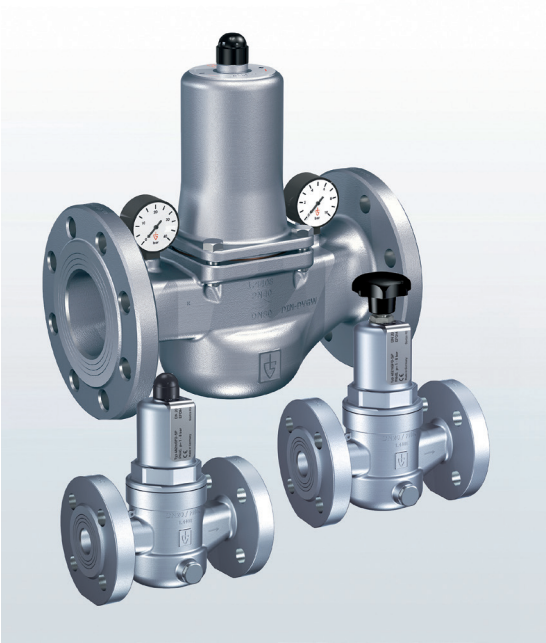
→ Series 482

482

Pressure reducing valves made of stainless steel with flange connections



SUITABLE FOR

Liquids	neutral and non-neutral
Air, gases and vapours	neutral and non-neutral
Potable water cold	up to 40°C
Potable water hot	up to 95°C

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
- 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 (up to 80°C)

Type approval ACS

Type approval WRAS (up to 85°C)

Type approval PZH

TR ZU 032/2013 - TR ZU 010/2011

Requirements

DIN DVGW guidelines	DIN EN ISO 3822
DIN EN 1567	DGR 2014/68/EU
DIN 1988	UK PESR 2016 No. 1105

Classification society

DNV	DNV
Lloyd's Register EMEA	LR EMEA
American Bureau of Shipping	ABS
Bureau Veritas	BV
Russian Maritime Register of Shipping	RS
Registro Italiano Navale	RINA

MATERIAL

SPECIFICATION

DN 15 to DN 100 – 20°C to + 120°C

Inlet pressure: up to 40 bar
Outlet pressure: 0,5 to 15 bar
depending on version

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

Series 482 ■ 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.
k	with piston	Stainless steel piston (only for DN 100) Adjustment by means of non-rising spindle. Balanced single seat valve.

Complete valve cartridge SP/HP (order code: 482 Insert-DN..-seal) available as replacement part can be exchanged without removing the valve.

Complete valve cartridge LP (order code: 482 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 to DN 100	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. Not suitable for steam.

■ TYPE OF LIFTING MECHANISM

0	without lifting device

■ OUTLET PRESSURE RANGES

SP	Standard version	Inlet pressure: up to 16 bar (PN 16) or 40 bar (PN 40)	Outlet pressure: from 1 to 8 bar
HP	High-pressure version (not for DN 65 and DN 80)	Inlet pressure: up to 16 bar (PN 16) or 40 bar (PN 40)	Outlet pressure: from 5 to 15 bar (5 to 13 bar, DN 100 with piston)
LP	Low-pressure version (not for DN 65, DN 80 and DN 100)	Inlet pressure: up to 25 bar	Outlet pressure: from 0,5 to 2 bar

■ AVAILABLE NOMINAL DIAMETERS AND CONNECTION SIZES

Nominal diameter DN	**15**	**20**	**25**	**32**	**40**	**50**	**65**	**80**	**100**
Inlet / Outlet	15/15	20/20	25/25	32/32	40/40	50/50	65/65	80/80	100/100
	■	■	■	■	■	■	■	■	■

■ 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	–20°C to +120°C (up to 8 bar outlet pressure) –20°C to +95°C (from 8 bar outlet pressure)
FKM	Fluorocarbon	Elastomere moulded diaphragm and seals	–10°C to +120°C (up to 8 bar outlet pressure) –10°C to +95°C (from 8 bar outlet pressure)

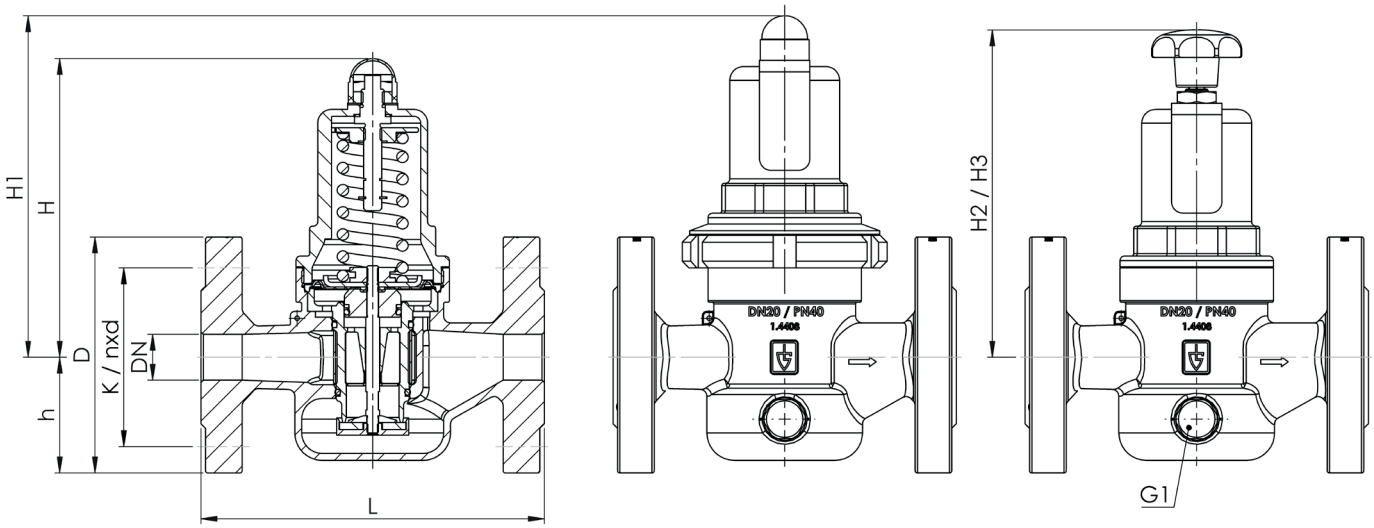
NOMINAL DIAMETERS, CONNECTIONS, INSTALLATION DIMENSIONS

Series 482: Connection, installation dimensions, ranges of adjustment

Connection		DN15 PN40	DN20 PN40	DN25 PN40	DN32 PN40	DN40 PN40	DN50 PN40	DN65 PN16	DN65 PN40	DN80 PN40	DN100 PN16
Inlet pressure SP, HP up to	bar	40	40	40	40	40	40	16	40	40	16
Inlet pressure LP up to	bar	25	25	25	25	25	25				
Outlet pressure	bar	0,5 – 2 1 – 8 5 – 15	0,5 – 2 1 – 8 5 – 15	0,5 – 2 1 – 8 5 – 15	0,5 – 2 1 – 8 5 – 15	0,5 – 2 1 – 8 5 – 15	0,5 – 2 1 – 8 5 – 15	1 – 8	1 – 8	1 – 8	1 – 8 5 – 13
Installation dimensions in mm	D	95	105	115	140	150	165	185	185	200	220
	L	130	150	160	180	200	230	290	290	310	350
	H (H1)	102 (1281)	130 (1501)	130 (1501)	130 (1501)	165 (1851)	165 (1851)	235	235	235	320 (3403)
	H2 (H3)	124 (1502)	161 (1812)	161 (1812)	161 (1812)	198 (2182)	198 (2182)				
	h	46	50	55	68	73	80	89	89	96	112
	K /nxd	65 / 4xM12	75 / 4xM12	85 / 4xM12	100 / 4xM16	110 / 4xM16	125 / 4xM16	145 / 4xM16	145 / 8xM16	160 / 8xM16	180 / 8xM16
Pressure gauge connections Inlet pressure	G1							1/4" radial	1/4" radial	1/4" radial	1/4" axial
Pressure gauge connections Outlet pressure	G1	1/4" axial	1/4" axial	1/4" axial	1/4" axial	1/4" axial	1/4" axial	1/4" radial	1/4" radial	1/4" radial	1/4" axial
Weight	kg	2,7 (2,91)	3,9 (4,31)	4,3 (4,71)	5,5 (5,91)	8,4 (9,11)	10,2 (10,91)	18,7	19	20,5	37 (40[3])
Coefficient of flow K_{vs} [4]	m³/h	3	5,8	6,7	7,6	12,5	15	25	25	26	80

[1]for type 482mGFO-LP
[2]for type 482mGFO-LP S15
[3]for type 482kGFO-HP
[4]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



Series 482 ■ 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				
482	m	GF	0	*HP*	*50*	FL	FL	*50*	*50*	*EPDM*			*5*
482	k	GF	0	*HP*	*100*	FL	FL	*100*	*100*	*FKM*	*S71*	*7*	*2*
482		GF	0			FL	FL						
482		GF	0			FL	FL						

■ PROPERTIES

S15	Hand wheel (plastic) for tool-free setting of setpressure[1]	☐			☐
S17	Supply with manometers suitable for the valve finish	☐			☐
S71	Preliminary setup for protection against manipulation of the preset pressure (seal)	☐			☐

[1]For nominal diameters DN15 to DN50 outlet pressure ranges LP and SP

■ OPTIONS

GOX	Especially for gaseous O2 applications by employment of specific materials including oil- and grease free production	☐			☐
P01	Oil- and grease-free production	☐			☐
FE	Setting and sealing	☐			☐

■ CERTIFICATES / APPROVALS

C01	Factory certificate acc. DIN EN 10204 2.2 (WKZ 2.2)	☐	C05	Sealing material Manufacturer certification (FDA, USP 3, 3-A,…), Please indicate description of certificate:	☐
C02	Test certificate acc. DIN EN 10204 3.1 (WPZ 3.1)	☐	C06	ATEX evaluation acc. to 2014/34/EU	☐
C03	Material test certificate acc. DIN EN 10204 3.1 (MPZ 3.1) (pressure retaining part)	☐	C10	Certificate of oil- and grease free production	☐
C04	TÜV/DEKRA individual inspection acc. EN 10204 3.2 (TÜV/DEKRA-APZ)	☐	C11	Certification of the production process especially for gaseous oxygen applications by employment of specific materials	☐

■ ADMISSIONS / ACCREDITATIONS

AA1	EC Type examination acc. to Directive 2014/68/EU	☒	AK1	Det Norske Veritas (DNV) type approval	☐
AA4	EAC - certificate/declaration with passport for the valve and laser marking of the valve	☐	AK2	Lloyd's Register (LR) type approval	☐
AA11	UK Type examination acc. to Directive UK PESR 2016 No. 1105	☐	AK3	American Bureau of Shipping (ABS) type approval	☐
AB1	Deutscher Verein des Gas- und Wasserfaches, DVGW type approval	☐	AK4	Bureau Veritas (BV) type approval	☐
AB2	Water regulations and advisory scheme WRAS type approval	☐	AK5	Russian Maritime Register of Shipping (RMRS) type approval	☐
AB3	Attestation de Conformité Sanitaire, ACS type approval	☐	AK6	Registro Italiano Navale (RINA) type approval	☐
		☐	AL	Individual inspection by notified body inspector – (body to be indicated):	☐

■ ENQUIRY

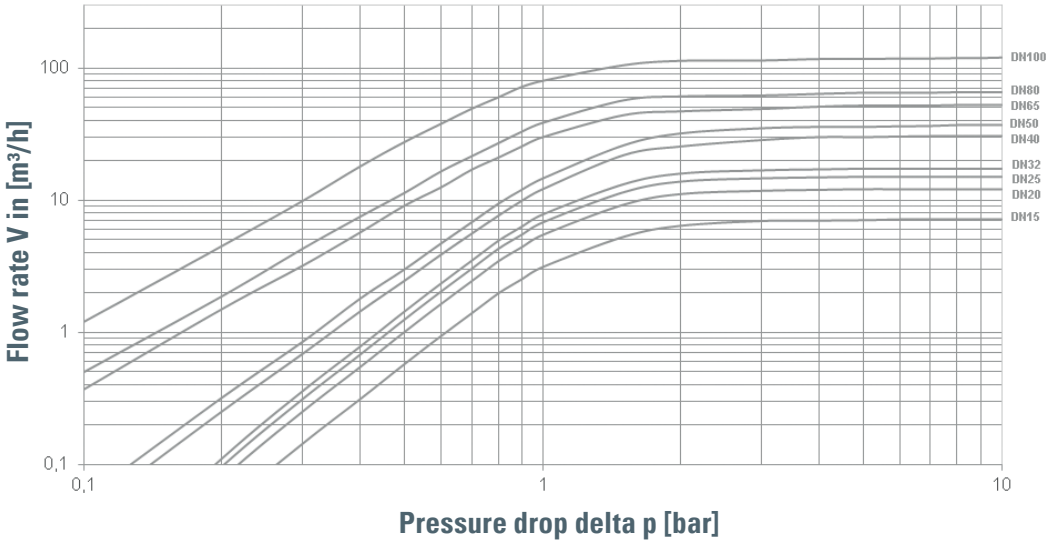
sales@pcl-usa.com

ARMATUREN GOETZE

Series 482:

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.