

Overflow and pressure control valves
made of stainless steel, straightway
form with flange connections
-externally adjustable-

→ Series 431



■ SUITABLE FOR

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

■ 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 air, neutral / non-neutral gases and vapours

- industrial plants
- power plant technology
- pump systems
- mechanical engineering
- secondary areas in the food-, beverage-, pharmaceutical- and cosmetics-industries



■ MATERIAL



■ SPECIFICATION



DN 20 to DN 80 - 10°C to + 95°C 0,5 – 10 bar

■ APPROVALS

European Pressure Equipment Directive

GOST-R

Requirements

PED 97/23/EC

Classification society

Germanischer Lloyd	GL
Lloyd's Register EMEA	LR EMEA
American Bureau of Shipping	ABS
Bureau Veritas	BV

■ MATERIALS

Component	Material	DIN EN	ASME
Inlet body	Stainless steel	1.4408	CF8M
Outlet body	Stainless steel	1.4408	CF8M
Internal parts	Stainless steel	1.4408	CF8M
	Stainless steel	1.4404	316 L
Valve seat	Stainless steel	1.4404	316 L
Spring	Spring steel with anti-rust protection	1.1200	ASTM A228

■ VALVE VERSION

m	with diaphragm	High-quality, heat-resistant moulded elastomere, fabric-reinforced diaphragm. Valves in straightway form, closed version. Can be adjusted under operating conditions without medium escaping into the atmosphere. Adjustment can be directly read-off an optional pressure gauge (accessory). Optimal control response and large flow volumes even in cases of small pressure differences due to diaphragm operating principle.
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Complete valve cartridge available as replacement part (order code: 431 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 (against surcharge).

■ MEDIUM

GF	gaseous and liquid	for water and distilled water, neutral and non-sticking liquids, compressed air and neutral gases; optionally with FPM elastomere seals for non-neutral media i.e. oils, fuels, oil-laden compressed air etc.
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■ TYPE OF LIFTING MECHANISM

0	without lifting device
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■ AVAILABLE NOMINAL DIAMETERS AND CONNECTION SIZES

Nominal diameter DN	20	25	32	40	50	65	80
Inlet / Outlet	20/20	25/25	32/32	40/40	50/50	65/65	80/80
	■	■	■	■	■	■	■

■ TYPE OF CONNECTION INLET / OUTLET FLANGE CONNECTIONS

FL / FL	Standard	Flange connection / flange connection	DIN EN 1092 / DIN EN 1092
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■ SEALS

EPDM	Ethylene propylene diene	Elastomere moulded diaphragm and seals approvals according to drinking water directive	-10°C to +95°C
Against surcharge			
FKM	Fluorocarbon	Elastomere moulded diaphragm and seals	-10°C to +95°C

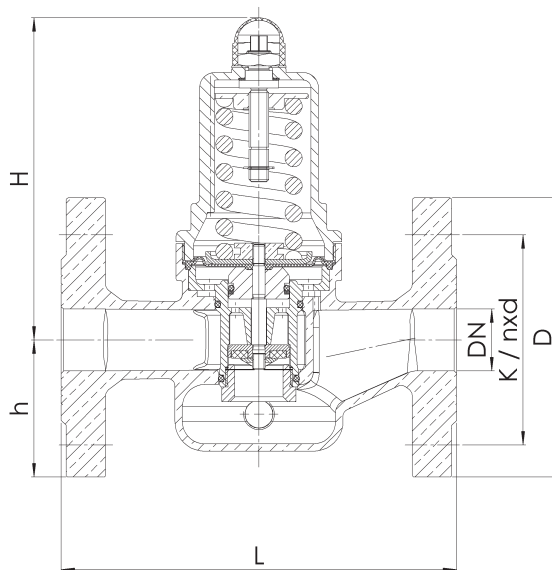
■ OPTIONS

Against surcharge	
Pressure gauges 33, 36, 39 or 40	Chapter Accessories
Pressure gauge 37, 38, 41, 42 or 43 made of stainless steel	Chapter Accessories

NOMINAL DIAMETERS, CONNECTIONS, INSTALLATION DIMENSIONS

Series 431: Connection, installation dimensions, ranges of adjustment									
Nominal diameter	DN / PN	20 / 40	25 / 40	32 / 40	40 / 40	50 / 40	65 / 16	65 / 40	80 / 40
Inlet DIN EN 1092	DN	20	25	32	40	50	65	65	80
Outlet DIN EN 1092	DN	20	25	32	40	50	65	65	80
Installation dimensions in mm	L	150	160	180	200	230	290	290	310
	D	105	115	140	150	165	185	185	200
	H	130	130	130	166	166	245	245	245
	h	50	55	68	73	80	89	89	97
	K / nxd	75 / 4xM12	85 / 4xM12	100 / 4xM16	110 / 4xM16	125 / 4xM16	145 / 4xM16	145 / 8xM16	160 / 8xM16
Weight	kg	3,9	4,3	5,5	8,4	10,2	18,7	19	20,5
Set pressure	bar	0,5-10	0,5-10	0,5-10	0,5-10	0,5-10	1-6	1-6	1-6
Range of adjustment	bar	0,5-2	0,5-2	0,5-2	0,5-2	0,5-2	1-6	1-6	1-6
		1,5-6	1,5-6	1,5-6	1,5-6	1,5-6			
		5,5-10	5,5-10	5,5-10	5,5-10	5,5-10			

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				
431	m	GF	0	25	FL	FL	25	25	EPDM		1,5 - 6	8
431	m	GF	0	80	FL	FL	80	80	FKM	Manometer 37	5,0	3
431	m	GF	0		FL	FL						
431	m	GF	0		FL	FL						

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 431: Kv values at 1 bar overpressure												
Nominal diameter DN	20		25		32		40		50		65	80
Pressure range bar	Air [Nm ³ /h]		Air [Nm ³ /h]		Air [Nm ³ /h]		Air [Nm ³ /h]		Air [Nm ³ /h]		Air [Nm ³ /h]	Air [Nm ³ /h]
bar	0,5-2	5,5-10	1,5-6		0,5-2		5,5-10		1,5-6		0,5-2	5,5-10
Set pressure bar	1,5-6		0,5-2	5,5-10	1,5-6		0,5-2	5,5-10	1,5-6		1-6	
0,5	175		189		193		417		445			
1	208		231		239		498		537		945	1010
1,5	247	175	264	185	273	196	587	370	624	408	1020	1115
2	285	214	303	226	314	238	636	429	683	472	1255	1315
3	245		282		291		506		557		1480	1620
4	292		330		338		543		615		1810	1890
5	329		367		379		625		684		1895	2060
5,5	354	173	386	183	394	186	653	375	719	417	1930	2150
6	375	186	405	194	418	202	708	395	760	443	1965	2230
7	210		223		229		400		502			
8	249		259		264		407		517			
9	273		285		289		432		564			
10	294		303		314		465		601			

Kv values at 1 bar overpressure												
Nominal diameter DN	20		25		32		40		50		65	80
Pressure range bar	Water [m ³ /h]		Water [m ³ /h]		Water [m ³ /h]		Water [m ³ /h]		Water [m ³ /h]		Water [m ³ /h]	Water [m ³ /h]
bar	0,5-2	5,5-10	1,5-6		0,5-2		5,5-10		1,5-6		0,5-2	5,5-10
Set pressure bar	1,5-6		0,5-2	5,5-10	1,5-6		0,5-2	5,5-10	1,5-6		1-6	
0,5	5,1		5,5		6,2		12,4		12,9			
1	5,4		6,1		6,9		12,9		13,8		23,0	26,0
1,5	5,9	5,2	6,6	5,6	7,5	6,4	13,2	9,0	14,4	9,4	24,0	26,0
2	6,3	5,2	6,9	5,7	7,8	6,4	13,5	9,1	14,9	9,4	25,0	27,0
3	5,3		5,9		6,5		9,3		9,5		26,0	29,0
4	5,3		6,1		7,2		9,5		9,9		28,0	30,0
5	5,4		6,2		7,5		9,7		10,2		28,0	31,0
5,5	5,2	2,9	5,8	3,2	6,9	4,1	10,1	7,2	10,5	7,7	28,0	32,0
6	5,1	3,0	5,4	3,3	6,7	4,2	10,4	7,3	10,9	8,0	29,0	32,0
7	3,3		3,9		4,5		7,5		8,1			
8	3,2		3,8		4,4		7,3		7,8			
9	3,1		3,7		4,2		6,9		7,4			
10	3,1		3,6		4,0		6,5		7,1			