



AQUAFLEX EXPANSION VESSELS

Aquaflex Expansion Vessels incorporate a bladder arrangement which provides a flexible barrier between the system fluid and the precharged air in the vessel.

MASTERFLOW

AQUAFLEX EXPANSION VESSELS: ECONOMICAL, RELIABLE AND CONVENIENT

In practice, water cannot be compressed and therefore any increase in water volume must be accommodated in an expansion vessel designed and sized for that purpose. Naturally, as water heats up, it expands. This expanded water has to go somewhere. In an open type system, the open expansion tank situated at the highest point of the system would accommodate this extra volume.

A close type system does not have an open fixture such as described above. Hence, a correctly sized Aquaflex Expansion Vessel is necessary. When properly sized, the Aquaflex Expansion Vessel will accommodate the expansion of the fluid during the heating or cooling cycle without allowing the system to exceed the pressure limits of any of the components in the system. As the system water expands, the bladder also expands pushing against the precharged air cushion. This is how the expansion is accommodated in a closed-loop system.

Standard construction is carbon cold pressed steel with natural rubber or EPDM membranes. Temperature limits are 4 °C to 99 °C. Working pressures vary from 6 Bar to 10 Bar depending upon which vessel is selected. Higher pressure ratings of 16 and 25 Bar are available if required.

Standard nominal tank capacities range from 8L up to 10,000L.

APPLICATIONS

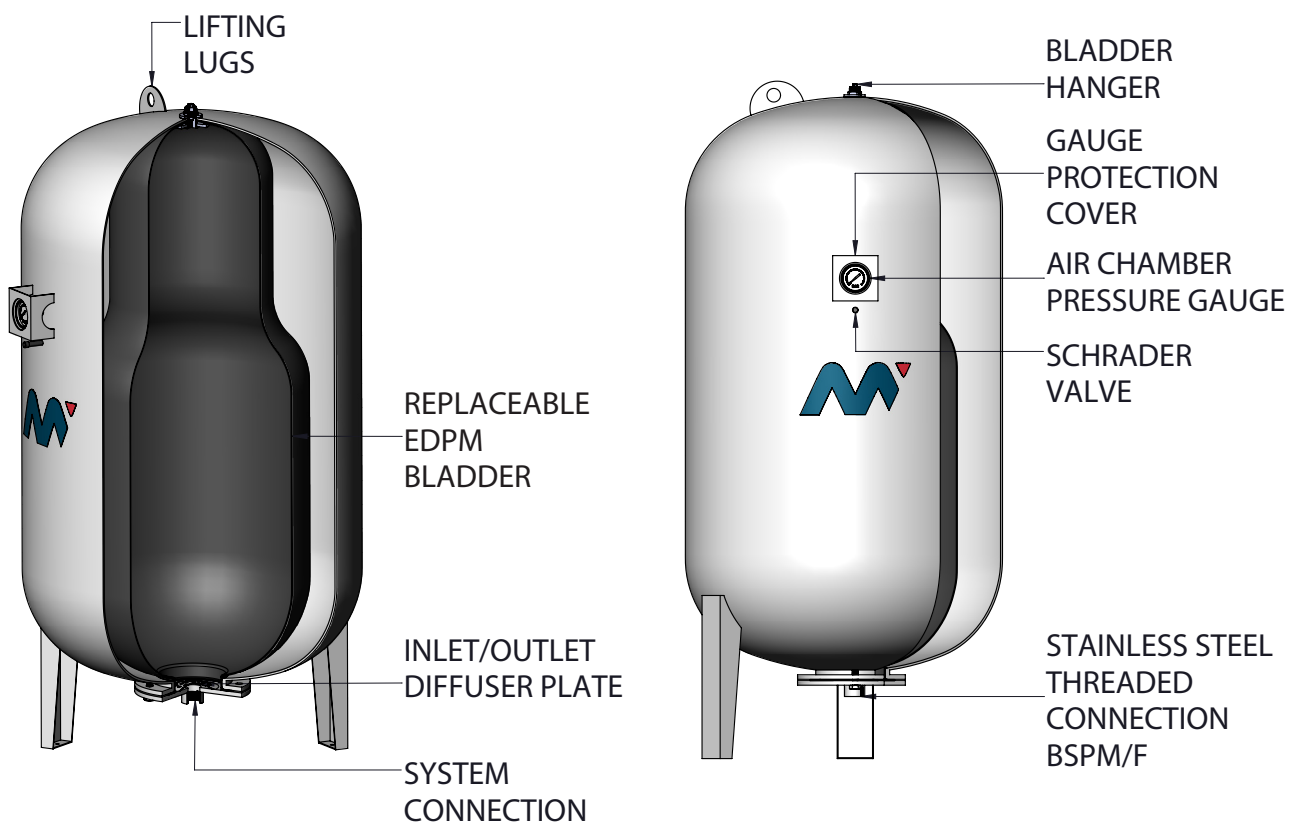
- Chilled Water
- Heating Water
- Condenser Water
- Closed loop pressure systems
- Closed loop temperature systems



DESIGN FEATURES

Features typically include:

- Replaceable bladder
- Pre-set pressure 400 kPa – variable
- Relief valve supplied loose to suit system pressure – please specify.
- Standard shell construction is carbon cold pressed steel (stainless available on request)
- Natural rubber or EPDM membranes.
- Temperature limits: 4°C - 99°C.
- Working pressures vary from 6 Bar to 10 Bar.
- Higher pressure ratings of 16 and 25 Bar available if required.



SIZING

In order to select a suitably sized expansion vessel, the following information is required:

- Total system water volume in litres.
- Temperature of water when system is filled (in °C) and average maximum operating temperature (in °C).
- Minimum operating pressure in kPa and maximum operating pressure (10% below relief valve, in kPa).
- Which level of the building it will be installed and number of levels there are above it.

DIMENSIONAL DATA: EXPANSION TABLES FOR 8-3000L



8-24L



35-80L



100-3000L

MODEL	VOLUME (LT)	CONNECTION	ØD	H (MM)	H (MM)	WEIGHT (KG)	PRE-CHARGE PRESSURE (BAR)
10 BAR							
10AF8	8	1" M	200	370	-	1.9	2
10AF12	12	1" M	240	400	-	2.4	2
10AF19	19	1" M	300	370	-	3.1	2
10AF24	24	1" M	300	430	-	3.9	2
10AF35	35	1" M	350	610	200	7	2
10AF50	50	1" M	350	700	190	8	2
10AF80	80	1" M	425	930	180	15	2
10AF100	100	1" M	460	990	180	22	4
10AF150	150	1" M	500	1080	210	25	4
10AF200	200	1 ¼" F	600	1120	180	37	4
10AF300	300	1 ¼" F	640	1250	140	44	4
10AF500	500	1 ¼" F	750	1490	140	64	4
10AF750	750	2" F	800	1800	250	154	4
10AFM850	850	2" F	800	2020	260	178	4
10AFM1000	1000	2" F	800	2150	260	198	4
10AFM1500	1500	2" F	960	2350	260	232	4
10AFM2000	2000	2" F	1100	2450	260	290	4
10AFM3000	3000	3" F	1250	2700	320	495	4

DIMENSIONAL DATA: EXPANSION TABLES FOR 8-3000L

MODEL	VOLUME (LT)	CONNECTION	ØD	H (MM)	H (MM)	WEIGHT (KG)	PRE-CHARGE PRESSURE (BAR)
16 BAR / 25 BAR							
16AF8	8	1" M	200	370	-	TBC	2
16AF12	12	1" M	240	400	-	TBC	2
16AF19	19	1" M	300	370	-	TBC	2
16AF24	24	1" M	300	430	-	TBC	2
16AF35	35	1" M	350	610	200	TBC	2
16AF50	50	1" M	350	700	190	TBC	2
16AF80	80	1" M	425	930	180	TBC	2
16AF100	100	1" M	460	990	180	TBC	4
16AF150	150	1" M	500	1080	210	TBC	4
16AF200	200	1 ¼" F	600	1120	180	TBC	4
16AF300	300	1 ¼" F	640	1250	140	TBC	4
16AF500	500	1 ¼" F	750	1490	140	TBC	4
16AF750	750	2" F	800	1800	250	TBC	4
16AFM850	850	2" F	800	2020	260	TBC	4
16AFM1600	1000	2" F	800	2150	260	TBC	4
16AFM1500	1500	2" F	960	2350	260	TBC	4
16AFM2000	2000	2" F	1100	2450	260	TBC	4
16AFM3000	3000	3" F	1250	2700	320	TBC	4

Larger and customised sizes available. Please reach out to our engineering team at Masterflow.



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All content is subject to change without notice.