→ Series 481

481

Pressure reducing valves made of stainless steel with male union joints

SUITABLE FOR

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

EXAMPLES OF USE

For the protection of:
- domestic water supply systems
- commercial and industrial plants

against too high supply pressure.
Pressure reducers are used, if within a piping system despite of varying pressures on the inlet side a certain pressure must not be exceeded on the outlet side.

- potable water supply according to DIN 1988
- process water supply in industrial- and building technology
- snow-making equipment
- fire-fighting equipment and sprinkler systems
- shipbuilding industry and offshore plants
- secondary areas in the food-, pharmaceutical- and cosmetics-industries.

MATERIAL

SPECIFICATION

1/2" – 2"

– 10°C to + 95°C

Inlet pressure: up to 30 bar
Outlet pressure: 0,5 to 15 bar
depending on version

APPROVALS

DIN-DVGW type examination

Type approval ACS

Type approval WRAS

GOST-R

Requirements

DIN DVGW guidelines
DIN EN 1567
DIN 1988
DIN EN ISO 3822
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
Spring	Spring steel with anti-rust protection	1.1200	ASTM A228
Strainer	Stainless steel	1.4301	304

VALVE VERSION

m	with diaphragm	High-quality, heat-resistant moulded elastomere, fabric-reinforced diaphragm. Pressure adjustment by means of non-rising spindle. Valve insert with balanced single seat valve completely made of stainless steel.

Complete valve insert SP/HP (order code: 481 Insert-DN..-seal) available as replacement part can be exchanged without removing the valve.

Complete valve insert LP (order code: 481 LP Insert-DN..-seal) available as replacement part can be exchanged without removing the valve.

Built-in dirt trap made of stainless steel.

Mesh size:	DN 15 to DN 32	0,60 mm
	DN 40 and DN 50	0,75 mm

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

OUTLET PRESSURE RANGES

SP	Standard version	Inlet pressure: up to 25 bar	Outlet pressure: from 1 to 8 bar (DVGW 6 bar)
HP	High-pressure version	Inlet pressure: up to 30 bar	Outlet pressure: from 5 to 15 bar
LP	Low-pressure version	Inlet pressure: up to 25 bar	Outlet pressure: from 0,5 to 2 bar

Fixed setting at a required outlet pressure against surcharge.

AVAILABLE NOMINAL DIAMETERS AND CONNECTION SIZES

Nominal diameter DN	**15**	**20**	**25**	**32**	**40**	**50**
Inlet threaded connection	1/2“ (15)	3/4“ (20)	1“ (25)	1 1/4“ (32)	1 1/2“ (40)	2“ (50)
Outlet threaded connection	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

BSP-Tm / BSP-Tm	Standard threaded connections	Male thread BSP-T / Male thread BSP-T	DIN EN 10226, ISO 7-1 / DIN EN 10226, ISO 7-1

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

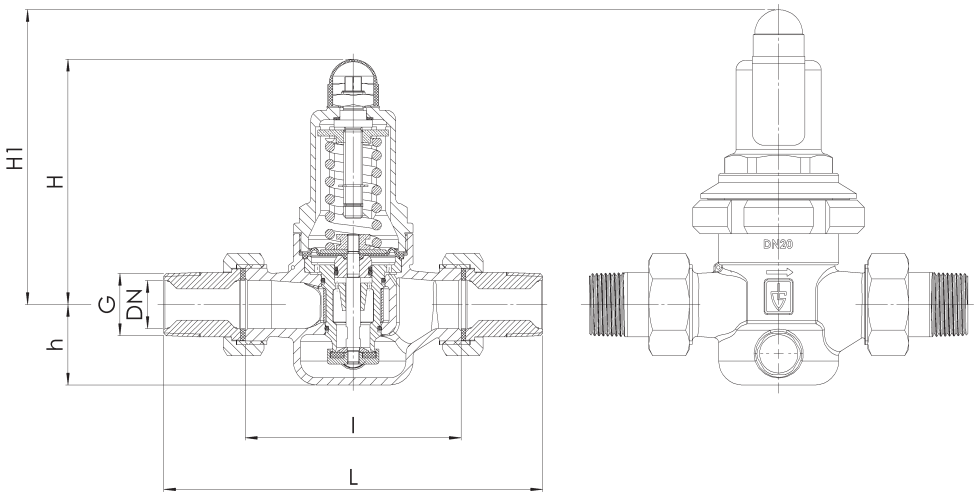
Against surcharge	
Pressure gauges 36, 39 or 40	Chapter Accessories
Pressure gauges 41, 42 or 43 made of stainless steel	Chapter Accessories

NOMINAL DIAMETERS, CONNECTIONS, INSTALLATION DIMENSIONS

Series 481: Connection, installation dimensions, ranges of adjustment							
Connection	**DN**	**15**	**20**	**25**	**32**	**40**	**50**
Inlet DIN EN 10226	**G**	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Outlet DIN EN 10226	**G**	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Inlet pressure SP, LP up to	**bar**	25	25	25	25	25	25
Inlet pressure HP up to	**bar**	30	30	30	30	30	30
Outlet pressure	**bar**	0,5 - 2	0,5 - 2	0,5 - 2	0,5 - 2	0,5 - 2	0,5 - 2
		1 - 8	1 - 8	1 - 8	1 - 8	1 - 8	1 - 8
		5 - 15	5 - 15	5 - 15	5 - 15	5 - 15	5 - 15
Installation dimensions in mm	**L**	142	158	180	193	226	252
	l	80	90	100	105	130	140
	H (H1)	102 (128[1])	102 (128[1])	130 (150[1])	130 (150[1])	165 (185[1])	165 (185[1])
	h	33	33	45	45	70	70
Weight	**kg**	1,2 (1,5[1])	1,3 (1,6[1])	2,3 (2,8[1])	2,5 (3,0[1])	5,2 (5,9[1])	5,7 (6,4[1])
Kv value	**m³/h**	2,5 - 3,3	3,6 - 4,5	6,2 - 7,8	8,7 - 9,6	12 - 14	14,5 - 19
Max. capacity (water)	**m³/h**	7	9	16	18	30	35

[1]for type 481mGFO-LP

MAIN DIMENSIONS, INSTALLATION DIMENSIONS



INDIVIDUAL SELECTION / VALVE CONFIGURATION

Series	Valve version	Medium	Lifting device	Outlet pressure	Nominal diameter DN	Connection type		Connection size		Seal	Options	Optional: fixed setting	Quantity
						Inlet	Outlet	Inlet	Outlet				
481	**m**	**GF**	**0**	*SP*	*25*	**BSP-T m**	**BSP-T m**	*25*	*25*	*EPDM*	*Pressure Gauge 41*		*5*
481	**m**	**GF**	**0**	*LP*	*40*	**BSP-T m**	**BSP-T m**	*40*	*40*	*FKM*		*1,5*	*2*
481	**m**	**GF**	**0**			**BSP-T m**	**BSP-T m**						
481	**m**	**GF**	**0**			**BSP-T m**	**BSP-T m**						

In this table you can configure a valve according to your individual requirements (similar to the *example* shown, which sh*ould 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

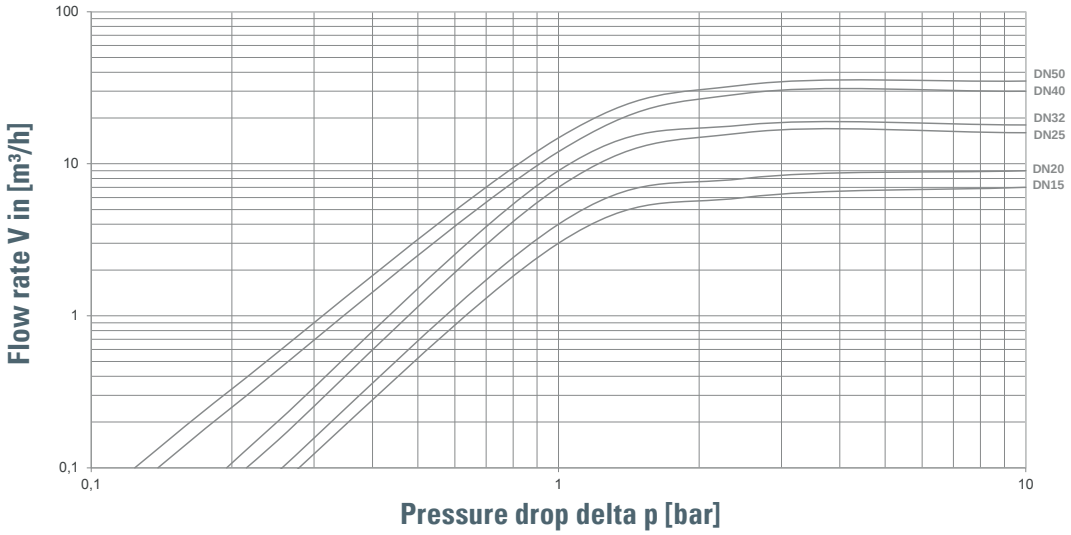
Telephone

E-Mail

Series 481:

Dimensioning by pressure loss on the outlet pressure side

Flow chart water



Dimensioning by flow velocity

For Liquids:
With help of the chart you can determine the nominal diameter (DN) for a given flow volume V (m³/h). According to DVGW-guidelines (DIN 1988) a flow velocity of 2 m/s in domestic water supply systems should not be exceeded.

For compressed air and other gaseous media:
The usual flow velocity for compressed air is 10 - 20 m/s. For gaseous media the flow volume V should always be shown in actual cubic meters/hour.
If the flow volume is given in standard cubic meters, these should be converted into actual cubic meters before using the diagram.

$$V\,(m^3/h) = \frac{V_{Norm}\,(Nm^3/h)}{p_{absolut}\,(bar)} = \frac{V_{Norm}}{p\ddot{u}+1}$$

Actual cubic meters are based on the prevailing pressure of the medium on the outlet side of the pressure reducer.