SolarEXTROL®

For the Absorption of Expanded Fluids

Dimension and Specifications

Model No.	Total Volume (Gals.)	Accept. Volume (Gals.)	Height (inch.)	Diameter (inch.)	System Conn. (inch.)	Shipping Wt. (lbs.)
S15	2.0	1.0	12 5/8"	8"	1/2"	5
S30	4.4	2.5	15 1/2"	11"	1/2"	9
S60	7.6	2.5	23"	11"	1/2"	14

Features:

- Compatible with glycerine and propylene glycol solutions.
- Maximum intermittent temperature 250°F
- Maximum continuous temperature 225°F
- Maximum working pressure 150 psi
- Precharge pressure 25 psi

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Precise Sizing of SolarEXTROL®

Things you must know:

1. Total System Volume . . . . . (1)_____gallons
2. Minimum System Temperature. . . . . (2)_____°F
3. Maximum System Temperature . . . . . (3)_____°F
4. Minimum Operating Pressure at Expansion Tank . . . (4)_____psig
5. Maximum Operating Pressure at Expansion Tank. . . (5)_____psig

Selection of Expansion Tank:

6. Find and enter "Net Expansion Factor" . . . . . (6)_____(see table 1)
7. Amount of Expanded Water = line (1) x line (6). . . . . (7)_____gallon
8. Find the "Expansion Multiplier" based on the system's fluid . (8)_____see table 3)
9. Multiply line 7 and 8 . . . . . (9)_____gallons
10. Find and enter "Acceptance Factor". . . . . (10)_____(see table 2)
11. Minimum Total Tank Volume = line (9) ÷ line (10). . . . . (11)_____gallons
12. Select an Expansion Tank that is at least equal to line (11) for "Total Volume" and line (9) for Max. Expanded Fluid Acceptance Gallons. Multiple tanks may be required.

Table 1. Net Expansion of Water

Max.Sys. Temp. °F	Minimum System Temperature °F						
	40°F	50°F	60°F	70°F	80°F	90°F	100°F
60°F	.0005	.0049	—	—	—	—	—
70°F	.00149	.00143	.00094	—	—	—	—
80°F	.00260	.00254	.00204	.00111	—	—	—
90°F	.00405	.00399	.00350	.00256	.00145	—	—
100°F	.00575	.00569	.00520	.00426	.00315	.00170	—
110°F	.00771	.00765	.00716	.00622	.00511	.00366	.00196
120°F	.0100	.0099	.0095	.0086	.0074	.0060	.0043
130°F	.0124	.0123	.0118	.0109	.0098	.0083	.0066
140°F	.0150	.0149	.0145	.0135	.0124	.0110	.0093
150°F	.0179	.0178	.0173	.0164	.0153	.0133	.0121
160°F	.0209	.0208	.0204	.0194	.0181	.0165	.0148
170°F	.0242	.0241	.0236	.0227	.0216	.0201	.0184
180°F	.0276	.0275	.0271	.0261	.0250	.0236	.0219
190°F	.0313	.0312	.0307	.0298	.0287	.0272	.0255
200°F	.0351	.0350	.0346	.0336	.0325	.0311	.0294
210°F	.0391	.0390	.0386	.0376	.0365	.0351	.0334
220°F	.0434	.0433	.0428	.0419	.0408	.0393	.0376
230°F	.0476	.0475	.0471	.0461	.0450	.0436	.0419
240°F	.0522	.0521	.0517	.0507	.0496	.0482	.0465

Note: For ethylene glycol and for propylene glycol see Table 3.

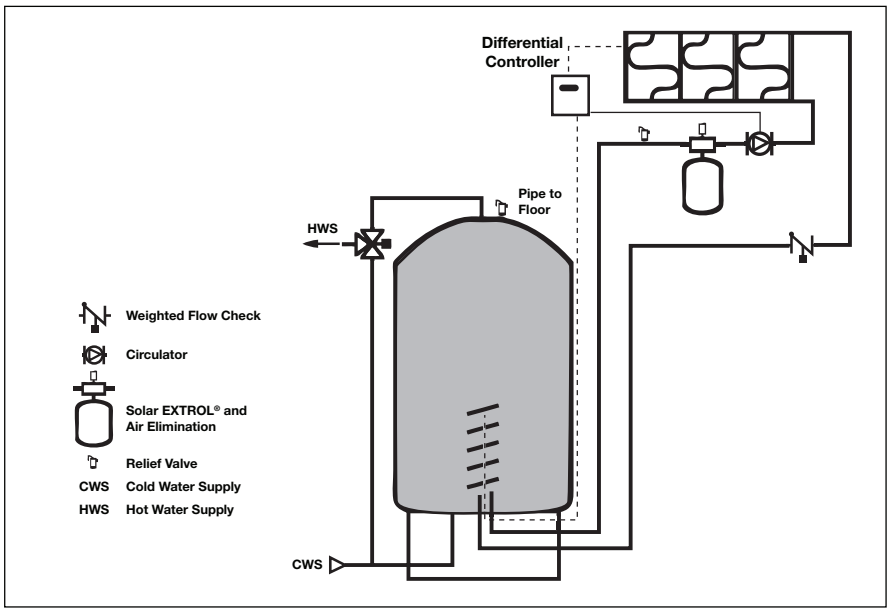
Table 2. Acceptance Factors*

Max.Oper. Pressure at Tank (psig)	Minimum Operating Pressure at Tank (psig)								
	12	15	20	30	40	50	60	70	80
27	0.360	0.288	0.168	—	—	—	—	—	—
30	0.403	0.336	0.224	—	—	—	—	—	—
35	0.463	0.403	0.302	0.101	—	—	—	—	—
40	0.512	0.457	0.366	0.183	—	—	—	—	—
45	0.553	0.503	0.419	0.251	0.084	—	—	—	—
50	0.587	0.541	0.464	0.309	0.155	—	—	—	—
55	0.617	0.574	0.502	0.359	0.215	0.072	—	—	—
60	0.643	0.602	0.536	0.402	0.268	0.134	—	—	—
65	0.665	0.627	0.565	0.439	0.314	0.188	0.062	—	—
70	0.685	0.649	0.590	0.472	0.354	0.236	0.118	—	—
75	0.702	0.669	0.613	0.502	0.390	0.279	0.167	0.056	—
80	0.718	0.686	0.634	0.528	0.422	0.317	0.211	0.106	—
90	0.745	0.716	0.669	0.573	0.478	0.382	0.287	0.191	0.096
100	0.767	0.741	0.698	0.610	0.523	0.436	0.347	0.261	0.174
110	0.786	0.762	0.723	0.642	0.561	0.481	0.401	0.321	0.241

** Acceptance factors based on expansion tank being charged to minimum operating pressure while empty of liquid.*

Table 3. Expansion Multiplier

Water	X 1
30% ethylene	X 1.5
50% ethylene	X 2.0
30% propylene	X 2.0
50% propylene	X 2.5



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