

Description

Expansion vessels series MAG-H are designed for closed heating systems according to DIN EN 12828 (DIN 4751) with type approval. Vessels 35 and 50 litres are supplied with welded wall brackets. Vessels from 80 litres are equipped with welded feet for floor mounting. The inlet pressure in the expansion tank must be checked before filling the system.

Construction

1. Test and inlet pressure relief valve with protective flap
2. Pressure chamber
3. EPDM diaphragm
4. Water connection (top for vessels up to 150 litres, bottom from 200 litres)

Mounting instructions

Expansion vessels up to 50 litres are suitable for wall mounting, from 80 litres only for floor mounting. Installation and design of the diaphragm expansion vessels is according to EN12828 Abs. 4.6.2.4 resp. Annex D. Pressure expansion vessels and connecting pipes to the heating system must be installed in frost-protected rooms or protected against freezing. Installation should preferably take place in the return pipe, preferably at the lowest point of the system, on the suction side of the circulation pump. The temperature in the vessel or at the diaphragm must not exceed 70 °C during continuous operation. Only one shut-off valve may be installed between the expansion vessel and the heat generator, which is secured against unintentional closing, e.g. cap valve KAV. Diaphragm pressure expansion vessels must be serviced annually. This maintenance should be carried out by an expert of an authorized specialist company.

Selection

The design of diaphragm pressure expansion vessels is calculated according to DIN 4807 Part 2 or EN12828 using the following formula:

$$V_n = (V_e + V_v) \times \frac{p_e + 1}{p_e - p_0}$$

V_n : Nominal volume of the vessel.

V_e : The expansion volume, V_e is calculated from the total volume of the plant and the percentage water expansion n , see the table below.

$$V_e = \frac{V_a \times n}{100}$$

V_v : the water seal V_v is the amount of water stored in the vessel at the lowest temperature.

$V_v = 20\%$ of the nominal volume for vessels up to 12 L

$V_v = 0.5\%$ of the water content of the system for vessels from 18 L, but it cannot be less than 3 L.

p_0 : The inlet pressure in the expansion vessel, if it is pressureless on the water side, must be at least as high as the static pressure at the connection piece of the vessel.

p_e : The final pressure of the system, at the maximum permissible flow temperature, results from the response pressure of the safety valve minus the working pressure difference of 0.5 bar.

Percentage water expansion (based on a filling temperature of 10 °C)

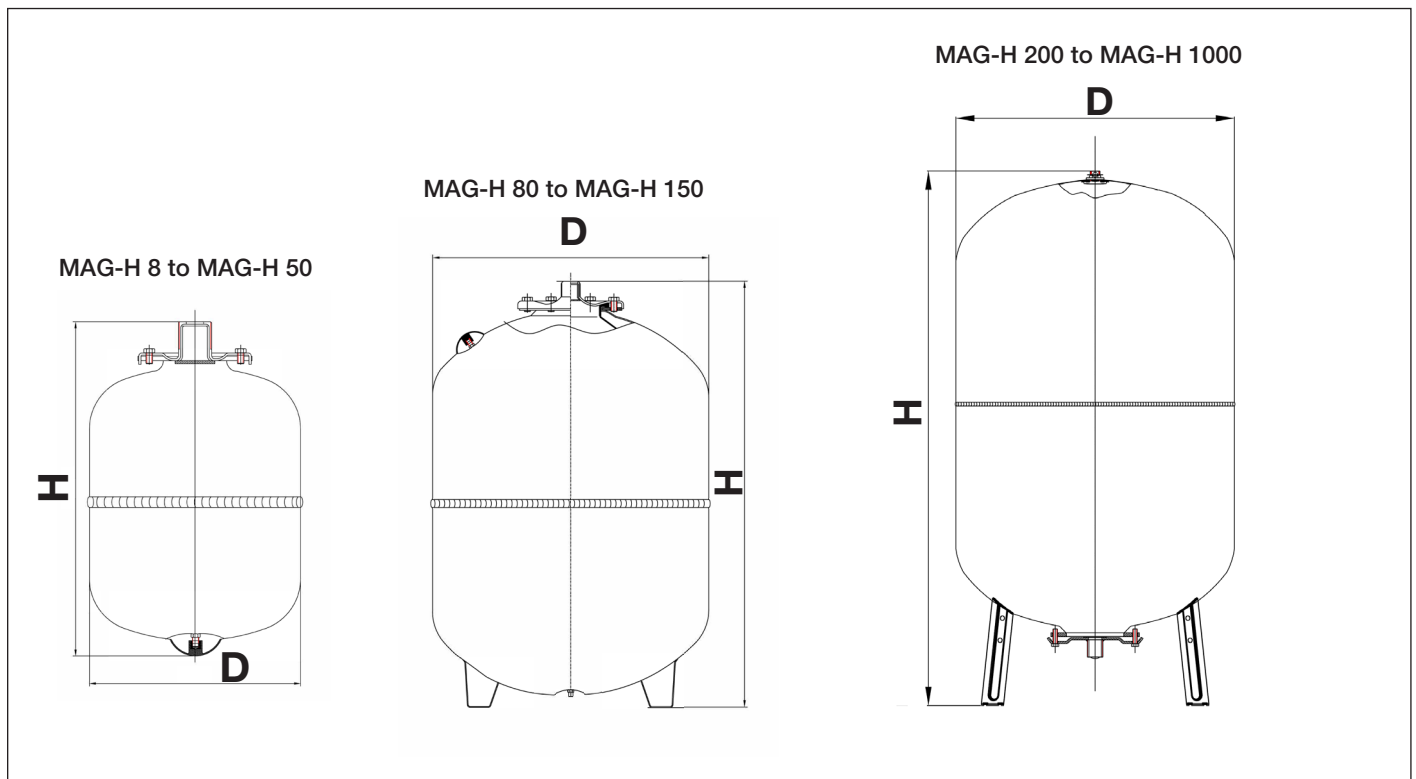
T °C	30	40	50	60	70	80	90
n %	0.66	0.93	1.29	1.71	2.22	2.81	3.47

Technical Data

Type	Part no.	D [mm]	H [mm]	Box [mm]	Colour	Connection	Pre-pressure	Max. pressure	Medium temperature	Mounting
MAG-H 8	10017987	200	316	230 x 230 x 350	Red	¾", top	1.5 bar	8 bar	-10 ÷ 100°C	brackets ¹
MAG-H 12	10017988	280	295	360 x 290 x 290	Red	¾", top	1.5 bar	8 bar	-10 ÷ 100°C	brackets ¹
MAG-H 18	10017989	280	430	460 x 280 x 280	Red	¾", top	1.5 bar	8 bar	-10 ÷ 100°C	brackets ¹
MAG-H 24	10017990	280	483	510 x 280 x 280	Red	¾", top	1.5 bar	8 bar	-10 ÷ 100°C	brackets ¹
MAG-H 35	10017991	365	440	380 x 400 x 460	Red	¾", top	1.5 bar	8 bar	-10 ÷ 100°C	wall brackets ²
MAG-H 50	10017992	365	565	380 x 400 x 570	Red	¾", top	1.5 bar	8 bar	-10 ÷ 100°C	wall brackets ²
MAG-H 80	10017993	415	717	430 x 450 x 860	Red	1", top	1.5 bar	8 bar	-10 ÷ 100°C	feet
MAG-H 100	10017994	495	675	510 x 540 x 860	Red	1", top	1.5 bar	8 bar	-10 ÷ 100°C	feet
MAG-H 150	10017995	550	790	570 x 610 x 850	Red	1", top	1.5 bar	8 bar	-10 ÷ 100°C	feet
MAG-H 200	10017996	600	1085	610 x 620 x 1111	Red	1", bottom	1.5 bar	8 bar	-10 ÷ 100°C	feet
MAG-H 250	10017997	650	1051	670 x 680 x 1290	Red	1", bottom	1.5 bar	8 bar	-10 ÷ 100°C	feet
MAG-H 300	10017998	650	1212	670 x 680 x 1290	Red	1", bottom	1.5 bar	8 bar	-10 ÷ 100°C	feet
MAG-H 500	10017999	750	1438	750 x 770 x 1510	Red	1¼", bottom	1.5 bar	8 bar	-10 ÷ 100°C	feet
MAG-H 750	10018000	750	1900	800 x 800 x 1950	Red	2", bottom	4.0 bar	10 bar	-10 ÷ 100°C	feet
MAG-H 1000	10018001	800	2180	800 x 800 x 2300	Red	2", bottom	4.0 bar	10 bar	-10 ÷ 100°C	feet

1. Bracket WH 25/SG (part no. 10017932) for expansion tanks **MAG-H 8 - MAG-H 24** is offered as a separate accessory.
2. Expansion tanks **MAG-H 35** and **MAG-H 50** include wall brackets and mounting in the scope of supply.

Overall dimensions



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