→ Series 431

431

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



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.

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.

TYPE OF LIFTING MECHANISM

0	without lifting device

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

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

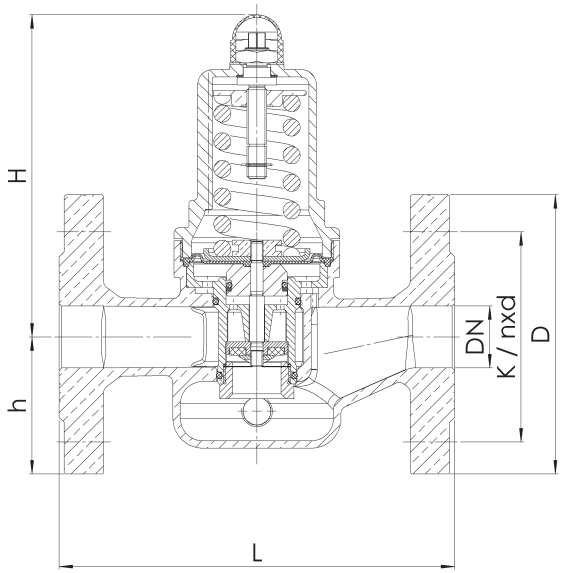
Against surcharge	
Pressure gauges 33, 36, 39 or 40	Chapter Accessories
Pressure gauge 37, 38, 41, 42 or 43 made of stainless steel	Chapter Accessories

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 1,5-6 5,5-10	0,5-2 1,5-6 5,5-10	0,5-2 1,5-6 5,5-10	0,5-2 1,5-6 5,5-10	0,5-2 1,5-6 5,5-10	1-6	1-6	1-6

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
	Air [Nm³/h]			Air [Nm³/h]			Air [Nm³/h]			Air [Nm³/h]			Air [Nm³/h]			Air [Nm³/h]	Air [Nm³/h]
Pressure range bar	0,5-2	1,5-6	5,5-10	1,5-6	0,5-2	5,5-10	0,5-2	1,5-6	5,5-10	1,5-6	0,5-2	5,5-10	0,5-2	1,5-6	5,5-10	1-6	1-6
Set pressure bar																	
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
	Water [m³/h]			Water [m³/h]			Water [m³/h]			Water [m³/h]			Water [m³/h]			Water [m³/h]	Water [m³/h]
Pressure range bar	0,5-2	1,5-6	5,5-10	1,5-6	0,5-2	5,5-10	0,5-2	1,5-6	5,5-10	1,5-6	0,5-2	5,5-10	0,5-2	1,5-6	5,5-10	1-6	1-6
Set pressure bar																	
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		