→ # Series 481

CE | EAC | DIN DVGW | ACS | WRAS

■ MATERIAL

Rostfrei

■ SPECIFICATION

1/2" – 2" | – 10°C to + 95°C | **Inlet pressure**: up to 40 bar **Outlet pressure**: 0,5 to 15 bar depending on version

■ 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.

■ APPROVALS

| DIN-DVGW type examination |
| **Type approval ACS** |
| **Type approval WRAS** |
| **TR ZU 032/2013 - TR ZU 010/2011** |

Requirements

DIN DVGW guidelines	DIN EN ISO 3822
DIN EN 1567	PED 2014/68/EU
DIN 1988	

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	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	1.4404	316 L

■ 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 40 bar	Outlet pressure: from 1 to 8 bar
HP	High-pressure version	Inlet pressure: up to 40 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

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, HP up to	bar	40	40	40	40	40	40
Inlet pressure HL up to	bar	25	25	25	25	25	25
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])
Coefficient of flow K_{vs}	m³/h	3	3,5	6,7	7,6	12,5	15

[1]for type 481mGFO-LP
[2]The K_{vs} value was determined according to DIN EN 60534-2-3. Instructions on how to determine size and capacity are to be found under section 2.

■ MAIN DIMENSIONS, INSTALLATION DIMENSIONS
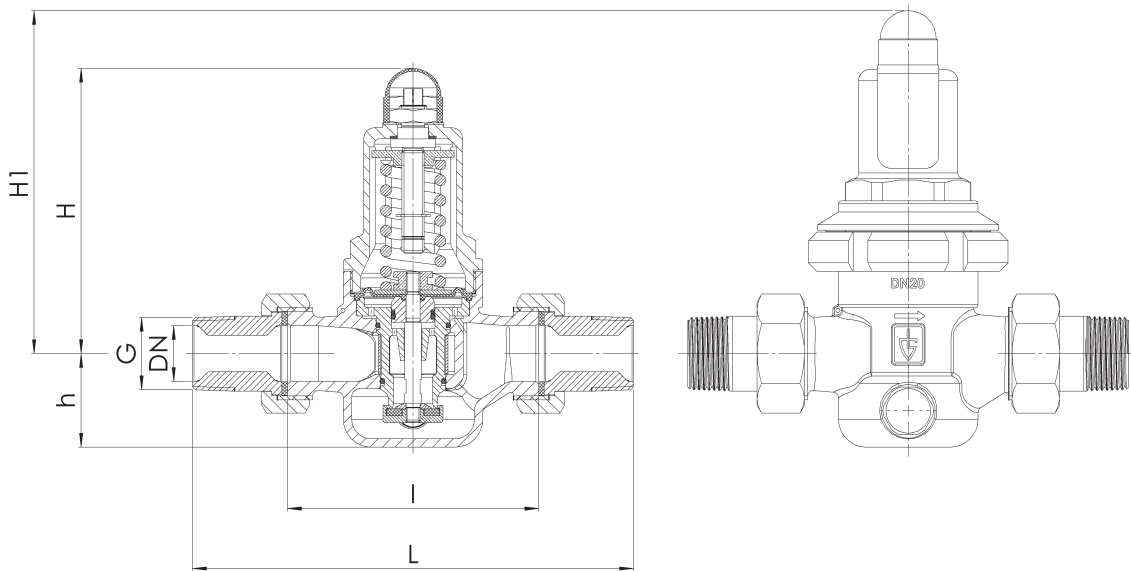
■ INDIVIDUAL SELECTION / VALVE CONFIGURATION

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	O	SP	25	BSP-T m	BSP-T m	25	25	EPDM	Pressure Gauge 41		5
481	m	GF	O	LP	40	BSP-T m	BSP-T m	40	40	FKM		1,5	2
481	m	GF	O			BSP-T m	BSP-T m						
481	m	GF	O			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:
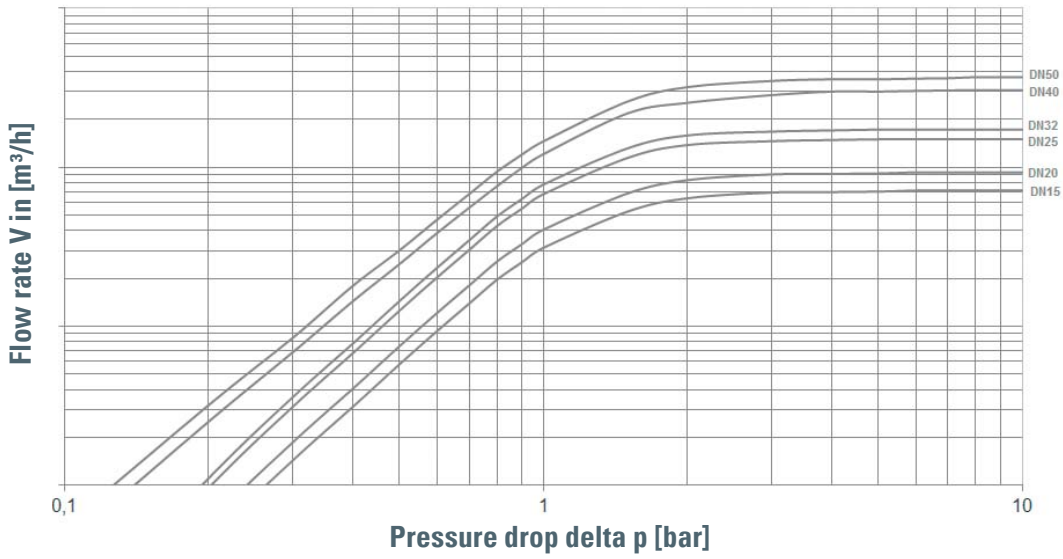
Dimensioning by pressure loss on the outlet pressure side

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.

$$V\,(m^3/h) = \frac{V_{Norm}\,(Nm^3/h)}{p_{absolut}\,(bar)} = \frac{V_{Norm}}{p_0+1}$$

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