

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

→ Series 853



■ 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 – 25 bar

■ APPROVALS

European Pressure Equipment Directive

TR ZU 032/2013 - TR ZU 010/2011

Requirements

PED 2014/68/EU

Classification society

Germanischer Lloyd	GL
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	Stainless steel	1.4404	316 L
Bellows	Stainless steel	1.4571	316 Ti
Spring	Stainless steel	1.4310	302

## ■ VALVE VERSION

<b>b</b>	with bellows	for neutral and non-neutral media, counter pressure compensated up to 4 bar. Spring, moving parts and the environment are protected from being affected by the medium.
<b>t</b>	gastight version of spring housing	for neutral and non-neutral media without counter pressure. The environment is protected from being affected by the medium. Only available without lifting device and without hand wheel.
<b>tb</b>	gastight version with bellows	for neutral and non-neutral an particularly for flammable, toxic and environmentally hazardous media and/or counter pressure up to 4 bar. Spring, moving parts and the environment are protected from being affected by the medium. <b>Double gastight.</b> Only available without lifting device and without hand wheel.

Can be adjusted by hand wheel under operating conditions without medium escaping into the environment.

**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 safety valve version and seal - also for steam
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## ■ TYPE OF LIFTING MECHANISM

<b>K</b>	with twist-type lifting mechanism
<b>O</b>	without lifting device

## ■ AVAILABLE NOMINAL DIAMETERS AND CONNECTION SIZES

Nominal diameter DN	15	20	25	32	
<b>Inlet</b>	1/2" (15)	3/4" (20)	1" (25)	1 1/4" (32)	1 1/2" (40) 2" (50)
<b>Outlet</b>	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

<b>f / f</b>	Standard	Female thread BSP-P / Female thread BSP-P	DIN EN ISO 228-1 / DIN EN ISO 228-1
<b>m / f</b>	On request	Male thread BSP-P / Female thread BSP-P	DIN EN ISO 228-1 / DIN EN ISO 228-1
<b>Against surcharge</b>			
<b>BSP-Tf / f</b>		Female thread BSP-T / Female thread BSP-P	DIN EN 10226, ISO 7-1 / DIN EN ISO 228-1
<b>BSP-Tm / f</b>		Male thread BSP-T / Female thread BSP-P	DIN EN 10226, ISO 7-1 / DIN EN ISO 228-1

**Further connection types available on request.**

## ■ SEALS

<b>NBR</b>	Nitrile rubber	Elastomere moulded seal with metallic support	-30°C to +130°C
<b>EPDM</b>	Ethylene propylene diene	Elastomere moulded seal with metallic support	-40°C to +170°C
<b>FKM</b>	Fluorocarbon	Elastomere moulded seal with metallic support	-20°C to +200°C
<b>PTFE</b>	Polytetrafluoroethylene	Flat seal	-60°C to +225°C
<b>Against surcharge</b>			
<b>FFKM</b>	Perfluorinated rubber	Elastomere moulded seal with metallic support	-10°C to +225°C

## ■ OPTIONS

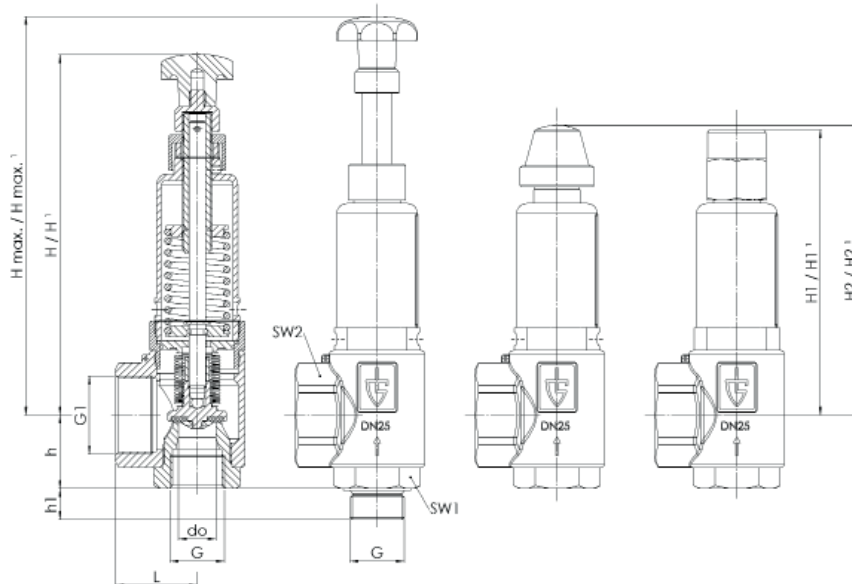
Special versions on request.

■ NOMINAL DIAMETERS, CONNECTIONS, INSTALLATION DIMENSIONS

Series 853: 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	G1	1" (25)	1 1/4" (32)	1 1/2" (40)	2" (50)	2" (50)	2" (50)
Installation dimensions in mm	L	40	43	50	61	61	61
	H / H <sup>1</sup>	102 / 102	156 / 169,5	205 / 223	296 / 318	296 / 318	296 / 318
	H max. / H max. <sup>1</sup>	120 / 120	177 / 190,5	230 / 248,5	320 / 344	320 / 344	320 / 344
	H1 / H1 <sup>1</sup>	76 / 76	139 / 152,5	175 / 193	241 / 263	241 / 263	241 / 263
	H2 / H2 <sup>1</sup>	77 / 77	138 / 151,5	177 / 195	241 / 263	263 / 285	263 / 285
	h	30	39	45	55	69	74
	h1	16	14	19	21	22,5	25,0
	SW1	30	36	46	55	55	70
	SW2	40	50	58	70	70	70
	do	16	18	23	30	30	30
Weight	kg	0,5	1,0	2,0	4,2	4,5	4,7
Set pressure	bar	0,5 - 25	0,5 - 25	0,5 - 25	0,5 - 25	0,5 - 25	0,5 - 25
Range of adjustment	bar	0,5-0,9	0,5-1	0,5-0,9	0,5-0,9	0,5-0,9	0,5-0,9
		1-1,3	1-1,6	0,9-1,5	1-1,3	1-1,3	1-1,3
		1,3-2,9	1,6-2,8	1,5-2	1,4-3	1,4-3	1,4-3
		2,9-3,9	2,8-5,3	2,1-4,5	3,1-5,5	3,1-5,5	3,1-5,5
		3,9-7,9	5,4-10	4,6-8	5,6-11	5,6-11	5,6-11
		8-11,5	10-12	8,1-14	11-16	11-16	11-16
		11-16	12-25	14-25	16-25	16-25	16-25

<sup>1</sup>Dimension for the version with bellows

■ MAIN DIMENSIONS, INSTALLATION DIMENSIONS



■ 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				
853	b	GF	O	25	m	f	25	40	FKM		7,5	2
853	b	GF	K	32	f	f	40	50	FFKM		3,1 - 5,5	1
853												
853												

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)7141.4889488  
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 853: Kv values at 1 bar overpressure															
Nominal diameter DN	15				15				15						
	Air [Nm³/h]				Water [m³/h]				Steam [kg/h]						
Pressure range bar	0,5 - 0,9	1,3 - 2,9	3,9 - 7,9	11 - 16	0,5 - 0,9	1,3 - 2,9	3,9 - 7,9	11 - 16	0,5 - 0,9	1,3 - 2,9	3,9 - 7,9	11 - 16			
Set pressure bar	1 - 1,3	2,9 - 3,9	8 - 11,5	16 - 25	1 - 1,3	2,9 - 3,9	8 - 11,5	16 - 25	1 - 1,3	2,9 - 3,9	8 - 11,5	16 - 25			
0,5	120				4,4				97						
0,7	135				4,6				110						
0,9	150				5				127						
1,0		105			4,8				81						
1,1		116			4,9				94						
1,3		133	124		5,2	4,1			106	96					
2,1			134			4,4				85					
2,9			148	120		5,2	5,1			111	96				
3,4				139			5,2				106				
3,9				154	86		5,3	3,1			121	67			
5,9					106			3,7				81			
7,9					135			3,9				100			
8,0					142			3,6					101		
9,7					140			2,7					118		
11,0					138	28		2,4	2,2				111	26	
11,5					137	39		2,3	2,1				109	32	
13,5						73			1,7					47	
16,0					96	67			1,2	1,4				72	54
20,5						125				1,3					90
25,0						184				1,1					134

Kv values at 1 bar overpressure														
Nominal diameter DN	20				20				20					
	Air [Nm³/h]				Water [m³/h]				Steam [kg/h]					
Pressure range bar	0,5 - 1	1,6 - 2,6	5,4 - 10	12 - 25	0,5 - 1	1,6 - 2,6	5,4 - 10	12 - 25	0,5 - 1	1,6 - 2,6	5,4 - 10	12 - 25		
Set pressure bar	1 - 1,6	2,8 - 5,3	10 - 12		1 - 1,6	2,8 - 5,3	10 - 12		1 - 1,6	2,8 - 5,3	10 - 12			
0,5	275				8,6				214					
0,7	295				9,1				227					
1,0	327	309			9,6	9,2			256	240				
1,3		344				9,5				267				
1,6		368	333			10	8,8			281	262			
2,2			379				9,5				293			
2,8			428	365			10,4	8,3			327	282		
4,1				482				9,6				357		
5,3				541				10,2				416		
5,4					420			7,9				323		
7,7					562			10,7				434		
10,0					685	497		14,3	11			518	393	
11,0						526			11,6				374	
12,0						558	326		11,8	5,3			420	238
18,5							423			3,1				319
25,0							606			1,6				453

Series 853: 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 - 0,9	1,5 - 2	4,6 - 8	14 - 25	0,9 - 1,5	2,1 - 4,5	8,1 - 14	0,5 - 0,9	1,5 - 2	4,6 - 8	14 - 25	0,9 - 1,5	2,1 - 4,5	8,1 - 14
	0,9 - 1,5	2,1 - 4,5	8,1 - 14	0,5 - 0,9	1,5 - 2	4,6 - 8	14 - 25	0,9 - 1,5	2,1 - 4,5	8,1 - 14	14 - 25	0,9 - 1,5	2,1 - 4,5	8,1 - 14
Set pressure bar														
0,5	503				13,6							393		
0,7	543				14,3							424		
0,9	592	586			15,1	14,6						462	455	
1,2		655				15,1							508	
1,5		726	697			15,8	14,9						562	539
1,8			783				15,7							592
2,0			836				16,3							631
2,1				748				15,3						584
3,3				985				17,5						751
4,5				1221				19,8						931
4,6					784				15,6					601
6,3					1097				18,1					823
8,0					1514				21,7					1138
8,1					1208					17,7				904
11,1					1553					22,3				1146
14,0					2090	805				22,7	13,8			1564 612
19,5						1107					15,2			818
25,0						1179					17,2			854

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 - 0,9	1,4 - 3	5,6 - 11	16 - 25	1 - 1,3	3,1 - 5,5	11 - 16	0,5 - 0,9	1,4 - 3	5,6 - 11	16 - 25	0,5 - 0,9	1,4 - 3	5,6 - 11
	1 - 1,3	3,1 - 5,5	11 - 16	0,5 - 0,9	1,4 - 3	5,6 - 11	16 - 25	0,5 - 0,9	1,4 - 3	5,6 - 11	16 - 25	0,5 - 0,9	1,4 - 3	5,6 - 11
Set pressure bar														
0,5	844				23,3							660		
0,7	915				24,8							712		
0,9	986				26,1							775		
1,0		1009				26,9							711	
1,1		1066				28,1							734	
1,3		1123				28,8							792	
1,4			1183				27,4							827
2,2			1402				30,0							986
3,0			1665				32,0							1150
3,1				1409				26,5						984
4,3				1695				28,0						1187
5,5				1842				31,1						1269
5,6					1322				24,3					922
8,3					1893				28,7					1267
11,0					2496	1918			36,4	27,8				1698 1321
13,5						2175				34,6				1458
16,0						2595	1248			35,6	18,2			1686 843
20,5							2155				29,9			1374
25,0							2332				36,8			1550