# Stainless Steel Pressure Reducing Valve

Features

- Standard threaded connections:
  Male thread BSP-T / Male thread BSP-T
- Version with female thread
  (available in sizes DN15, DN20 and DN25):
  Female thread BSP-P / Female thread BSP-P
- Body stainless steel
- Suitable for neutral and non-neutral liquids, air, gases, vapours and warm water
- WRAS Approved
- EN 1567, ISO 3822, PED 2014/68/EU
- Marine Approvals - GL, LR EMEA, BV, ABS, RS
- ATEX Approval Available at Extra Cost
- 24 Month Warranty
- Test Certificate to EN10204-3.1 Available on Request

Typical Applications

- Potable water supply
- 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
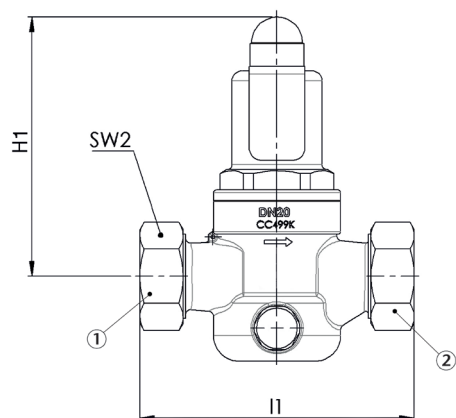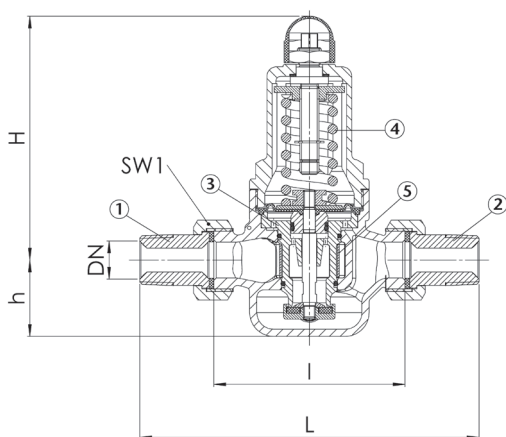
Connection	DN	½"	¾"	1"	1¼"	1½"	2"
Inlet pressure SP, HP up to	bar	40	40	40	40	40	40
Inlet pressure LP to	bar	25	25	25	25	25	25
Outlet pressure	bar	0.5 - 2	0.5 - 2	0.5 - 2	0.5 - 2	0.5 - 2	0.5 - 2
		1 - 8	1 - 8	1 - 8	1 - 8	1 - 8	1 - 8
		5 - 15	5 - 15	5 - 15	5 - 15	5 - 15	5 - 15
Installation dimensions	L	142	158	180	193	226	252
in mm	I	80	90	100	105	130	140
	I1	85	95	105			
	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
	SW1	30	37	46	52	65	75
	SW2	28	35	43	48	57	68
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 kvs	m³/h	3	3.5	6.7	7.6	12.5	15

[1]for type 481mGFO-LP
[2]The kvs 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.

N.	Part Name	Materials
1	Inlet body	Stainless steel 1.4408
2	Outlet body	Stainless steel 1.4408
3	Internal parts	Stainless steel 1.4408, 1.4404
4	Spring	Spring steel with anti-rust protection 1.1200
5	Strainer	Stainless steel 1.4404

Technical Data

Inlet pressure:	up to 40 bar
Outlet pressure:	0,5 to 15 bar
Working Temperature	EPDM or FKM Seal
	-10°C to +95°C

Dimensions in mm
This data sheet is designed as a guide and should not be regarded as wholly accurate in every detail. We reserve the right to amend the specification of any product without notice.

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

O	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.

Seat-Seal/Diaphragm Options

Option	Materials	Type	Working Temp.
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

Dimensions in mm
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Capacity charts

Art 481 M & F

Dimensioning by pressure loss on the outlet pressure side

Flow chart water
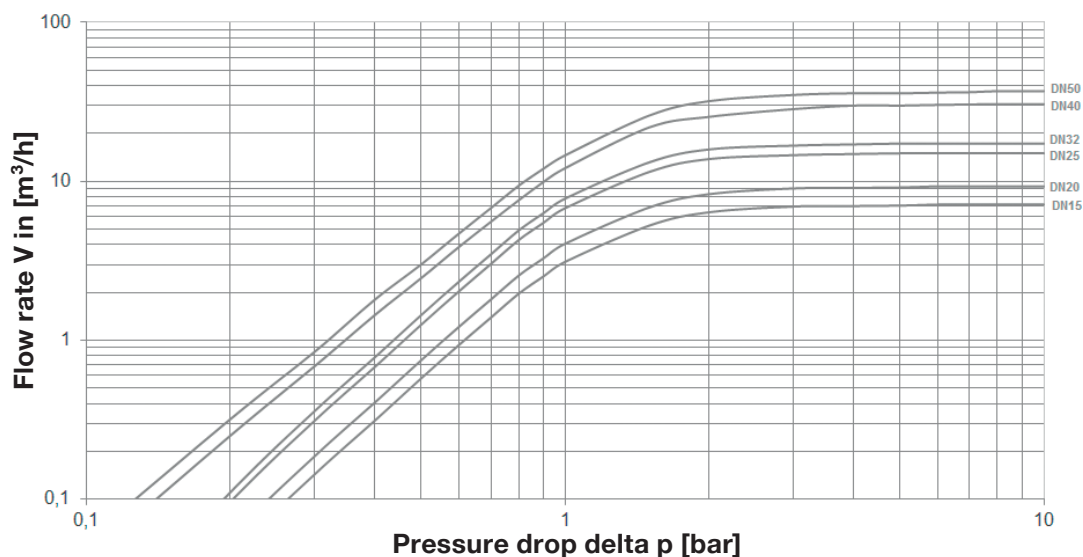
Dimensioning by flow velocity

For Liquids:
With help of the chart you can determine the nominal diameter (DN) for a given flow volume V (m³/h). The ideal flow velocity is between 1m/s – 2m/s.
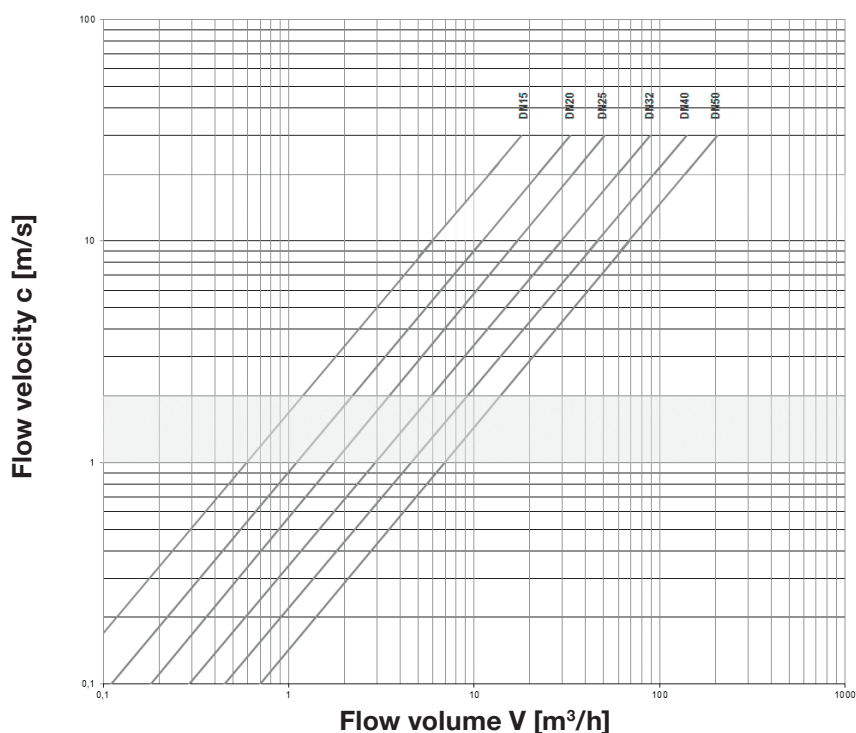
For compressed air and other gaseous media:
The usual flow velocity for compressed air is 10 - 20 m/s. For gaseous media the flow volume V should always be shown in actual cubic meters/hour.
If the flow volume is given in standard cubic meters, these should be converted into actual cubic meters before using the diagram.

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

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

Dimensions in mm
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