

Overflow and pressure control valves  
made of stainless steel, angle-type  
with threaded connections  
-externally adjustable-

→ Series 418



■ 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.

- chemical plants, biogas plants
- desalination plants
- mechanical engineering and process equipment construction
- shipbuilding industry and marine equipment
- industrial applications
- secondary areas in the food-, beverage-, pharmaceutical- and cosmetics-industries

■ APPROVALS

European Pressure Equipment Directive

GOST-R

Requirements

DGR 97/23/EG

Classification society

Germanischer Lloyd  
Lloyd's Register EMEA  
American Bureau of Shipping  
Bureau Veritas

GL  
LR EMEA  
ABS  
BV



■ MATERIAL



■ SPECIFICATION



3/8" – 1 1/4"



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



0,2 – 30 bar

■ MATERIALS

Component	Material	DIN EN	ASTM / AISI
Inlet body	Stainless steel	1.4571	AISI 316 Ti
Outlet body	Stainless steel	1.4408	ASTM A 351 CF-8M
Internal parts	Stainless steel	1.4571	AISI 316 Ti
Spring	Stainless steel	1.4310	AISI 301

## ■ VALVE VERSION

<b>t</b>	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. Only available without lifting device. Adjustable under operating conditions without medium escaping into the atmosphere.
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Complete functional cartridge available as replacement part (order code: 418 cartridge-DN.-seal) can be exchanged without removing the valve.

Valves can be delivered unset within a pressure range or set and sealed at the factory.

## ■ MEDIUM

<b>GF</b>	gaseous and liquid	Air, vapours, gases, liquids and - depending on seal - also for steam
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## ■ TYPE OF LIFTING MECHANISM

<b>0</b>	without lifting device
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## ■ AVAILABLE NOMINAL DIAMETERS AND CONNECTION SIZES

Nominal diameter DN		10	15	20	25	32
Inlet		3/8" (10)	1/2" (15)	3/4" (20)	1" (25)	1 1/4" (32)
Outlet	3/8" (10)	■				
	1/2" (15)		■			
	3/4" (20)			■		
	1" (25)				■	
	1 1/4" (32)					■

## ■ TYPE OF CONNECTION INLET / OUTLET THREADED CONNECTIONS

<b>f / f</b>	Standard	Female thread BSP-P / Female thread BSP-P	DIN EN ISO 228-1 / DIN EN ISO 228-1
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## ■ SEALS

<b>NBR</b>	Nitrile rubber (standard)	Elastomere flat seal 0,2 – 30 bar	-30°C to +130°C
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### Against surcharge

<b>FKM</b>	Fluorocarbon	Elastomere flat seal 0,2 – 30 bar	-20°C to +200°C
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<b>PTFE</b>	Polytetrafluoroethylene	Flat seal 0,5 – 30 bar	-60°C to +225°C
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If the seal is made of PTFE the O-rings of the cartridge are as standard made of FPM. FFKM possible on request against surcharge.

## ■ OPTIONS

Special versions on request.

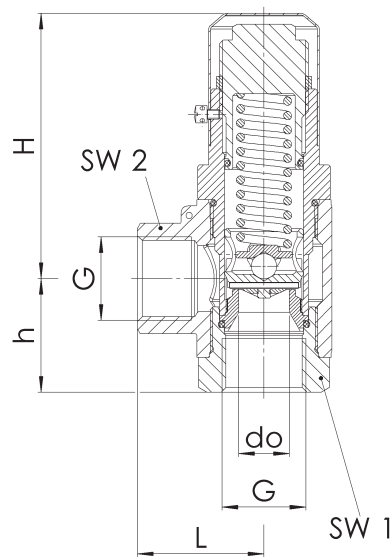
### Against surcharge

O-rings of valve cartridge made of FFKM	Order code: in options <b>FFKM</b>
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## NOMINAL DIAMETERS, CONNECTIONS, INSTALLATION DIMENSIONS

Series 418: Connection, installation dimensions, ranges of adjustment						
Nominal diameter	DN	10	15	20	25	32
Connection DIN EN ISO 228	G	3/8" (10)	1/2" (15)	3/4" (20)	1" (25)	1 1/4" (32)
Outlet DIN EN ISO 228	G	3/8" (10)	1/2" (15)	3/4" (20)	1" (25)	1 1/4" (32)
Installation dimensions in mm	L	34	34	40	50	50
	H	73	73	84	98	98
	h	33	33	36	48	48
	SW1	30	30	36	50	50
	SW2	28	28	32	41	50
	do	10	14	16	25	25
Weight	kg	0,5	0,5	0,8	1,8	1,9
Set pressure	bar	0,2 - 30	0,2 - 30	0,2 - 30	0,2 - 30	0,2 - 30
Range of adjustment	bar	0,2-1,2	0,2-1,2	0,2-1,2	0,2-1,2	0,2-1,2
		1,2-3	1,2-3	1,2-3	1,2-3	1,2-3
		2-12	2-12	2-12	2-12	2-12
		12-30	12-30	12-30	12-30	12-30

## MAIN DIMENSIONS, INSTALLATION DIMENSIONS



## INDIVIDUAL SELECTION / VALVE CONFIGURATION

Series	Valve version	Medium	Lifting device	Nominal diameter DN	Connection type		Connection size		Seal	Options	Pressure range / set pressure	Quantity
					Inlet	Outlet	Inlet	Outlet				
418	t	GF	0	15	f	f	15	15	NBR		2 - 12	5
418	t	GF	0	25	f	f	25	25	PTFE	FFKM	8	2
418	t	GF	0		f	f						
418	t	GF	0		f	f						

■ CAPACITY TABLE

Series 418: Kv values at 1 bar overpressure												
Nominal diameter DN	10				10				10			
	Air [Nm <sup>3</sup> /h]				Water [m <sup>3</sup> /h]				Steam [kg/h]			
Pressure range bar	0,2 - 1,2	1,2 - 3	2 - 12	12 - 30	0,2 - 1,2	1,2 - 3	2 - 12	12 - 30	0,2 - 1,2	1,2 - 3	2 - 12	12 - 30
Set pressure bar												
0,2	87				2,9				62,0			
0,7	106				3,0				74,7			
1,2	113	81			3,2	2,3			79,3	56,9		
2,0		96	47			2,6				67,0		
3,0		99	51			2,6	1,2			68,7	35,4	
4,0			56				1,2				38,8	
5,0			62				1,1				42,7	
6,0			65				1,1				44,7	
7,0			70				1,0				48,0	
8,0			77				1,0				52,6	
9,0			86				0,8				58,6	
10,0			94				0,7				63,9	
11,0			105				0,5				71,3	
12,0			108	81			0,4	0,7			73,1	54,9
13,0				78				0,6				52,9
14,0				74				0,6				50,1
15,0				72				0,6				48,6
16,0				62				0,6				41,8
17,0				55				0,6				37,1
18,0				48				0,5				32,3
19,0				40				0,4				26,9
20,0				29				0,4				19,5
21,0				22				0,4				14,8
22,0				16				0,3				10,8
23,0				12				0,3				8,1
24,0				6				0,2				4,0
25,0				3				0,2				2,0
26,0				< 1				0,2				< 1
27,0				< 1				0,1				< 1
28,0				< 1				0,1				< 1
29,0				< 1				0,1				< 1
30,0				< 1				0,1				< 1

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 - 1,2	1,2 - 3	2 - 12	12 - 30	0,2 - 1,2	1,2 - 3	2 - 12	12 - 30	0,2 - 1,2	1,2 - 3	2 - 12	12 - 30
Set pressure bar												
0,2	107				3,4				76,3			
0,7	119				3,7				83,9			
1,2	126	92			3,8	2,8			88,5	64,6		
2,0		107	47			2,4				74,7		
3,0		115	54			2,1	1,4			79,8	37,5	
4,0			63				1,4				43,6	
5,0			70				1,5				48,2	
6,0			81				1,5				55,7	
7,0			98				1,4				67,3	
8,0			103				1,3				70,4	
9,0			107				1,2				72,9	
10,0			112				1,1				76,2	
11,0			118				0,9				80,1	
12,0			122	61			0,8	0,7			82,6	41,3
13,0				70				0,6				47,5
14,0				78				0,6				52,8
15,0				85				0,5				57,4
16,0				97				0,5				65,4
17,0				105				0,5				70,7
18,0				114				0,5				76,8
19,0				78				0,5				52,5
20,0				34				0,4				22,9
21,0				12				0,4				8,1
22,0				< 1				0,4				< 1
23,0				< 1				0,3				< 1
24,0				< 1				0,3				< 1
25,0				< 1				0,2				< 1
26,0				< 1				0,2				< 1
27,0				< 1				0,2				< 1
28,0				< 1				0,1				< 1
29,0				< 1				0,1				< 1
30,0				< 1				0,1				< 1

Series 418: 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	0,2 - 1,2	1,2 - 3	2 - 12	12 - 30	0,2 - 1,2	1,2 - 3	2 - 12	12 - 30	0,2 - 1,2	1,2 - 3	2 - 12	12 - 30
Set pressure bar												
0,2	151				4,7				107,7			
0,7	166				5,4				117,0			
1,2	182	123			5,8	3,5			127,8	86,4		
2,0		139	88			3,4				97,0		
3,0		150	97			2,8	1,7			104,1	67,3	
4,0			102				1,6				70,6	
5,0			111				1,6				76,4	
6,0			124				1,4				85,2	
7,0			132				1,3				90,6	
8,0			136				1,0				93,0	
9,0			143				0,8				97,5	
10,0			148				0,7				100,6	
11,0			153				0,6				103,9	
12,0			159	114			0,6	0,4			107,7	77,2
13,0				118				0,5				80,0
14,0				121				0,7				81,9
15,0				124				0,8				83,7
16,0				129				0,9				87,0
17,0				125				0,9				84,2
18,0				136				1,1				91,6
19,0				141				1,0				94,9
20,0				144				0,7				96,9
21,0				130				0,6				87,5
22,0				115				0,5				77,4
23,0				100				0,4				67,3
24,0				87				0,3				58,5
25,0				55				0,3				37,0
26,0				36				0,2				24,2
27,0				29				0,2				19,5
28,0				20				0,1				13,4
29,0				12				0,1				8,1
30,0				4				0,1				2,7

Kv values at 1 bar overpressure												
Nominal diameter DN	25				25				25			
	Air [Nm <sup>3</sup> /h]				Water [m <sup>3</sup> /h]				Steam [kg/h]			
Pressure range bar	0,2 - 1,2	1,2 - 3	2 - 12	12 - 30	0,2 - 1,2	1,2 - 3	2 - 12	12 - 30	0,2 - 1,2	1,2 - 3	2 - 12	12 - 30
Set pressure bar												
0,2	348				10,3				248,1			
0,7	402				11,6				283,3			
1,2	431	381			11,2	9,4			302,6	267,5		
2,0		398	179			9,8				277,8		
3,0		372	212			8,5	4,3			258,3	147,2	
4,0			244				4,3				169,0	
5,0			288				4,4				198,3	
6,0			308				4,5				211,6	
7,0			314				4,7				215,5	
8,0			319				4,9				218,0	
9,0			331				5,2				225,7	
10,0			346				5,6				235,3	
11,0			351				5,3				238,3	
12,0			363	142			4,8	1,9			245,8	96,2
13,0				160				1,9				108,5
14,0				187				1,9				126,5
15,0				208				2,0				140,4
16,0				223				2,0				150,3
17,0				229				2,2				154,3
18,0				234				2,4				157,6
19,0				240				2,0				161,6
20,0				247				1,3				166,3
21,0				252				1,0				169,6
22,0				258				0,9				173,6
23,0				265				0,8				178,2
24,0				270				0,7				181,6
25,0				276				0,6				185,5
26,0				287				0,5				192,9
27,0				300				0,4				201,6
28,0				310				0,3				208,2
29,0				328				0,2				220,3
30,0				336				0,1				225,6

Series 418: Kv values at 1 bar overpressure

Nominal diameter DN	32 Air [Nm³/h]				32 Water [m³/h]				32 Steam [kg/h]			
	0,2 - 1,2	1,2 - 3	2 - 12	12 - 30	0,2 - 1,2	1,2 - 3	2 - 12	12 - 30	0,2 - 1,2	1,2 - 3	2 - 12	12 - 30
Set pressure bar												
0,2	426				12,1				303,7			
0,7	457				14,2				322,0			
1,2	460	386			14,5	10,3			322,9	271,0		
2,0		441	187			10,9				307,8		
3,0		477	229			12,0	4,3			331,2	159,0	
4,0			278				4,4				192,5	
5,0			303				4,5				208,6	
6,0			326				4,6				224,0	
7,0			345				4,7				236,8	
8,0			369				4,8				252,2	
9,0			397				5,0				270,7	
10,0			413				5,2				280,8	
11,0			431				5,7				292,6	
12,0			448	167			6,5	2,1			303,4	113,1
13,0				192				2,5				130,2
14,0				220				2,7				148,8
15,0				245				3,1				165,3
16,0				252				3,2				169,9
17,0				261				2,6				175,9
18,0				267				2,2				179,8
19,0				275				1,9				185,1
20,0				283				1,7				190,5
21,0				307				1,5				206,6
22,0				328				1,3				220,7
23,0				347				1,2				233,4
24,0				359				1,0				241,4
25,0				373				0,8				250,7
26,0				381				0,6				256,1
27,0				394				0,5				264,7
28,0				401				0,4				269,4
29,0				406				0,3				272,7
30,0				412				0,2				276,6