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DESCRIPTION

Expansion vessels for domestic water are used to compensate for the expansion of water in an open circuit in which domestic water is circulated. The correct dimensioning of the vessel is very important, otherwise the safety valve may open and shut down the system. As the water heats up, it expands. If this expansion is not mitigated by drinking hot water, the SBR bladder absorbs the change in volume. When the water cools down or if it is consumed, the air pressure in the bladder returns the water to the sanitary circuit.

For installation, a shut-off valve with a drain valve is required for maintenance purposes (checking the vacuum pressure).

CHOICE OF THE VESSEL

Données nécessaires au calcul:

- V_A : Volume of the installation (in litres)
- H : Static height of the installation (in m)
- $P_{s\text{oup}}$: Opening pressure of the valve (in bar)
- e : Expansion coefficient (depending on the Delta T max of the installation, in %)

Tmax (°C)	e (%)	Tmax (°C)	e (%)
10	0.01	60	1.69
20	0.16	70	2.26
30	0.42	80	2.88
40	0.77	90	3.57
50	1.19	100	4.32

Formulas:

$V_e = V_A \times e$ (expansion volume in liters)

$V_v = 0.5\% \times V_A$ (stock volume in liters)

$V_N = (V_e + V_v) \times [(0.9 P_{s\text{oup}} + 1) / (0.9 P_{s\text{oup}} - (H/10) - 0.3)]$ (expansion vessel nominal volume)

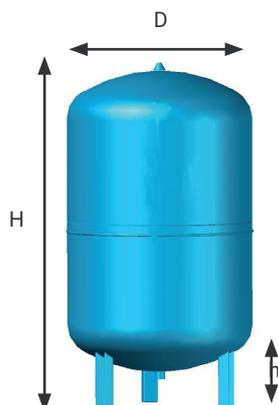
The bladder pressure must be adjusted before the system is put into operation. This pressure can be calculated using the following formula:

$$P_i = H/10 + 0.3 + \Delta_p$$

with H : static height of the installation (in m)

Δ_p : differential pressure generated by a pump = 0 if the vessel is placed on the suction side.

DIMENSIONS



Item code	Nominal volume VN (liters)	Diameter D (mm)	Height H (mm)	Tapping height h (mm)	Tapping size	Max. pressure (bar)	Preloaded pressure (bar)
104.196	80	480	565	104	R1	6	4
104.197	100	480	670	104	R1	6	4
104.198	140	480	912	104	R1	6	4
104.199	200	634	758	91	R1	6	4
104.200	300	634	1.092	93	R1	6	4
104.201	400	740	1.102	81	R1	6	4
104.202	500	740	1.312	82	R1	6	4
104.203	600	740	1.531	73	R1	6	4