



Expansion Tanks

hurlcon heating

The expansion tank is an integral component in a closed heating system. With the stress and strain that occurs during start up, you need to have confidence in the system components. Hurlcon's range of expansion tanks have been developed and manufactured in Italy to the highest standards for over 25 years and naturally compliment our range of boilers. This technology is used throughout the range which includes tanks for heating hot water, potable water, pressure boost and solar system applications.

Hurlcon Expansion Tanks

Varem

Varem have been a leading manufacturer for over 25 years in the heating water field. Varem produces the complete tank and membrane thus maintaining quality control of the major components. Varem tanks are manufactured to exacting TUV & IQNET standards are CE approved and ISO9001 accredited.

The design of Extra Varem and Maxi Varem tanks means that the system water is not in contact with the metal of the tank so no rusting and water contamination can occur. Maxi Varem tanks have a removable flange for membrane inspection and replacement if required.

Tanks available with butyl membrane and stainless steel flange for potable water and nitril membrane for solar systems and special applications, contact your nearest Hurlcon office for details.

Table 1 CfE

Temperature Difference C	Coefficient
0	0.00013
10	0.00027
20	0.00177
30	0.00435
40	0.00782
50	0.01450
60	0.01710
70	0.02270
80	0.02580
85	0.02900
90	0.03590
95	0.03960
100	0.04340
110	0.05150

Table 2 CfP

Relief valve pressure bar	Tank Precharge Pressure Bar									
	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	5.0	
1.0	0.25									
1.5	0.40	0.20								
2.0	0.50	0.33	0.16							
2.5	0.58	0.42	0.28	0.14						
3.0	0.62	0.50	0.37	0.25	0.12					
3.5	0.67	0.55	0.44	0.33	0.22					
4.0	0.70	0.60	0.50	0.40	0.30	0.20				
4.5		0.63	0.54	0.45	0.36	0.27	0.18			
5.0			0.58	0.50	0.41	0.33	0.25	0.16		
5.5			0.62	0.54	0.47	0.38	0.30	0.23		
6.0				0.57	0.50	0.42	0.35	0.28		
6.5				0.60	0.53	0.46	0.40	0.35	0.20	
7.0					0.56	0.50	0.44	0.38	0.25	
7.5					0.58	0.53	0.47	0.41	0.30	
8.0						0.56	0.50	0.45	0.33	

Calculation To calculate the size of the expansion tank required:

V_S = system volume

V_E = expansion volume

V_U = volume of use

$V_U = V_S \times C_{fE}$ (Table 1)

$V_E = V_U / C_{fP}$ (Table 2)

Example A heating system with a total volume of 229 litres with a min. temp of 10°, max temp 90°, tank precharge 1.5 Bar, PRV set at 3 Bar.

From Table 1 $C_{fE} = 0.0258$
 $\therefore V_U = 229 \times 0.0258$
 $\therefore V_U = 5.91 \text{ l}$

From Table 2 $C_{fP} = 0.37$
 $\therefore V_E = 5.91 / 0.37$
 $\therefore V_E = 15.97 \text{ l}$

\therefore an 18 litre tank is selected



Available from:

hurlcon heating

V210515

Extra Varem					
Hurlcon Part #	Capacity Litres	Max pressure Bar	Dimensions D x H mm	Connection inches	
15000	5	6	160 x 325	3/4	
15001	8	6	200 x 330	3/4	
15002	12	6	270 x 310	3/4	
15003	18	6	270 x 425	3/4	
15004	25	6	290 x 468	3/4	
15005	40	5	320 x 580	3/4	

Replaceable SBR membrane, carbon steel flange, precharged to 1.5 Bar
 All tanks rated from -10°C to 99°C

Maxi Varem					
Hurlcon Part #	Capacity Litres	Max pressure Bar	Dimensions D x H mm	Connection inches	
15006	35	6	320 x 525	3/4	
15007	50	6	380 x 620	3/4	
15008	80	6	450 x 662	1	
15009	100	6	450 x 730	1	
15014	150	6	554 x 807	1 1/2	
15015	200	6	554 x 988	1 1/2	
15016	250	6	624 x 1006	1 1/2	
15017	300	6	630 x 1160	1 1/2	
15018	400	6	624 x 1520	1 1/2	
15019	500	6	775 x 1250	1 1/2	
15020	600	6	775 x 1525	1 1/2	
15021	700	6	775 x 1635	1 1/2	

Replaceable SBR membrane, carbon steel flange, precharged to 1.5 Bar
 All tanks rated from -10°C to 99°C

Melbourne: 03 9554 2275 Townsville: 07 4796 0100
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