

## CT5-1 PRESSURE RELIEF VALVE



### SUITABLE FOR

Liquids	neutral and non-neutral	
Air, gases and vapours	neutral and non-neutral	
Steam		

### EXAMPLES OF USE

For the protection of:

- pumps against overloading in closed circuits for neutral / non-neutral, non-sticking liquids

For the control of:

- systems under pressure for neutral/ non-neutral gases and vapours and – depending on the sealing material – also for steam

- pump protection
- test rig construction
- process equipment construction
- shipbuilding industry and marine equipment
- de-icing technology
- mechanical engineering
- industrial applications



### MATERIAL



### SPECIFICATION



1/2" – 2"



– 60°C to + 225°C  
depending on version



0,5 – 20 bar

### APPROVALS

European Pressure Equipment Directive

TR ZU 032/2013 - TR ZU 010/2011

#### Requirements

PED 2014/68/EU

UK PESR 2016 No. 1105

#### Classification society

DNV	DNV
Lloyd's Register EMEA	LR EMEA
American Bureau of Shipping	ABS
Bureau Veritas	BV
Russian Maritime Register of Shipping	RS

### MATERIALS

Component	Material	DIN EN	ASME
Inlet body	Gunmetal	CC499K	CC499K
Outlet body	Gunmetal	CC499K	CC499K
Internal parts	Brass / Gunmetal	CW617N / CC499K	CW617N / CC499K
Spring	Stainless steel	1.4310	302

## ■ VALVE VERSION

t	gastight version of spring housing	for neutral and non-neutral media, not counter pressure compensated. The environment is protected from being affected by the medium.
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## ■ MEDIUM

GF	gaseous and liquid	Air, vapours, gases, liquids and - depending on safety valve version and seal - also for steam
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## ■ TYPE OF LIFTING MECHANISM

0	without lifting device, standard for gastight versions
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## ■ AVAILABLE NOMINAL DIAMETERS AND CONNECTION SIZES

Nominal diameter DN		15	20	25	32	40	50
Inlet		1/2" (15)	3/4" (20)	1" (25)	1 1/4" (32)	1 1/2" (40)	2" (50)
Version		t	t	t	t	t	t
Outlet	1/2" (15)	■					
	3/4" (20)		■				
	1" (25)			■			
	1 1/4" (32)				■		
	1 1/2" (40)					■	
	2" (50)						■

## ■ 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	Available upon request	Female thread BSP-P / Female thread BSP-P	DIN EN ISO 228-1 / DIN EN ISO 228-1

## ■ SEALS

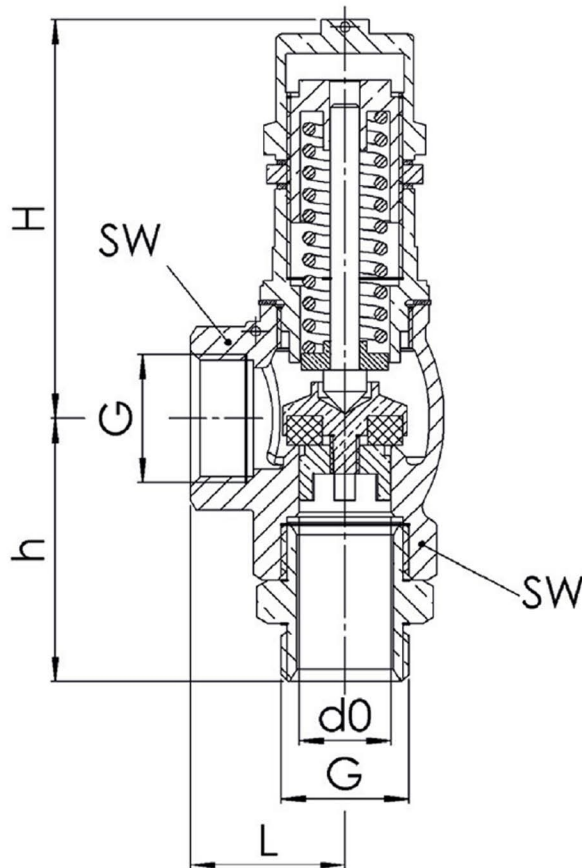
FKM	Fluorocarbon	Elastomere flat seal up to 12 bar	-20°C to +200°C
PTFE	Polytetrafluoroethylene	Flat seal 0,2 – 12 bar	-60°C to +225°C
PTFE	Polytetrafluoroethylene	Flat seal 12 – 20 bar	-60°C to +225°C

■ NOMINAL DIAMETERS, CONNECTIONS, INSTALLATION DIMENSIONS

Connection, installation dimensions, ranges of adjustment							
Nominal diameter	DN	15	20	25	32	40	50
Connection DIN EN ISO 228	G	1/2" (15)	3/4" (20)	1" (25)	1 1/4" (32)	1 1/2" (40)	2" (50)
Outlet DIN EN ISO 228	G	1/2" (15)	3/4" (20)	1" (25)	1 1/4" (32)	1 1/2" (40)	2" (50)
Weight	kg	0,4	0,7	1,2	1,9	2,5	3,8
Set pressure	bar	0,5 - 20	0,5 - 20	0,5 - 20	0,5 - 20	0,5 - 20	0,5 - 20
Range of adjustment	bar	0,5-2,5	0,5-2,5	0,5-2,5	0,5-2,5	0,5-2,5	0,5-2,5
		2-12	2-12	2-12	2-12	2-12	2-12
		12-20	12-20	12-20	12-20	12-20	12-20

G	1/2"	3/4"	1"	1.1/4"	1.1/2"	2"
DN	15	20	25	32	40	50
L (mm)	29	34	42	46	51	60
H (mm)	74	83	100	117	136	146
h (mm)	50	55	70	70	84	90
SW	28	34	41	52	58	70
do (mm)	13	19	25	30	38	50

■ MAIN DIMENSIONS, INSTALLATION DIMENSIONS



■ CAPACITY TABLE

Kv values at 1 bar overpressure												
Nominal diameter DN	15				15				15			
	Air [Nm <sup>3</sup> /h]				Water [m <sup>3</sup> /h]				Steam [kg/h]			
Pressure range bar	0,2 - 0,8	0,5 - 2,5	2 - 12	12 - 20	0,2 - 0,8	0,5 - 2,5	2 - 12	12 - 20	0,2 - 0,8	0,5 - 2,5	2 - 12	12 - 20
Set pressure bar												
0,2	85				2,7				68			
0,5	94	50			2,9	1,6			74	39		
0,8	104	57			3,0	1,6			81	42		
1,0		64				1,7				42		
1,5		66				1,8				49		
2,0		69	72*			1,8	0,9			50	56*	
2,5		70	72*			1,9	0,9			53	56*	
3,0			73*				0,8				57*	
4,0			75*				0,8				58*	
5,0			78*				0,8				60*	
6,0			79*				0,7				60*	
7,0			80*				0,6				61*	
8,0			84*				0,5				64*	
9,0			86*				0,4				65*	
10,0			89*				0,2				67*	
11,0			92*				0,2				69*	
12,0			95*	< 1			0,1	0,2			72*	< 1
13,0				< 1				0,2				< 1
14,0				< 1				0,2				< 1
15,0				< 1				0,2				< 1
16,0				5*				0,2				9*
17,0				12*				0,2				12*
18,0				38*				0,2				15*
19,0				51*				0,2				16*
20,0				65*				0,2				16*

\*Capacity at 2 bar overpressure

Kv values at 1 bar overpressure										
Nominal diameter DN	20			20			20			
	Air [Nm <sup>3</sup> /h]			Water [m <sup>3</sup> /h]			Steam [kg/h]			
Pressure range bar	0,5 - 2,5	2 - 12	12 - 20	0,5 - 2,5	2 - 12	12 - 20	0,5 - 2,5	2 - 12	12 - 20	
Set pressure bar										
0,2										
0,5	90				2,7			72		
0,8	94				2,9			80		
1,0	101				3,1			81		
1,5	118				3,2			89		
2,0	131	77			3,3	2,0		102	60	
2,5	155	83			3,5	2,1		121	67	
3,0		91				2,1			67	
4,0		98				2,1			80	
5,0		108				2,1			83	
6,0		112				2,2			94	
7,0		115				2,2			93	
8,0		116				2,0			88	
9,0		118				1,7			96	
10,0		121				1,6			87	
11,0		124				1,3			76	
12,0		125	74*			1,2	1,0		81	56*
13,0			82*				0,8			62*
14,0			97*				0,7			73*
15,0			111*				0,5			83*
16,0			125*				0,4			94*
17,0			132*				0,3			99*
18,0			148*				0,2			111*
19,0			169*				0,2			126*
20,0			180*				0,1			134*

\*Capacity at 2 bar overpressure

■ CAPACITY TABLE

Kv values at 1 bar overpressure										
Nominal diameter DN	25			25			25			
	Air [Nm³/h]			Water [m³/h]			Steam [kg/h]			
Pressure range bar	0,5 - 2,5	2 - 12	12 - 20	0,5 - 2,5	2 - 12	12 - 20	0,5 - 2,5	2 - 12	12 - 20	
Set pressure bar										
0,2										
0,5	99			3,1			79			
0,8	111			3,2			88			
1,0	124			3,3			94			
1,5	141			3,6			109			
2,0	162	101		3,8	2,6		124	83		
2,5	179	106		4,1	2,6		140	93		
3,0		118			2,7			90		
4,0		127			2,8			93		
5,0		136			2,9			107		
6,0		147			2,8			102		
7,0		154			2,7			114		
8,0		151			2,4			127		
9,0		146			2,2			111		
10,0		141			2,0			121		
11,0		136			1,9			98		
12,0		133	117*		1,7	0,6		106		88*
13,0			128*			0,6				96*
14,0			139*			0,5				104*
15,0			151*			0,5				113*
16,0			162*			0,5				121*
17,0			169*			0,5				126*
18,0			186*			0,4				139*
19,0			197*			0,4				147*
20,0			202*			0,4				151*

\*Capacity at 2 bar overpressure

Kv values at 1 bar overpressure										
Nominal diameter DN	32			32			32			
	Air [Nm³/h]			Water [m³/h]			Steam [kg/h]			
Pressure range bar	0,5 - 2,5	2 - 12	12 - 20	0,5 - 2,5	2 - 12	12 - 20	0,5 - 2,5	2 - 12	12 - 20	
Set pressure bar										
0,2										
0,5	261			7,3			207			
0,8	284			7,6			232			
1,0	314			8,0			248			
1,5	370			8,5			288			
2,0	419	161		9,1	4,1		328	119		
2,5	479	174		9,8	4,3		368	134		
3,0		195			4,4			148		
4,0		225			4,6			178		
5,0		241			4,9			206		
6,0		268			5,0			206		
7,0		289			5,1			231		
8,0		309			5,4			256		
9,0		329			4,8			240		
10,0		342			4,0			262		
11,0		369			3,7			283		
12,0		387	395*		3,4	1,5		304		298*
13,0			398*			1,4				299*
14,0			401*			1,4				301*
15,0			412*			1,3				309*
16,0			418*			1,2				313*
17,0			431*			1,2				323*
18,0			447*			1,1				334*
19,0			452*			1,1				338*
20,0			468*			1,0				350*

\*Capacity at 2 bar overpressure

■ CAPACITY TABLE

Kv values at 1 bar overpressure									
Nominal diameter DN	40 Air [Nm³/h]			40 Water [m³/h]			40 Steam [kg/h]		
Pressure range bar	0,5 - 2,5	2 - 12	12 - 20	0,5 - 2,5	2 - 12	12 - 20	0,5 - 2,5	2 - 12	12 - 20
Set pressure bar									
0,2									
0,5	402			11,1			318		
0,8	436			11,4			355		
1,0	471			12,1			362		
1,5	546			13,0			420		
2,0	615	188		13,9	4,9		455	144	
2,5	677	204		14,9	5,0		510	161	
3,0		229			5,2			179	
4,0		265			5,3			214	
5,0		304			5,5			248	
6,0		347			5,6			283	
7,0		387			5,8			317	
8,0		421			5,8			352	
9,0		459			5,8			322	
10,0		495			5,9			350	
11,0		537			6,1			303	
12,0		567	423*		6,2	3,1		326	319*
13,0			427*			2,6			321*
14,0			435*			2,1			327*
15,0			445*			1,4			334*
16,0			458*			1,1			343*
17,0			487*			1,1			364*
18,0			521*			1,1			390*
19,0			561*			1,0			419*
20,0			595*			1,0			445*

\*Capacity at 2 bar overpressure

Kv values at 1 bar overpressure									
Nominal diameter DN	50 Air [Nm³/h]			50 Water [m³/h]			50 Steam [kg/h]		
Pressure range bar	0,5 - 2,5	2 - 12	12 - 20	0,5 - 2,5	2 - 12	12 - 20	0,5 - 2,5	2 - 12	12 - 20
Set pressure bar									
0,2									
0,5	576			15,1			471		
0,8	591			15,7			527		
1,0	602			16,3			564		
1,5	825			17,2			618		
2,0	958	308		18,5	6,9		705	249	
2,5	1019	347		19,5	7,0		791	279	
3,0		381			7,3			309	
4,0		482			7,6			370	
5,0		576			7,9			430	
6,0		688			8,5			490	
7,0		767			9,0			549	
8,0		811			9,4			609	
9,0		855			9,8			557	
10,0		901			10,2			606	
11,0		935			10,6			655	
12,0		981	472*		11,0	2,8		705	356*
13,0			511*			3,1			385*
14,0			578*			3,3			434*
15,0			614*			3,5			460*
16,0			650*			3,7			487*
17,0			672*			3,8			503*
18,0			687*			3,9			514*
19,0			701*			3,9			524*
20,0			712*			4,0			532*

\*Capacity at 2 bar overpressure