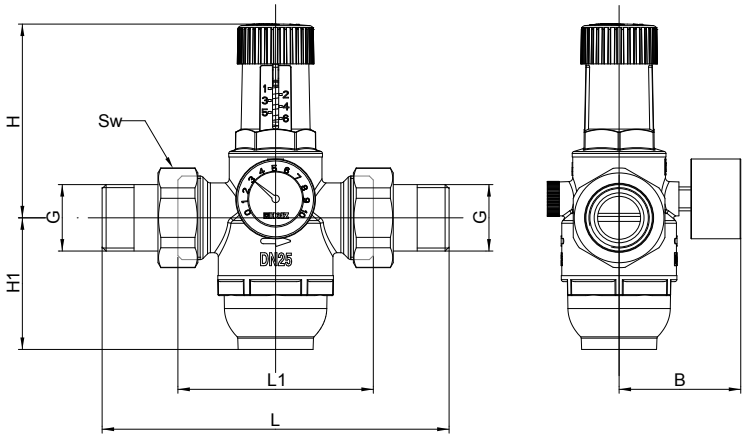
HERZ - Diaphragm Pressure Reducing Valve

Data sheet **1 2682 XX**, Issue 1025

Dimensions in mm



Model	Cap	Dimension	PN	DN	G	L [mm]	L1 [mm]	B [mm]	H [mm]	H1 [mm]	Sw
1 **2682** 21	brass	1/2"	16	15	1/2"	147	84	67	98	66	30
1 **2682** 22	brass	3/4"	16	20	3/4"	155	84	67	98	66	37
1 **2682** 23	brass	1"	16	25	1"	185	98	67	98	66	46
1 **2682** 24	brass	1-1/4"	16	32	1-1/4"	204	120	78	156	96	52
1 **2682** 25	brass	1-1/2"	16	40	1-1/2"	224	122	78	156	96	60
1 **2682** 26	brass	2"	16	50	2"	252	136	78	156	96	75

Construction

Body:	**(DN 15-25)** forged brass acc. to EN 12165; CW626N **(DN 32-50)** cast brass acc. to EN 1982; CC770S
Upper part:	PA6.6
Diaphragm:	EPDM
Spring:	spring steel
Spring guide:	stainless steel
Sealing:	EPDM
Round handle:	PA 6.6, green
Filter:	stainless steel
Bottom cover:	Brass CW617N
Screw connection:	Brass CW617N
Sealing screw connection:	Klingersil C-432

Specifications

Maximum inlet pressure:	16 bar
Outlet pressure range:	1,75-6 bar
Factory settings:	3 bar
Maximum temperature:	70°C
Manometer scale:	0-10 bar
Mesh perforation:	0.3 mm
Medium:	water
Standard:	EN 1567
Pressure gauge connectors:	1/4" F (ISO 228-1)
Connectors:	external thread acc. to ISO 7-1 and ISO228

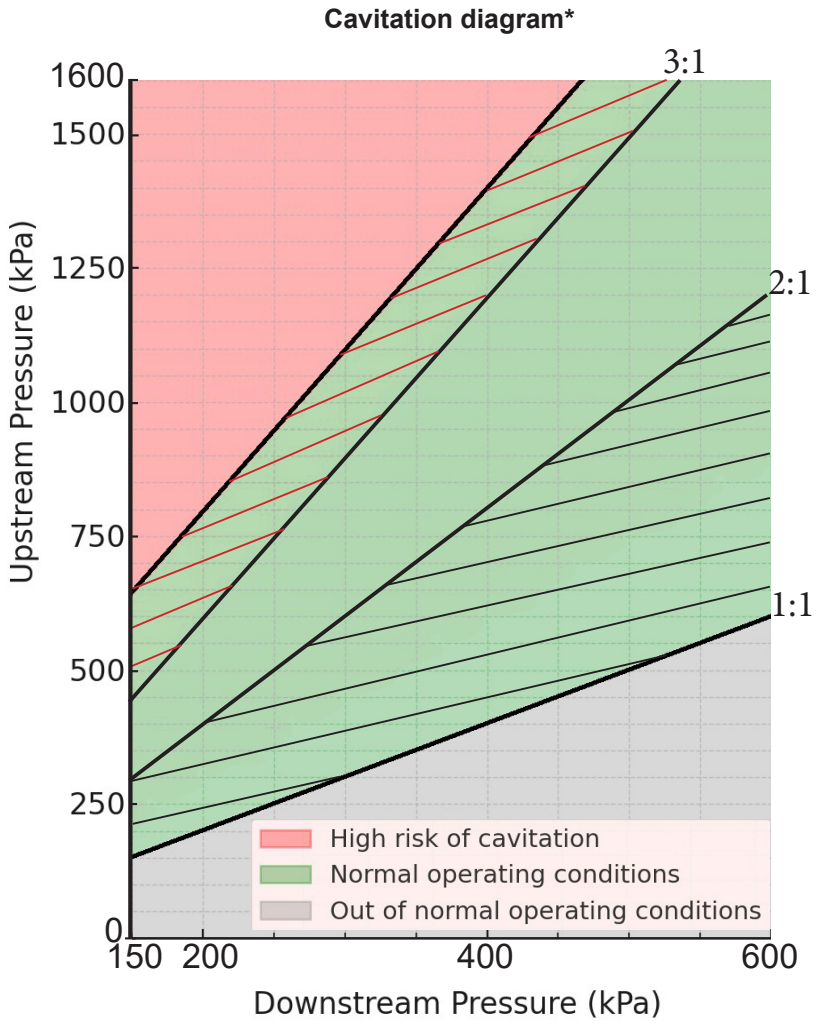
Assembly

Before assembling rinse the system well. In potable water installations the pressure reducing valve is mounted behind the water meter. Install the pressure reducer in a horizontal position with the filter facing down. Take care of the flow direction, indicated on the housing. Proper operation requires a straight piece of at least 5x DN pipe before and after the pressure reducer. The attached manometer can be mounted on both sides of the pressure reducer. Before and after the pressure reducer, it is necessary to install an isolating valve. Pressure regulator must be installed without any mechanical tensions in the pipeline, leaving enough space to check manometer and maintenance.
A safety device, such as a pressure relief valve or an expansion vessel, must always be provided on the pressure reduced side of the valve.This is because a pressure reducing valve will act like a backflow preventer and thus create a closed system downstream so a safety device should be installed to prevent the build up of pressure.

Application and maintenance

The pressure reducing valve protects drinking water installations against over pressure (reduces input pressure to a working level). The outlet pressure is adjustable and does not vary with changes of the inlet pressure. The outlet pressure can be adjusted by turning the green handle. Turning the handle clockwise increases the outlet pressure. Turning above the stated values on the pressure reducer scale may damage the valve. We recommend the max. outlet pressure of 4 bar for private house installations (product long life, costs,...). After each new setting of the outlet pressure, the regulated pipe has to be opened and closed. We recommend maintenance by authorized installers according to DIN 1988. Check the filter condition in the regulator several times a year and, if it is necessary, clean or replace it with a new one. Tool for maintenance is included in every box of pressure reducer.

Cavitation diagram, water temperature 20 °C ± 5 °C



*The planner can refer to the cavitation diagram to select the required pressure reducer for a particular water supply system.

The cavitation diagram illustrates the recommended operating conditions for pressure-reducing valves, minimizing the risk of cavitation, which can otherwise cause malfunctions such as seal-area erosion, vibrations, and increased noise.

The diagram distinguishes three operating zones:

1. Normal Operating Conditions:

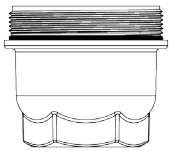
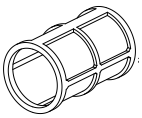
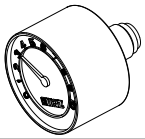
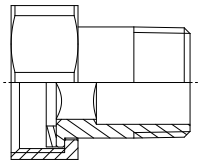
For optimal valve operation, the ratio between upstream (higher) and downstream (lower) pressures should ideally be 2:1, with a maximum of 3:1 (e.g., upstream pressure 10 bar, downstream pressure 5 bar, pressure ratio 10/5 = 2:1). Operating within this range significantly reduces cavitation risk.

2. High Risk of Cavitation:
Operating conditions characterized by high upstream pressure combined with very low downstream pressure pose an increased risk of cavitation. Avoid operating in this area to prevent potential valve damage, noise, and vibrations.

3. Out-of-Normal Operating Conditions:
Conditions where the downstream pressure is set too high relative to the upstream pressure are not recommended, as this may lead to inefficient valve performance and reduced effectiveness.

Recommendations for Optimal Operation:
• Maintain the recommended pressure ratio of 2:1, up to a maximum of 3:1.
• If operating conditions exceed these recommended limits, consider implementing a two-stage pressure reduction (e.g., first stage reducing from 16 bar to 8 bar, second stage from 8 bar to 4 bar).
• Ensure that appropriate brackets are used to securely fasten upstream and downstream pipes according to the manufacturer's instructions and local regulations, thus preventing vibration and noise within the system.

Spare Parts

Illustration	Description	Item number
	Tool for maintenance	1 **2682** 27
	Brass cover with o-ring. Manufactured as of Feb. 2025	1 **2682** 44 (DN15-DN25)
	Brass cover with o-ring. Manufactured up to Feb. 2025	1 **2682** 32 (DN15-DN25)
	Brass cover with o-ring	1 **2682** 33 (DN32-DN50)
	Filter	1 **2682** 28 (DN15-DN25) 1 **2682** 29 (DN32-DN50)
	Manometer	1 **2682** 34
	Screw connections, flat seal	1 **6221** 11 (DN15) 1 **6221** 12 (DN20) 1 **6221** 13 (DN25) 1 **6221** 14 (DN32) 1 **6221** 15 (DN40) 1 **6221** 16 (DN50)

Nominal flow rates standard EN 1567

Size	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50
Flow rate [m³/h]	1,27	2,27	3,6	5,8	9,1	14
Flow rate [l/min]	21,16	37,83	60	96,66	151,66	233,33

Trouble-shooting

Problem	Description	Solution
Increased downstream pressure	This problem is due to heating of the water caused by the water heater	- install an expansion tank
Increased downstream pressure	This problem is due to heating of the cold drink water caused by the room temperature	- install a safety valve I **0132** X4 or an expansion tank
Frozen	Valve exposed to temperatures below 0 °C	- replace valve
Manometer shows a lower pressure under flow conditions than set pressure at no flow	This is normal	- no action
Low flow rate, low downstream pressure	- filter blocked with debris - valve undersized	-clean or change filter cartridge -check valve characteristics and use the right valve

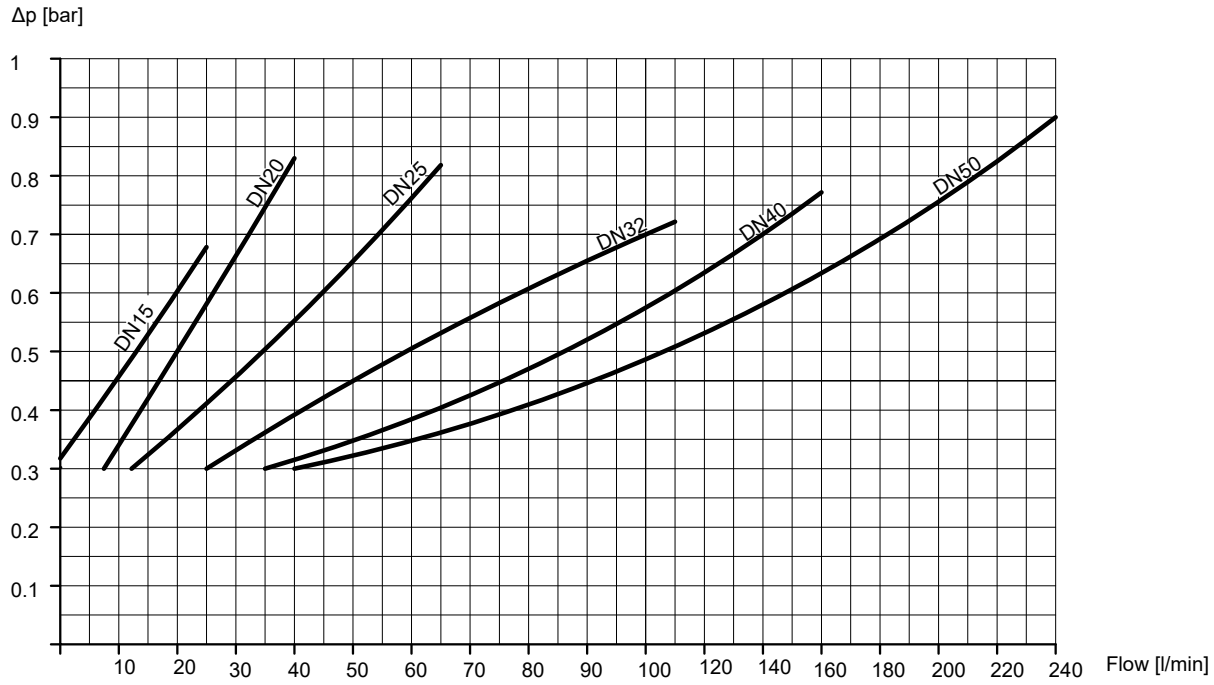
Brass

HERZ uses top-quality brass that is in compliance with the UBA and 4MS lists. HERZ - membrane pressure reducer is made from brass due to its good strength and excellent corrosion resistance. Pursuant to Article 33 of the REACH Regulation (EC No. 1907/2006), we are obliged to point out that the material lead is listed on the SVHC list and that all brass components manufactured in our products exceed 0.1% (w / w) lead (CAS: 7439-92-1 / EINECS: 231-100-4). Since lead is a component part of an alloy, actual exposure is not possible and therefore no additional information on safe use is necessary.

Disposal instruction

The disposal of HERZ - Drinking water manifolds systems must not endanger the health or the enviroment. National legal regulations for proper disposal of the HERZ - Drinking water manifolds systems have to be followed.

Pressure drop diagram



Velocity of water