



### Calculation of expansion vessels

#### Total water capacity of the system

If the total water capacity of your system is unknown an approximate figure can be derived by :

$$V_t = P \times 12$$

With

$V_t$ : Total water capacity of the system (L)

$P$ : Heat output (kW)

#### Volume of expansion

$$V_{exp} = V_t \times C_{exp}$$

With

$V_{exp}$ : Volume of expansion (L)

$C_{exp}$ : Expansion coefficient (see table)

#### Vessel capacity (L)

$$V = \frac{V_{exp}}{1 - \frac{P_1}{P_2}}$$

With

$V$ : Vessel capacity (L)

$P_1$ : Absolute static height pressure (bar)

$P_2$ : Absolute max. working pressure (bar)

#### Expansion coefficient

Temperature (°C)	Coefficient	Temperature (°C)	Coefficient
20	0.0018	70	0.0225
30	0.0044	75	0.0256
40	0.0079	80	0.0288
50	0.0119	85	0.0322
55	0.0143	90	0.0357
60	0.0169	95	0.0394
65	0.0196	100	0.0431

### AFE/AFC range

Expansion & Secondary Hot Water applications

### Identification Code

e.g.: AFE 100

**AF** Heating / Secondary hot water

**E C** : Pipeline mounted tanks  
**E** : Vertical tanks

**100** Vessel Capacity (L)

### Application

For use in domestic, commercial and industrial applications.  
EPDM replaceable membranes suitable for hot water.

### Technical data

#### Approved fluids

Hot & Cold water

Glycol mixtures

#### Temperature

Max. fluid temperature 100°C

Min. fluid temperature -10°C

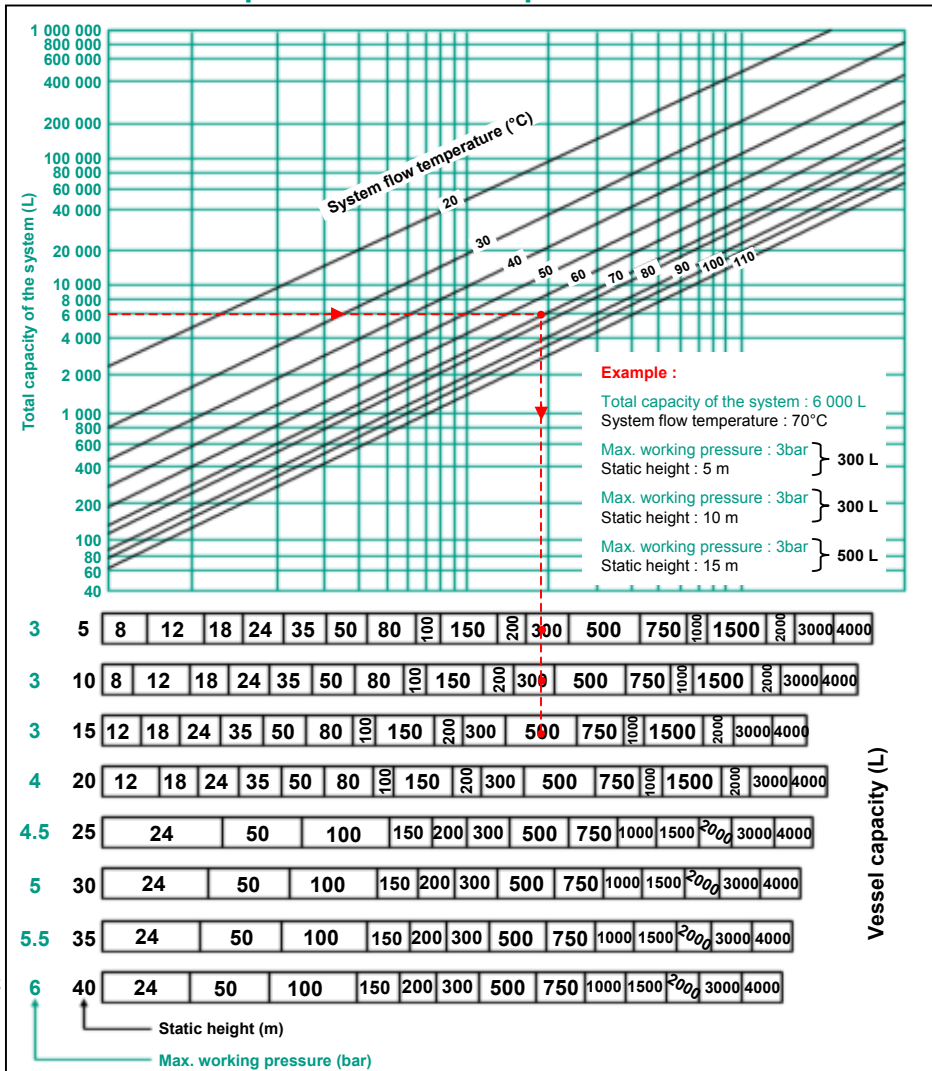
**Max. working pressure** up to 10bar

**Pre-charge pressure** 1.5 or 2.5bar

### Features

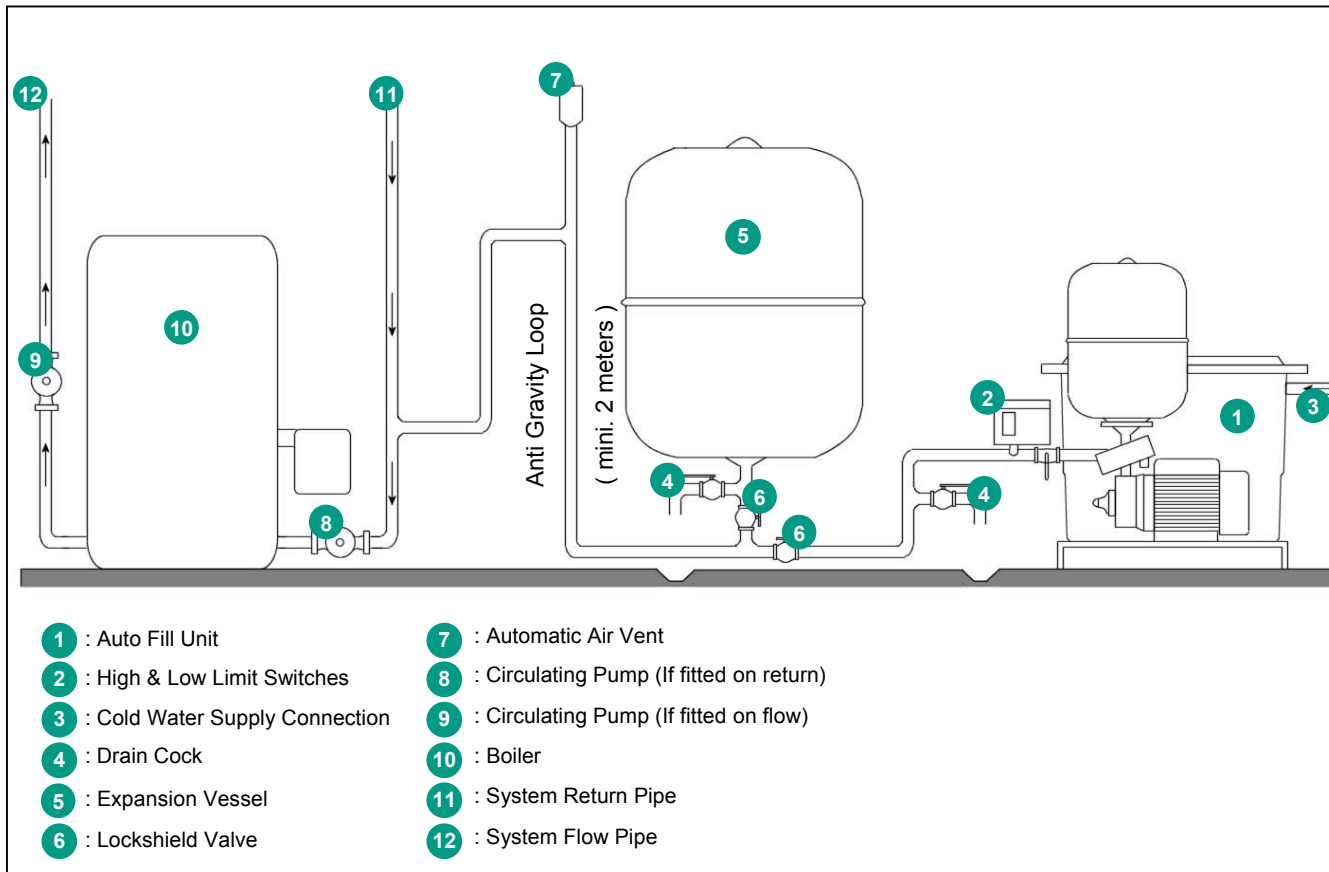
- -10°C to 100°C temperature range.
- Easy and fast installation
- Interchangeable membrane
- EPDM membrane approved by WRC

### Alternative - Rapid selection of expansion tanks



### AFE/AFC range

### Schematic Layout of Typical Installation



### Dimensions

Type	Volume (Litres)	Max. working pressure (bar)	L (mm)	D (mm)	Ø (inch)
AFC 3	3	8	240	170	¾
AFC 8	8	8	305	220	¾
AFC 12	12	8	310	260	¾
AFC 24	24	8	485	260	1
AFE 50	50	10	720	380	1
AFE 60	60	10	830	380	1
AFE 100	100	10	880	460	1
AFE 200	200	10	1070	590	1¼
AFE 300	300	10	1250	650	1¼
AFE 500	500	10	1600	750	1¼
AFE 750	750	10	1820	800	2
AFE 1000	1000	10	2130	800	2½
AFE 1500	1500	10	2130	1000	2½

