

DH300

Pressure sustaining valve

APPLICATION

Pressure sustaining valves of this type are regulators which control the pressure on the inlet side. They are used wherever a specific inlet pressure must not be exceeded, for example limiting the pressure in the inlet supply network or in transition links between supply networks and high demand large users.

Their compact construction makes them ideally suited for applications where space is limited, for example in ducts. They can be used for commercial or industrial applications within the scope of their specification.

APPROVALS

- DVGW
- WRAS (up to 23 °C)

SPECIAL FEATURES


- High precision control during pressure variances and low flow rates
- High flow capacity
- High control accuracy
- Powder-coated inside and outside - Powder used is physiologically and toxicologically safe
- Integral control circuit and ball valves
- Integral fine filter
- No external energy required for operation
- Conforms to BSEN 1567



TECHNICAL DATA

Media	
Medium:	Drinking water
Connections/Sizes	
Connection size:	DN50 - DN450
Pressure values	
Max. operating pressure:	16 bar
Opening pressure:	3.0 - 15 bar
Nominal pressure:	PN16
Minimum pressure:	0.5 bar
Operating temperatures	
Max. operating temperature medium:	80 °C

CONSTRUCTION

Overview	Components	Materials	
	1	Housing with flanges acc. to ISO 7005-2 / EN 1092-2	Ductile iron (ISO 1083), powder-coated
	2	Pilot valve	Brass
	3	Control circuit with integral rinsable filter insert and ball valves on inlet and outlet	High-quality synthetic material
	Not depicted components		
		Cover plate	Ductile iron (ISO 1083), powder-coated
		Diaphragm plate	Ductile iron (ISO 1083), powder-coated
		Diaphragm	EPDM
		Spring	Stainless steel
		Regulating cone	Stainless steel
		Valve seat	Stainless steel
	Compression fittings	Brass	
	Pilot valve housing	Brass	
	Filter insert	Stainless steel	
	Seals	EPDM	

METHOD OF OPERATION

If the supply is opened, water flows into the inlet section and the rising pressure opens the valve so that water can flow into the outlet section. Via the fine regulation valve integrated in the pilot valve the inlet pressure increases the pressure in the chamber above the diaphragm. The diaphragm surface area subjected in this way to the inlet pressure is somewhat greater than the surface area of the valve plate which is also subjected to the same inlet pressure, so the diaphragm valve closes.

If the inlet pressure exceeds the set pressure of the pilot valve, the pilot valve opens up a link between the diaphragm chamber and the outlet side. The pressure in the diaphragm chamber reduces and the valve opens. If the inlet pressure falls below the set opening pressure then the pilot valve closes and the rising inlet pressure in chamber closes the valve.

TRANSPORTATION AND STORAGE

Keep parts in their original packaging and unpack them shortly before use.

The following parameters apply during transportation and storage:

Parameter	Value
Environment:	clean, dry and dust free
Min. ambient temperature:	5 °C
Max. ambient temperature:	55 °C
Min. ambient relative humidity:	25 % *
Max. ambient relative humidity	85 % *

*non condensing

INSTALLATION GUIDELINES

Setup requirements

- Install shut-off valves
- Install downstream of the strainer
 - Protects against damage from coarse particles
 - Note flow direction (indicated by arrow)
- The installation location should be protected against frost and be easily accessible
 - Pressure gauge can be read off easily
 - Simplified maintenance and cleaning
- Provide a straight section of pipework of at least five times the nominal valve size after the pressure reducing valve (in accordance with EN 806-2)
- Safety valve SV300 optional
- Requires regular maintenance in accordance with EN 806-5

Installation Example

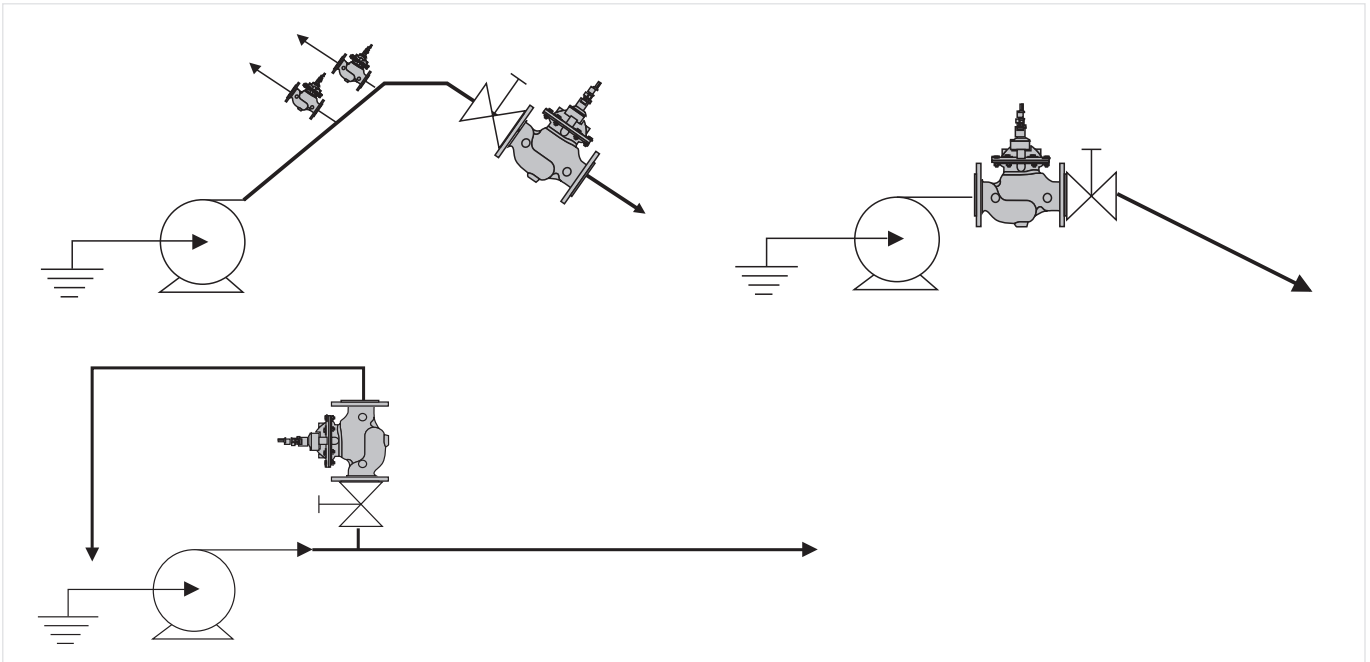


Fig. 1 Standard installation example for the pressure sustaining valve

Connection sizes:	2"	2 1/2"	3"	4"	6"	8"	10"	12"	14"	16"	18"
Distance in mm (W*):	100	110	120	130	160	190	220	250	270	310	330

* Required installation distances between the centerline of the pipework and the surrounding in dependency of the connection size.

TECHNICAL CHARACTERISTICS

kvs-Values

Connection sizes:	50	65	80	100	150	200	250	300	350	400	450
k _{VS} -value (m ³ /h):	43	43	103	167	407	676	1160	1600	2000	3000	3150
Flow rate (Q _{max}) in m ³ /h - V=5.5 m/s:	40	40	100	160	350	620	970	1400	1900	2500	3100

Pressure drop characteristics

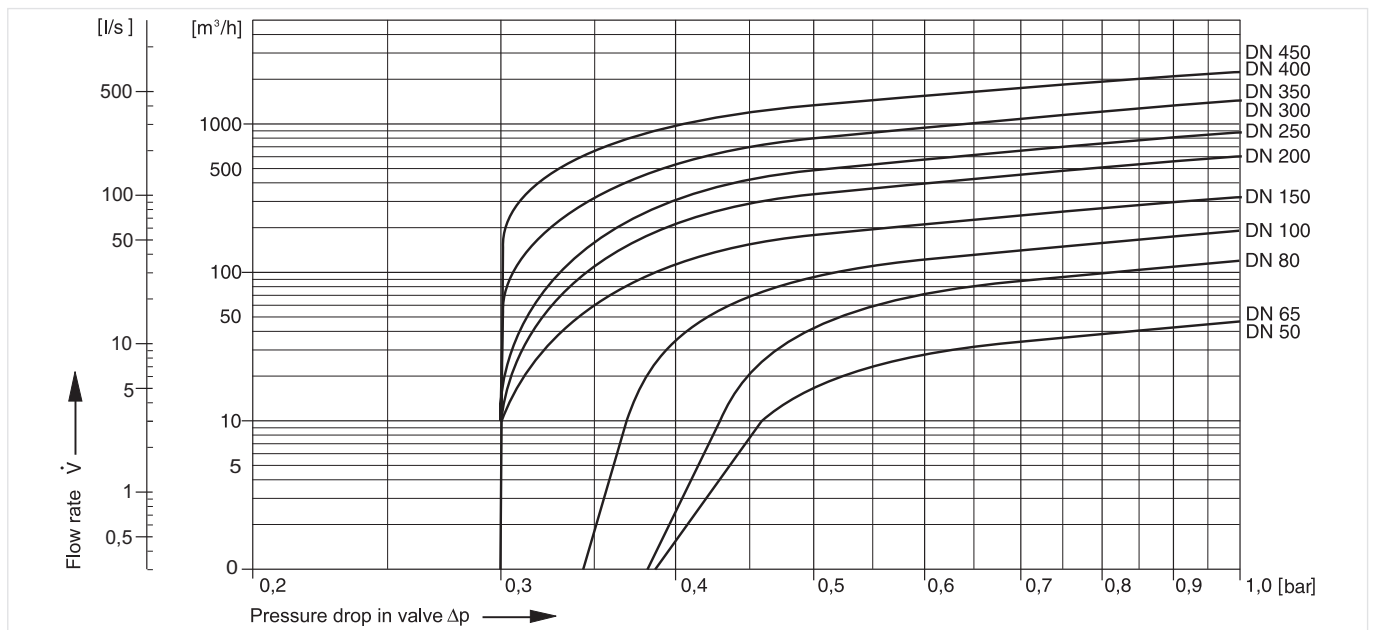
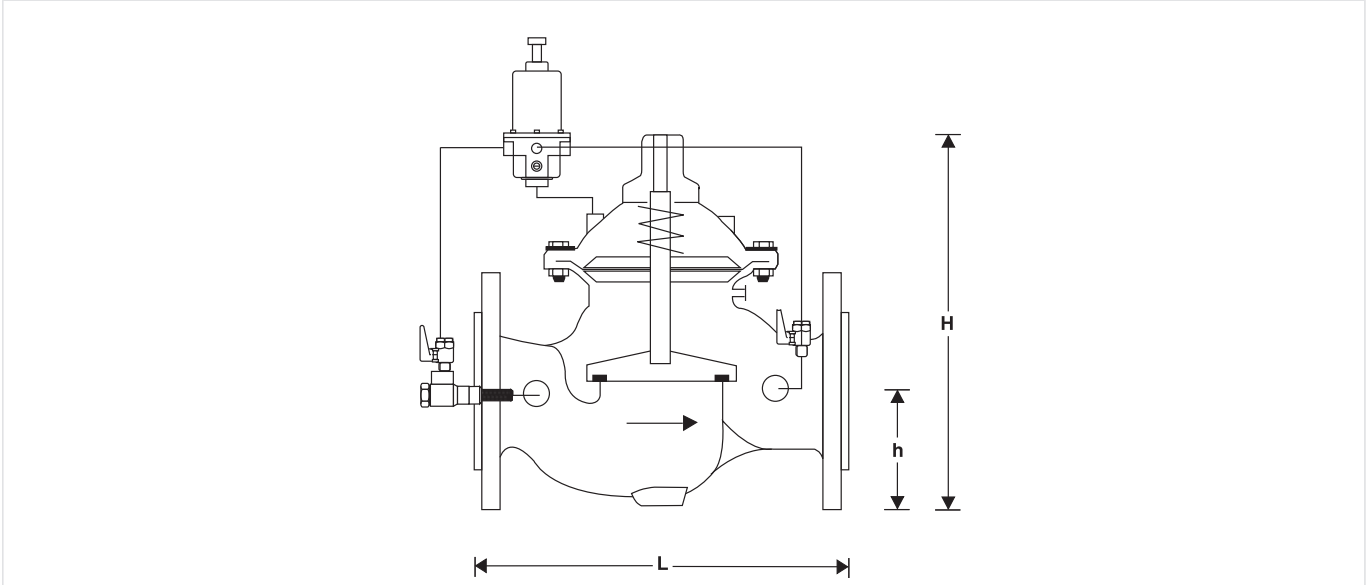


Fig. 2 Pressure drop within the valve in dependency of the flow rate and the used connection size

DIMENSIONS

Overview



Parameter	Values											
Connection sizes:	DN	50	65	80	100	150	200	250	300	350	400	450
Weight with pilot valve:	kg	14.0	15.0	24.0	39.0	82.0	159.0	247.0	407.0	512.0	824.0	947.0
Weight without pilot valve:	kg	12.0	13.0	22.0	37.0	80.0	157.0	245.0	405.0	510.0	822.0	945.0
Dimensions:	L	230	292	310	350	480	600	730	850	980	1100	1200
	H	270	280	330	350	480	570	730	870	910	1150	1170
	h	83	93	100	110	143	173	205	230	260	290	310

Note: All dimensions in mm unless stated otherwise.

ORDERING INFORMATION

The following tables contain all the information you need to make an order of an item of your choice. When ordering, please always state the type, the ordering or the part number.

Options

The valve is available in the following sizes: DN50, DN65, DN80, DN100, DN150, DN200, DN250, DN300, DN350, DN400 and DN450.

- standard

		DH300-...A
Connection type:	Flange PN16, ISO 7005-2, EN 1092-2	•

Note: ... = space holder for connection size

Note: Ordering number example for DN50 and type A valve: DH300-50A

Accessories

	Description	Dimension	Part No.
	EXF125-A Extension flange DN125 Adapter flanges DN100 to DN125 Ductile iron, PN16 acc. ISO 7005-2 and EN 1092-2. Overall length with adapter flanges (without bolts) DN125 L=416mm, DVGW approved, including bolts, nuts and the seal disc.		
			EXF125-A

Spare Parts

Pressure sustaining valve DH300, from 2002 onwards

Overview	Description	Dimension	Part No.
	1 Replacement pilot valve	DN50 - 450	CX-PS
	2 Set of seals	DN50	0903750
		DN65	0903751
		DN80	0903752
		DN100	0903753
		DN150	0903754
		DN200	0903755
		DN250	0903756
		DN300	0903757
		DN350	0903758
	DN400	0903759	
	DN450	0903760	
	3 Pressure gauge	0 - 16 bar	M07M-A16

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