

Safety valves made of stainless steel, angle-type with threaded connections

→ Series 420



■ MATERIAL



■ SPECIFICATION



1/4" – 3/8"



– 40°C to + 260°C
depending on version



0,5 – 50 bar
depending on version

■ SUITABLE FOR

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

■ EXAMPLES OF USE

For the protection of:

- pressure tanks and -systems for neutral / non-neutral vapours, gases and liquids

- steam boilers and steam plants

Please observe plant-specific regulations and use of appropriate valve version and sealing material.

- chemical plants, biogas plants
- process technology
- desalination plants
- process equipment construction and medical technology
- shipbuilding industry and marine equipment
- secondary areas in the food-, beverage-, pharmaceutical- and cosmetics-industries
- offshore-applications
- general applications with screwed pipe connections
- Hydrogen applications

Safety valves are set and sealed at the factory.

■ APPROVALS

TÜV-Type test approval 2069	D/G, F, F/K/S ¹
EU type examination	S/G, L, F/K/S ¹
TSG ZF001-2006	G, F (L)
TR ZU 032/2013 - TR ZU 010/2011	D/G (S/G), F (L), F/K/S ¹

Requirements

AD 2000 Data sheet A2
TRD 421
TRB 801 No. 22 and No. 23¹

DIN EN ISO 4126-1
DGR 2014/68/EU

Classification society

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

■ MATERIALS

Component	Material	DIN EN	ASME
Inlet body	Stainless steel	1.4404	316 L
Outlet body	Stainless steel	1.4404	316 L
Internal parts	Stainless steel	1.4404	316 L
Spring	Stainless steel	1.4310	302
Metallic bellows (optional)	Stainless steel	1.4571	316 Ti
PTFE-bellows (optional)	PTFE	PTFE	PTFE

¹only for versions with bellows

t	gastight version of spring housing	for neutral and non-neutral media without counter pressure. The environment is protected from being affected by the medium. 0,5 to 1,5 bar gastight version (without bellows).
tb	gastight version with bellows	for neutral and non-neutral media without counter pressure. Spring and moving parts as the environment are protected from being affected by the medium. Version of bellows depending on set pressure: DN8: 1,6 to 12 bar PTFE bellows; 12,1 to 50 bar stainless steel bellows DN10: 1,6 to 12 bar PTFE bellows; 12,1 to 50 bar stainless steel bellows

■ MEDIUM

GF	gaseous and liquid	Air, vapours, gases, liquids and - depending on seal - also for steam Only for steam boilers <10l
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■ TYPE OF LIFTING MECHANISM

L	Lifting lever
0	without lifting device

■ AVAILABLE NOMINAL DIAMETERS AND CONNECTION SIZES

Nominal diameter DN		8			10		
Inlet		1/4" (8)	KV (8mm)	KV (10mm)	3/8" (10)	KV (10mm)	KV (12mm)
Outlet	3/8" (10)	■	■	■	■	■	■
	KV (12mm)	■	■	■	■	■	■

■ 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
SV / f		Cutting ring threaded connection / female thread BSP-P	EN ISO 8434-1 / DIN EN ISO 228-1
KV / KV		Screw compression fitting / Screw compression fitting	EN ISO 8434-1 / EN ISO 8434-1

■ SEALS

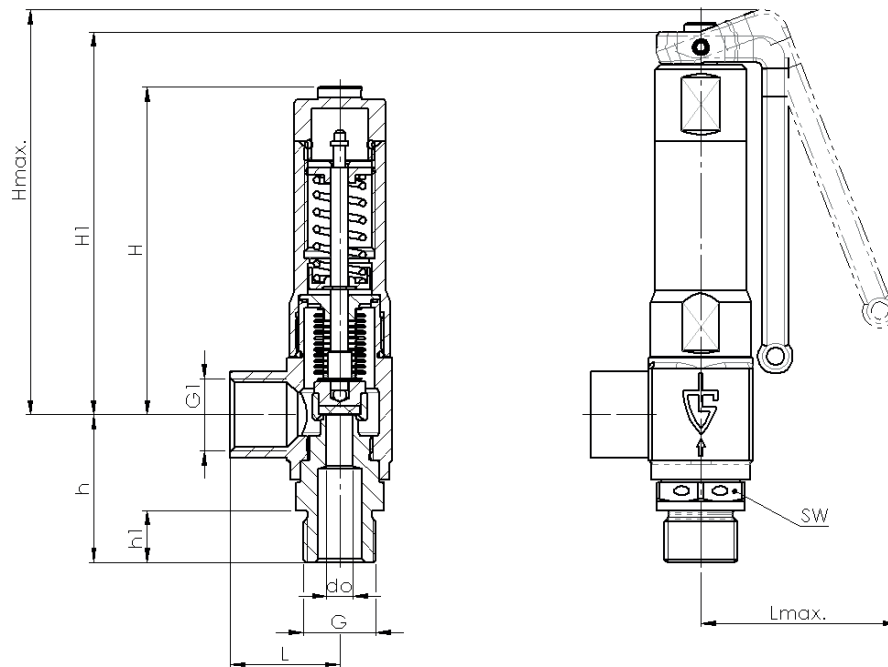
EPDM	Ethylene propylene diene	Elastomere moulded seal (0,5 – 30 bar)	–40°C to +170°C
FKM	Fluorcarbon	Elastomere moulded seal (0,5 – 30 bar)	–20°C to +200°C
FFKM	Perfluorinated rubber	Elastomere moulded seal (0,5 – 20 bar)	–10°C to +260°C
PTFE¹	Polytetrafluoroethylene	Flat seal (0,5 – 50 bar)	–40°C to +225°C

¹ With PTFE seat seals, the secondary seals are made of FKM as standard.

■ NOMINAL DIAMETERS, CONNECTIONS, INSTALLATION DIMENSIONS

Series 420: Connection, installation dimensions, ranges of adjustment				
Nominal diameter	DN	8	10	
Connection DIN EN ISO 228	G	1/4" (8)	3/8" (10)	
Outlet DIN EN ISO 228	G1	3/8" (10)	3/8" (10)	
Installation dimensions in mm	L	25	25	
	Lmax	45	45	
	H	75	75	
	H1	87	87	
	Hmax	93	93	
	h	34	34	
	h1	12	12	
	SW	20	20	
Weight	kg	0,3 / 0,4	0,25 / 0,35	
	do	6	6	
Range of adjustment	bar	0,5-50	0,5-50	

■ MAIN DIMENSIONS, INSTALLATION DIMENSIONS



Series 420 ■ INDIVIDUAL SELECTION / VALVE CONFIGURATION

Series	Valve version	Medium	Lifting device	Nominal diameter DN	Connection type		Connection size		Seal	Options	Set pressure	Quantity
					Inlet	Outlet	Inlet	Outlet				
420	tb	GF	L	8	m	f	8	10	FFKM		5,5	2
420	t	GF	O	10	SV	f	10mm	10	EPDM		1,0	1
420		GF										
420		GF										

■ PROPERTIES

GOX	Especially for gaseous O2 applications by employment of specific materials including oil- and grease free production process	<input type="checkbox"/>	<input type="checkbox"/>
P01	Oil- and grease-free production	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>

■ CERTIFICATES / APPROVALS

C01	Factory certificate acc. DIN EN 10204 2.2 (WKZ 2.2)	<input type="checkbox"/>	C06	ATEX evaluation acc. to 2014/34/EU	<input type="checkbox"/>
C02	Test certificate acc. DIN EN 10204 3.1 (WPZ 3.1)	<input type="checkbox"/>	C07	SIL evaluation relating to IEC 61508-2	<input type="checkbox"/>
C03	Material test certificate acc. DIN EN 10204 3.1 (MPZ 3.1) (pressure retaining part)	<input type="checkbox"/>	C09	Seat tightness test with helium, leak detection method under vacuum incl. Factory Inspection Certificate 3.1 acc. to DIN EN 10204	<input type="checkbox"/>
C04	TÜV/DEKRA individual inspection acc. EN 10204 3.2 (TÜV/DEKRA-APZ)	<input type="checkbox"/>	C10	Certificate of oil- and grease free production	<input type="checkbox"/>
C05	Sealing material Manufacturer certification (FDA, USP 3, 3-A,...), Please indicate description of certificate: _____	<input type="checkbox"/>	C11	Certification of the production process especially for gaseous oxygen applications by employment of specific materials	<input type="checkbox"/>

■ ADMISSIONS / ACCREDITATIONS

AA1	EC Type examination acc. to Directive 2014/68/EU	<input type="checkbox"/>	AK1	Det Norske Veritas (DNV) type approval	<input type="checkbox"/>
AA2	TÜV component test acc. to VdTÜV specification sheet SV 100	<input type="checkbox"/>	AK2	Lloyd's Register (LR) type approval	<input type="checkbox"/>
AA4	EAC - certificate/declaration with passport for the valve and laser marking of the valve	<input type="checkbox"/>	AK3	American Bureau of Shipping (ABS) type approval	<input type="checkbox"/>
		<input type="checkbox"/>	AK4	Bureau Veritas (BV) type approval	<input type="checkbox"/>
		<input type="checkbox"/>	AK5	Russian Maritime Register of Shipping (RMRS) type approval	<input type="checkbox"/>
		<input type="checkbox"/>	AK6	Registro Italiano Navale (RINA) type approval	<input type="checkbox"/>
		<input type="checkbox"/>	AL	Individual inspection by notified body inspector – (body to be indicated): _____	<input type="checkbox"/>

■ ENQUIRY

Copy and send to: order@goetze.de.

Series 420: Blowing-off rates at 10% above set pressure							
Nominal diameter DN		DN8			DN10		
Set pressure bar		I	II	III	I	II	III
Air I Nm³/h	0,50	10	8	0,39	15	12	0,46
	1,00	16	13	0,53	23	18	0,62
	1,50	21	17	0,65	30	23	0,76
Steam II kg/h	2,00	28	22	0,75	38	30	0,88
	2,50	32	25	0,84	45	35	0,98
	3,00	37	29	0,92	52	41	1,07
Water III m³/h	3,50	42	33	0,99	59	46	1,16
	4,00	47	36	1,06	65	51	1,24
	4,50	52	40	1,12	72	56	1,31
	5,00	56	43	1,18	79	61	1,38
	5,50	61	47	1,24	85	66	1,45
	6,00	66	51	1,29	92	71	1,52
	6,50	71	54	1,35	99	76	1,58
	7,00	75	58	1,40	105	81	1,64
	7,50	80	61	1,45	112	86	1,70
	8,00	85	65	1,49	119	91	1,75
	8,50	90	68	1,54	125	96	1,80
	9,00	94	72	1,59	132	101	1,86
	9,50	99	75	1,63	139	106	1,91
	10,00	104	79	1,67	145	110	1,96
	11,00	113	86	1,75	159	120	2,05
	12,00	123	93	1,83	172	130	2,14
	13,00	132	100	1,91	185	140	2,23
	14,00	142	107	1,98	199	150	2,32
	15,00	151	114	2,05	212	160	2,40
	16,00	161	121	2,11	225	169	2,48
	17,00	171	128	2,18	239	179	2,55
	18,00	180	135	2,24	252	189	2,63
	19,00	190	142	2,30	265	199	2,70
	20,00	199	149	2,36	279	208	2,77
	21,00	209	156	2,42	292	218	2,84
	22,00	218	163	2,48	305	228	2,90
	23,00	228	170	2,53	319	238	2,97
24,00	237	177	2,59	332	248	3,03	
25,00	247	184	2,64	345	258	3,09	
26,00	256	191	2,69	359	268	3,16	
27,00	266	198	2,75	372	278	3,22	
28,00	275	205	2,80	385	287	3,28	
29,00	285	212	2,85	399	297	3,33	
30,00	294	219	2,89	412	307	3,39	
32,00	313	233	2,99	439	326	3,50	
34,00	332	247	3,08	465	346	3,61	
36,00	351	262	3,17	492	366	3,71	
38,00	370	276	3,26	519	386	3,82	
40,00	390	290	3,34	545	406	3,91	
42,00	409	304	3,42	572	426	4,01	
44,00	428	318	3,50	599	446	4,11	
46,00	447	333	3,58	625	466	4,20	
48,00	466	347	3,66	652	486	4,29	
50,00	485	361	3,74	679	506	4,38	