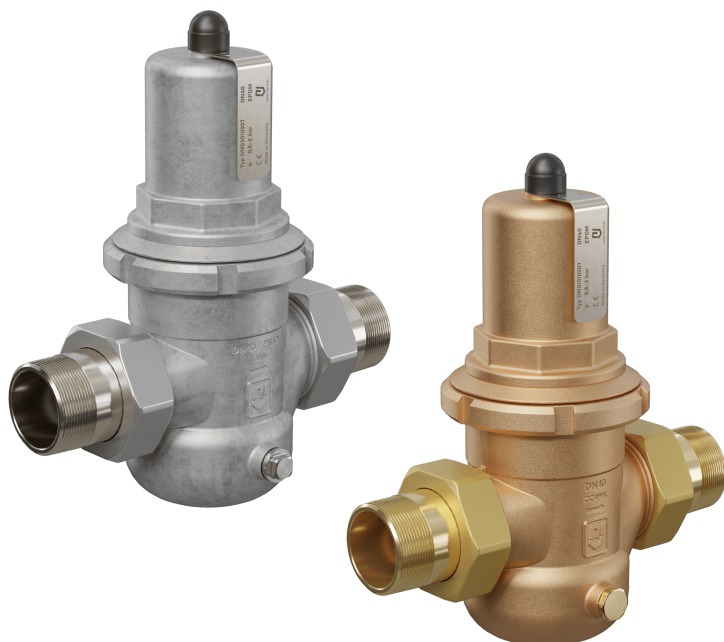


Pressure reducing valve type DM01 / DM02 / DM03 / DM04



Description:

Pressure reducing valves are being used in pipeline systems in order to equalize different pressures at the incoming side of the pressure reducing valve, and not to exceed a specific pressure at the outgoing side of the valve.

Product features:

- suitable for neutral, not neutral and not adhesive **liquid and gaseous media**
- Built-in dirt trap
- Manometer connection G 1/4" inch
- Installation possible in any position
- EPDM sealing with **drinking water approval (DVGW-W, ACS, WRAS)** – for version SP with outlet pressure 1-8 bar

Connection:

1/2", 3/4", 1", 1 1/4", 1 1/2", 2"

Temperature:

-20°C to +120°C / not for steam!
- depending on design

Pressure:

Inlet pressure: up to 40,0 bar
Outlet pressure: 0,5 bar – 15,0 bar
- depending on design

Material:

Type DM01 & DM02

Part	Material	DIN EN	ASME
Body	Gunmetal	CC499K	CC499K
Internals	Gunmetal	CC499K	CC499K
	Stainless steel	1.4404	316 L
Spring	Spring steel	1.1200	ASTM A228
Strainer	Stainless steel	1.4404	316 L

Type DM03 & DM04

Part	Material	DIN EN	ASME
Body	Stainless steel	1.4408	CF8M
Internals	Stainless steel	1.4408	CF8M
	Stainless steel	1.4404	316 L
Spring	Spring steel	1.1200	ASTM A228
Strainer	Stainless steel	1.4404	316 L

Seal / temperature:

EPDM (FDA) Ethylene-propylene-diene
FKM Fluorocarbon

outlet pressure up to 8bar: -20°C to +120°C / outlet pressure >8bar: -20°C to +95°C
outlet pressure up to 8bar: -10°C to +120°C / outlet pressure >8bar: -10°C to +95°C

Approvals

- European pressure equipment directive
- DGR 2014/68/EU
- **FDA approval for EPDM sealing**

- **ACS**
- **DVGW-W (up to +80°C)**
- **WRAS (up to +85°C)**

On request:

Lloyd's Register EMEA (LR EMEA), DNV, American Bureau of Shipping (ABS), BV, Registro Italiano Navale (RINA)

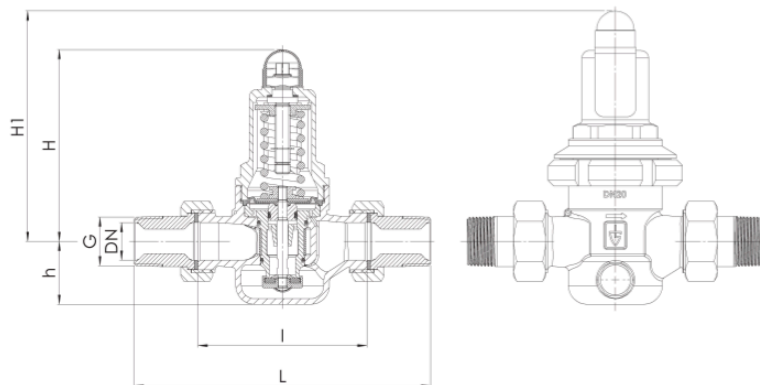
Manometer connection:

1 connection on the front axial G 1/4" for outlet pressure

Dimensions:

Diameter DN	15	20	25	32	40	50
Inlet G BSP-T	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Outlet G BSP-T	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
L	142	158	180	193	226	252
I	80	90	100	105	130	140
H	102	102	130	130	165	165
H1 (LP)	128	128	150	150	185	185
h	33	33	45	45	70	70
KVs m3/h	3	3,5	6,7	7,6	12,5	15
Weight kg	1,2 / 1,5*	1,3 / 1,6*	2,4 / 2,9*	2,6 / 3,1*	5,5 / 6,2*	6,0 / 6,7*
Inlet pressure SP, HP	40 bar	40 bar	40 bar	40 bar	40 bar	40 bar
Inlet pressure HP	25 bar	25 bar	25 bar	25 bar	25 bar	25 bar
Outlet pressure in bar						
LP – Version	0,5 – 2,0	0,5 – 2,0	0,5 – 2,0	0,5 – 2,0	0,5 – 2,0	0,5 – 2,0
SP – Version	1,0 – 8,0	1,0 – 8,0	1,0 – 8,0	1,0 – 8,0	1,0 – 8,0	1,0 – 8,0
HP – Version	5,0 – 15,0	5,0 – 15,0	5,0 – 15,0	5,0 – 15,0	5,0 – 15,0	5,0 – 15,0

* Weight at pressure range 0.5 to 2.0 bar



Dirt trap:

Mesh size: DN15, DN20, DN25 & DN32: 0,60 mm
 DN40 & DN50: 0,75 mm

Installation and Assembly:

The pressure reducer is set at the factory to a secondary pressure of 3 bar (in standard version) and is to be installed in the pipe without applying stress. After the reducer we recommend to consider a slow downsection of 5 x D. The flow direction must coincide with the arrow on the housing. The valve can be installed in any mounting position. The pipe must be thoroughly flushed prior to installation of the pressure reducer to prevent impurities picked up by the medium having an impact on the satisfactory operation. The pressure gauges are screwed into the sockets using hempor gasket strip and indicate the prevailing secondary pressure or the prevailing primary and secondary pressure (DN 65 and DN 80). The desired secondary pressure is set by turning the adjusting spindle at idle pressure (zero consumption).

Turning the adjusting spindle in clockwise direction increases the secondary pressure and turning the spindle in counter-clockwise direction reduces the secondary pressure. During this adjustment always observe that, based on pressure and friction losses, the end pressure adjusted at zero consumption is reduced further when drawing water, in dependence of the quantity drawn off. The set desired value can be checked at the pressure gauge arranged on the secondary pressure side.



Before commissioning the pressure reducer, it should be ensured that both pressure gauge connections on the housing are sealed with pressure gauges or sealing plugs

Maintenance:

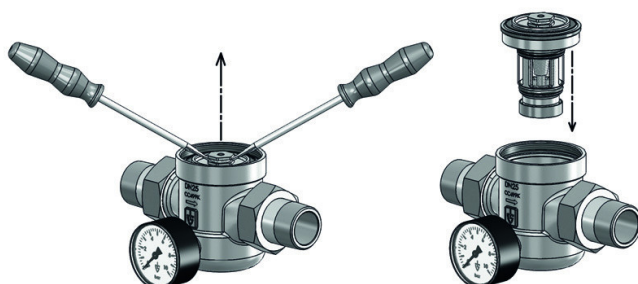
The device should be checked at intervals which correspond to the respective operating conditions in order to eliminate any faulty operation which may be caused by impurities, scaling and natural wear. After long periods of non-use the function of the valve must be tested. The operating or installation company must carry out an annual inspection according to DIN 1988-8

Replacing the Valve insert:

Design **SP-Version** (Pressure 1 to 8 bar) / **HP Version** (Pressure 5 to 15 bar)

1. Remove plastic protective cap; loosen counter-nut
2. Tension spring by turning the setting spindle counter-clockwise
3. Unscrew spring housing or remove screws
4. Remove spring housing, spring plate, setting spindle, copper ring and spring.
5. By means of 2 screwdrivers lever-out the complete valve insert (fig. a) and replace with a new one.
6. Installation is carried-out in reverse order.

Abb. A): Removal and installation of control unit



Design **LP-Version** (Pressure 0,5 to 2 bar)

1. Remove plastic cap, release lock nut (do not unscrew!)
2. De-tension the spring by turning the setting spindle clockwise.
3. Release and unscrew bonnet with open end spanner
4. Remove spring and slide ring
5. Release and unscrew hexagon nuts with open end spanner and screwdriver (fig. c)
6. Remove spring seat
7. Loosen membranes on the outer figmeter along entire length with a screwdriver and unscrew (fig. d)
8. Loosen and unscrew low-pressure adapter with hook spanner (optional accessory) (fig. e)
9. Remove O-ring seal
10. Screw the hexagon nuts back onto the threaded bolts. Position two screwdrivers (used as lever) on the housing and in the groove of the hexagon nut, and pull out the valve insert (Fig. f)
11. To assemble, repeat the sequence in reverse order (see Fig. g).

Illustration C

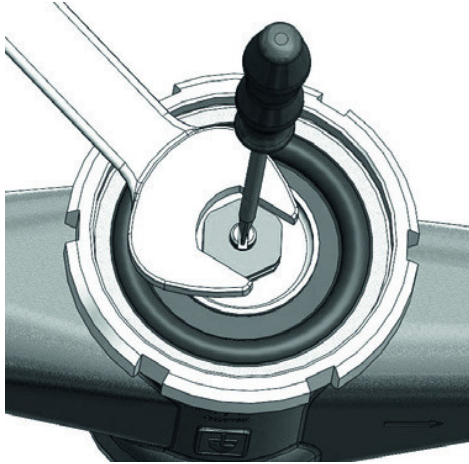


Illustration D

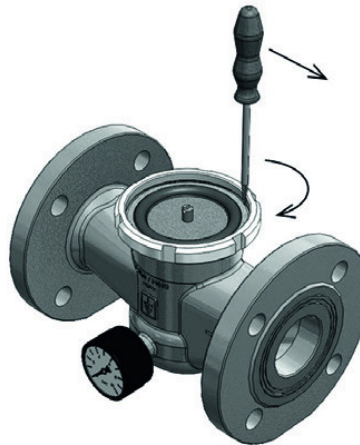


Illustration E

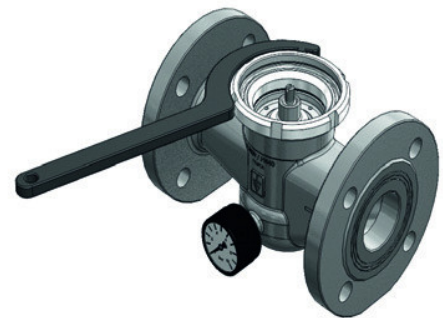


Illustration F

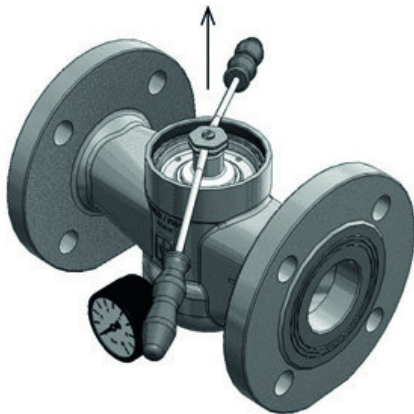
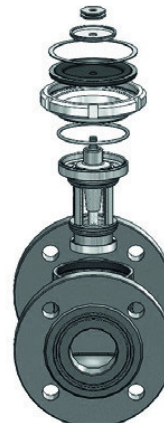


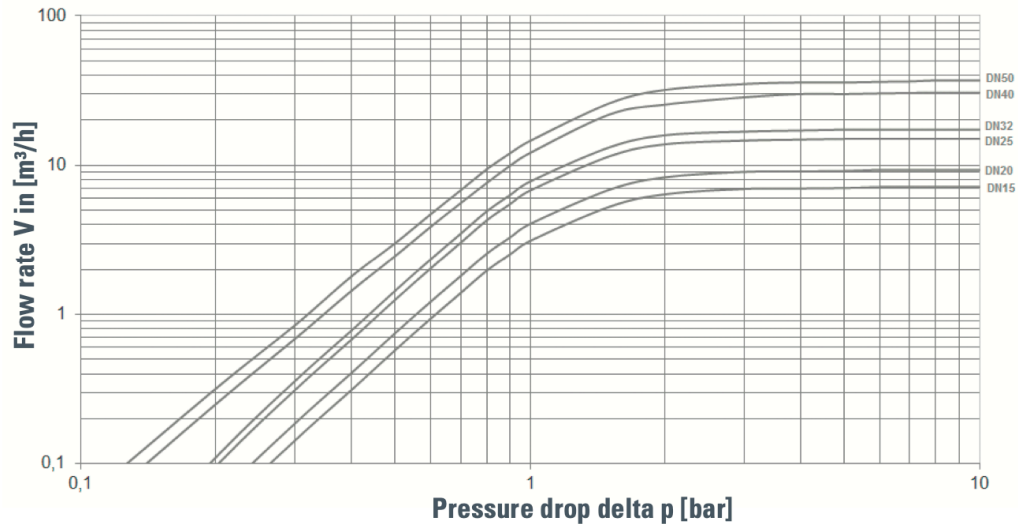
Illustration G



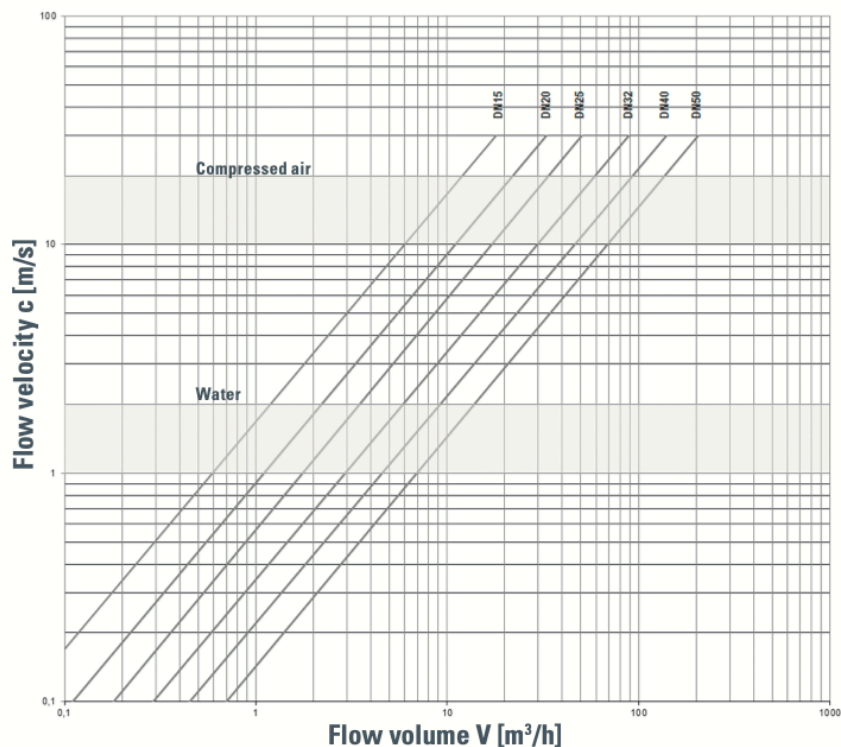
Performance table

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.

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

Article number:

Parts	Type DM01*	Type DM02	Type DM03*	Type DM04
Body	Gunmetal	Gunmetal	Stainless steel	Stainless steel
Internals	Brass	Brass	Stainless steel	Stainless steel
Seal	EPDM (FDA)	FKM	EPDM (FDA)	FKM

Type	Outlet pressure	Connection	Size
DM01	01 – LP 0,5 up to 2,0 bar	00 – male thread BSP-T	03 – 1/2"
DM02	02 – SP 1,0 up to 8,0 bar*		04 – 3/4"
DM03	03 – HP 5,0 up to 15,0 bar		05 – 1"
DM04			06 – 1 1/4"
			07 – 1 1/2"
			08 – 2"

Example No. DM02020003:

DM02 | **02** | **00** | **03**

Pressure reducing valve made of gunmetal with FKM seal

Outlet pressure: 1,0 up to 8,0 bar (SP version)

Connection: male thread BSP-T

Size: 1/2"

***) drinking water approval (DVGW-W up to +80°C, ACS, WRAS up to +85°C) for pressure reducers with EPDM-seal (type DM01 / DM03) and outlet-pressure 1,0 – 8,0 bar SP**

Image similar, subject change without notice.