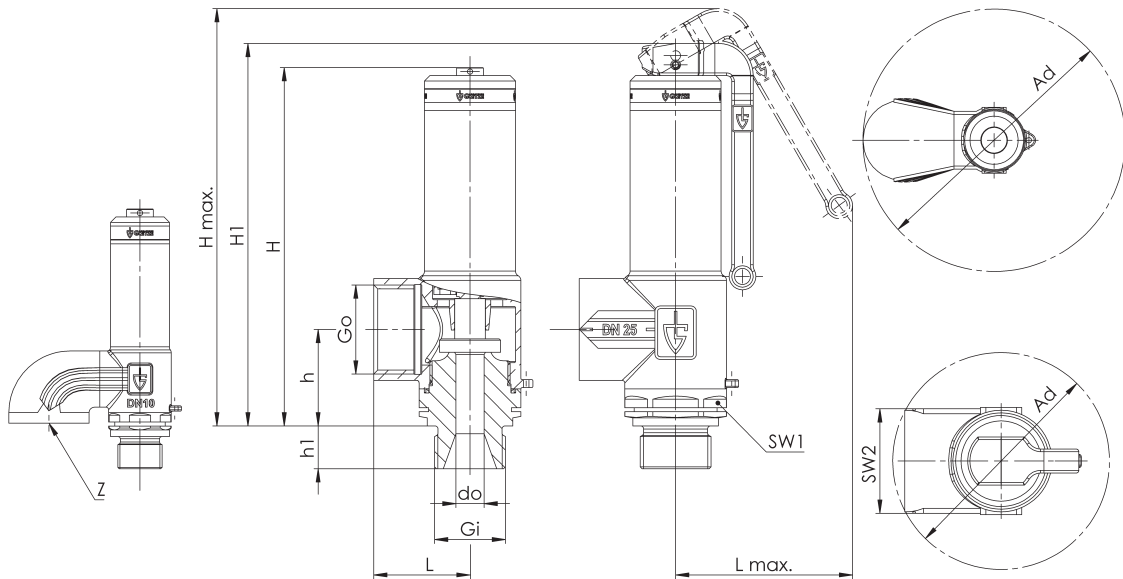
■ NOMINAL DIAMETERS, CONNECTIONS, INSTALLATION DIMENSIONS

Series 2480: Connection, installation dimensions, ranges of adjustment														
Nominal diameter	DN	8						10				15		
Connection DIN EN ISO 228	Gi	1/4" (8)	3/8" (10)	1/2" (15)	1/4" (8)	3/8" (10)	1/2" (15)	3/8" (10)	1/2" (15)	1/2" (15)	3/4" (20)	1/2" (15)	3/4" (20)	1" (25)
Outlet DIN EN ISO 228	Go	3/8" (10)	3/8" (10)	3/8" (10)	1/2" (15)	1/2" (15)	1/2" (15)	1/2" (15)	1/2" (15)	1" (25)	1" (25)	1" (25)	1" (25)	1" (25)
Installation dimensions in mm	h1	12	14	12	14	12	14	14	16	14	16	18		
	h	22		26		26		36		36				
	L	21		26		26		36		36				
	Lmax	43		47		47		66		66				
	H	85		99		99		134		134				
	H1	91		107		107		144		144				
	Hmax	99		116		116		156		156				
	SW1	22		27		27		34		34				
	SW2	22		26		26		39		39				
	Ad	47 / 98 ²⁾		58		58		69		69				
	α_w / K_{dr} (F)	0,52		0,52		0,52		0,49		0,52				
	α_w / K_{dr} (D/G) ¹⁾	0,73		0,73		0,73		0,73		0,73				
	d _o	6,0		6,0		7,5		7,5		10,5				
	Weight	kg	0,2		0,3		0,3		0,7		0,7			
Range of adjustment	bar	0,2 - 70		0,2 - 70		0,2 - 70		0,2 - 50		0,2 - 50				
Outlet with insect protection screen	Z	- / Yes		-		-		-		-				

¹⁾ Flow coefficients for blow-off pressures < 3,0 bar: Please refer to the Flow Coefficients Chart.

²⁾ Daimeter for body with insect protection screen

■ MAIN DIMENSIONS, INSTALLATION DIMENSIONS



■ INDIVIDUAL SELECTION / VALVE CONFIGURATION

Series	Valve version	Medium	Lifting device	Nominal diameter DN	Connection type		Connection size		Seal	Set pressure	Quantity
					Inlet	Outlet	Inlet	Outlet			
2480	t	GF	0	15	m	f	20	25	PTFE	6,0	2
2480	t	GF									
2480	t	GF									
2480	t	GF									

In this table you can configure a valve according to your individual requirements (similar to the *example* shown, which should be deleted before you enter your own data). Please complete the table by hand using the abbreviations in this datasheet and then fax it to: +49 (0) 7141 / 488 94 88
Please do not forget to add your personal data so that our sales team can contact you.

Name _____

First Name _____

Company _____

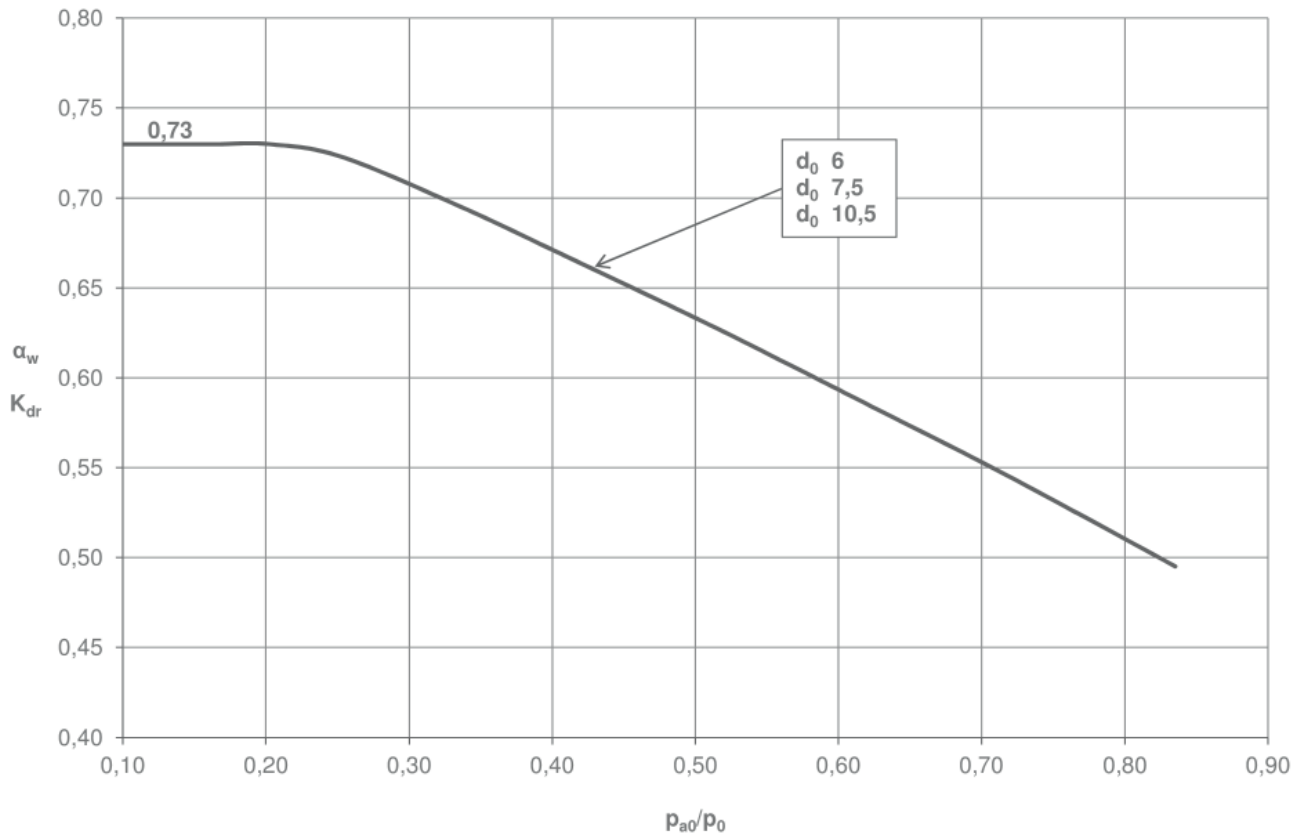
Telephone _____

E-Mail _____

■ CAPACITY TABLE

Series 2480: Blowing-off rates at 10% above set pressure								
Nominal diameter DN		8		10		15		
flow diameter		d0 = 6 mm		d0 = 7,5 mm		d0 = 10,5 mm		
Set pressure bar		I	II	I	II	I	II	
Air I Nm³/h	0,2	11,1	0,4	17,3	0,6	33,9	1,2	
	0,5	17,4	0,6	27,2	0,9	53,3	1,8	
	1	25,8	0,8	40,3	1,2	79,0	2,4	
	1,5	34,5	1,0	54,0	1,5	105,8	2,9	
	2	43,2	1,1	67,5	1,7	132,2	3,4	
	2,5	51,7	1,2	80,8	1,9	158,4	3,8	
	Water II m³/h	3	60,1	1,4	93,9	2,1	184,1	4,2
		3,5	68,1	1,5	106,5	2,3	208,7	4,5
		4	76,0	1,6	118,8	2,5	232,8	4,8
		4,5	83,8	1,7	130,9	2,6	256,5	5,1
5		91,5	1,8	143,0	2,7	280,2	5,4	
5,5		99,2	1,8	155,1	2,9	303,9	5,6	
6		107,0	1,9	167,1	3,0	327,6	5,9	
6,5		114,7	2,0	179,2	3,1	351,3	6,1	
7		122,5	2,1	191,3	3,2	375,0	6,4	
7,5		130,2	2,2	203,4	3,4	398,7	6,6	
8	137,9	2,2	215,5	3,5	422,4	6,8		
8,5	145,7	2,3	227,6	3,6	446,2	7,0		
9	153,4	2,4	239,7	3,7	469,9	7,2		
9,5	161,2	2,4	251,8	3,8	493,6	7,4		
10	168,9	2,5	263,9	3,9	517,3	7,6		
11	184,4	2,6	288,1	4,1	564,7	8,0		
12	199,9	2,7	312,3	4,3	612,1	8,3		
13	215,4	2,8	336,5	4,4	659,5	8,7		
14	230,8	2,9	360,7	4,6	707,0	9,0		
15	246,3	3,0	384,9	4,8	754,4	9,3		
16	261,8	3,1	409,1	4,9	801,8	9,6		
17	277,3	3,2	433,3	5,1	849,2	9,9		
18	292,8	3,3	457,5	5,2	896,6	10,2		
19	308,3	3,4	481,7	5,4	944,0	10,5		
20	323,7	3,5	505,8	5,5	991,5	10,8		
21	339,2	3,6	530,0	5,6	1038,9	11,0		
22	354,7	3,7	554,2	5,8	1086,3	11,3		
23	370,2	3,8	578,4	5,9	1133,7	11,5		
24	385,7	3,8	602,6	6,0	1181,1	11,8		
25	401,2	3,9	626,8	6,1	1228,5	12,0		
26	416,6	4,0	651,0	6,3	1276,0	12,3		
27	432,1	4,1	675,2	6,4	1323,4	12,5		
28	447,6	4,2	699,4	6,5	1370,8	12,7		
29	463,1	4,2	723,6	6,6	1418,2	13,0		
30	478,6	4,3	747,8	6,7	1465,6	13,2		
32	509,5	4,4	796,2	6,9	1560,5	13,6		
34	540,5	4,6	844,5	7,2	1655,3	14,0		
36	571,5	4,7	892,9	7,4	1750,1	14,4		
38	602,4	4,8	941,3	7,6	1845,0	14,8		
40	633,4	5,0	989,7	7,8	1939,8	15,2		
42	664,4	5,1	1038,1	8,0	2034,6	15,6		
44	695,3	5,2	1086,5	8,1	2129,5	16,0		
46	726,3	5,3	1134,9	8,3	2224,3	16,3		
48	757,3	5,4	1183,2	8,5	2319,1	16,7		
50	788,2	5,6	1231,6	8,7	2414,0	17,0		
52	819,2	5,7	1280,0	8,9				
54	850,2	5,8	1328,4	9,0				
56	881,1	5,9	1376,8	9,2				
58	912,1	6,0	1425,2	9,3				
60	943,1	6,1	1473,6	9,5				
62	974,0	6,2	1521,9	9,7				
64	1005,0	6,3	1570,3	9,8				
66	1036,0	6,4	1618,7	10,0				
68	1066,9	6,5	1667,1	10,1				
70	1097,9	6,6	1715,5	10,3				

Coefficient of discharge α_w i.e. K_{dr} as a function of the relation between the pressures p_{a0}/p_0 of vapours and gases



$$\frac{p_{a0}}{p_0} = \frac{\text{counter pressure bar(a)}}{\text{blow-off pressure bar(a)}} \quad p_{atm} = \text{ambient i.e. atmospheric pressure} = 1,01325 \text{ bar(a)}$$

Example to determine the coefficient of discharge α_w i.e. K_{dr} in relation to the set-pressure p_{set}

Set-pressure	Blow-off pressure
p_{set} bar(g)	p_0 bar(a)
≤ 1	$p_{set} + p_{atm} + 0,1 \text{ bar}$
> 1	$p_{set} \times 1,1 + p_{atm}$

For a safety valve set at = 0,3bar(g) and blowing-off into the environment the blow-off pressure is determined as follows:

Set-pressure	0,3	bar(g)
+ Atmospheric pressure	1,01325	bar(a)
+ permissible overpressure	0,1	bar(g)
~ Blow-off pressure	1,41	bar(a)

Consequently:

$$\frac{p_{a0}}{p_0} = \frac{1,01325 \text{ bar(a)}}{1,41 \text{ bar(a)}} = 0,72 \quad \text{and extracted from the chart } \alpha_w \text{ i.e. } K_{dr} = 0,55$$

Units:

bar(a) $\hat{=}$ absolute pressure - pressure in relation to absolute vacuum (zero), e.g. $p_{atm} = 1,01325 \text{ bar(a)}$
 bar(g) $\hat{=}$ overpressure - pressure above i.e. in relation to $p_{atm} = 1,01325 \text{ bar(a)}$

■ CAPACITY TABLE ASME

Series 2480: Blowing-off rates at 10% above set pressure							
Nominal diameter DN		8		10		15	
flow diameter		d0 = 0,2362 inch (6,0 mm)		d0 = 0,2953 inch (7,5 mm)		d0 = 0,4134 inch (10,5 mm)	
Set pressure bar psi(g)		I	II	I	II	I	II
Air I	40	38	Due to small nominal diameter, certification according to ASME Code Sec. VIII Div. 1 not possible	59	Due to small nominal diameter, certification according to ASME Code Sec. VIII Div. 1 not possible	115	19
	50	45		70		22	
SCFM	60	52	Due to small nominal diameter, certification according to ASME Code Sec. VIII Div. 1 not possible	81	Due to small nominal diameter, certification according to ASME Code Sec. VIII Div. 1 not possible	159	24
	70	59		92		26	
Water II	87	71	Due to small nominal diameter, certification according to ASME Code Sec. VIII Div. 1 not possible	111	Due to small nominal diameter, certification according to ASME Code Sec. VIII Div. 1 not possible	217	28
	GPM	90		73		114	223
	100	80		125		245	31
	110	87		136		267	32
	120	94		147		288	33
	130	101		158		310	35
	140	108		169		331	36
	150	115		180		353	37
	160	122		191		375	39
	170	129		202		396	40
	180	136		213		418	41
	190	143		224		439	42
	200	151		235		461	43
	210	158		246		483	44
	220	165		257		504	45
	230	172		268		526	46
	240	179		279		548	47
	250	186		290		569	48
	260	193		301		591	49
	270	200		312		612	50
	280	207		323		634	51
	290	214		334		656	52
	300	221		345		677	53
	320	235		368		720	55
	340	249		390		764	56
	360	263		412		807	58
	380	278		434		850	59
	400	292		456		893	61
	420	306		478		936	63
	440	320		500		980	64
	460	334		522		1023	65
	480	348		544		1066	67
	500	362		566		1109	68
	550	398		621		1217	72
	600	433		676		1325	75
	650	468		731		1434	78
	700	503		787		1542	81
	725	521		814		1596	82
	750	539		842		1650	84
	800	574		897		1758	86
	850	609		952		1866	89
	900	644		1007		1974	92
	950	680		1062		2082	94
	1015	726		1134		2222	97