



EXTROL[®]

ASME Commercial Expansion Tanks



For Closed Hydronic Heating & Chilled Water Systems



EXTROL®

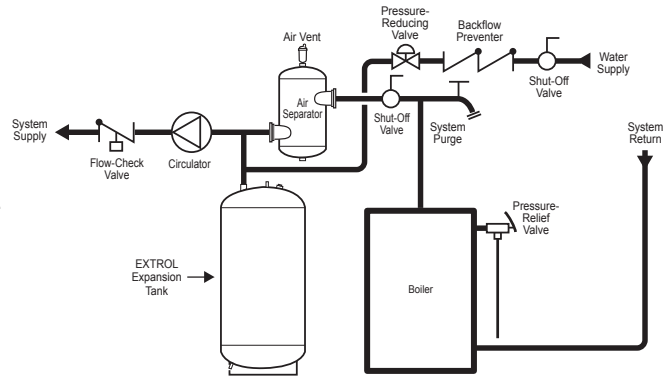
Amtrol hydronic expansion tanks are for use in closed, non-potable hydronic heating and chilled water systems. Available in diaphragm, full acceptance and partial acceptance bladder designs, all Extrol expansion tanks are made in the USA at our ISO 9001: 2008 registered facilities. ASME tanks meet all Section VIII, Division I standards.



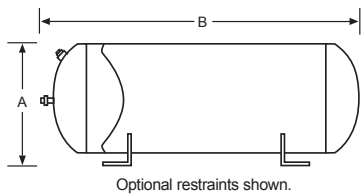
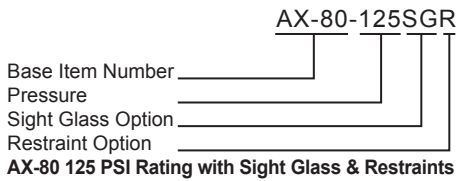
EXTROL AX Series

- Diaphragm design; industry's thickest.
- Horizontal and vertical models are available with optional restraints.
- Factory pre-charge: 12 psig.
- Maximum operating temperature: 240° F.

Typical Installation



How to Order: Specify Item & Options

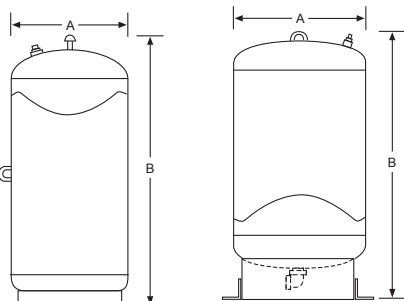
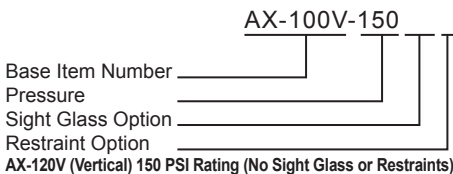


AX Horizontal Series Specifications

Model Number	Tank Volume (Gallons)	Max. Accept. Volume (Gallons)	A Diameter (Inches)	B Length (Inches)	System Conn. ¹ (Inches)	Shipping Weight (lbs.) Max. Working Pressure				
						125 PSI	150 PSI	175 PSI	250 PSI	300 PSI
AX-15	8.0	2.4	12	19	½	37	42	44	46	49
AX-20	10.9	2.4	12	26	½	46	51	54	56	59
AX-40	21.7	11.3	16	29	½	74	79	83	87	91
AX-60	33.6	11.3	16	43	½	96	103	108	114	119
AX-80	44.4	22.6	24	29	1	153	168	177	186	195
AX-100	55.7	22.6	24	33	1	174	184	193	203	213
AX-120	68.0	34.0	24	41	1	204	214	225	236	248
AX-144	77.0	34.0	24	46	1	218	228	239	251	264
AX-180	90.0	34.0	24	54	1	232	276	290	304	320
AX-200	110.0	34.0	24	64	1	269	342	359	377	396
AX-240	132.0	46.0	30	51	1	401	428	449	472	495
AX-260	159.0	56.0	30	62	1¼	455	480	504	529	556
AX-280	211.0	84.0	30	80	1¼	580	660	693	728	764

¹AX-15 through AX-100: Malleable Iron NPTF System Connection. Location: Center.
 AX-120 through AX-240: Malleable Iron NPTM System Connection. Location: Center.
 AX-260 and AX-280: Malleable Iron NPTM System Connection. Location: Top Offset.

How to Order: Specify Item & Options



AX-15V through AX-100V
AX-260 and AX-280V

AX-120V through AX-240V
Optional restraints shown.

AX Vertical Series Specifications

Model Number	Tank Volume (Gallons)	Max. Accept. Volume (Gallons)	A Diameter (Inches)	B Height (Inches)	System Conn. ² (Inches)	Shipping Weight (lbs.) Max. Working Pressure				
						125 PSI	150 PSI	175 PSI	250 PSI	300 PSI
AX-15V	8.0	2.4	12	20	½	41	43	45	47	50
AX-20V	10.9	2.4	12	27	½	49	45	47	50	52
AX-40V	21.7	11.3	16	30	½	80	90	95	99	104
AX-60V	33.6	11.3	16	45	½	103	110	116	121	127
AX-80V	44.4	22.6	24	29	1	167	156	164	172	181
AX-100V	55.7	22.6	24	34	1	179	181	190	200	210
AX-120V	68.0	34.0	24	47	1	221	244	256	269	282
AX-144V	77.0	34.0	24	52	1	233	267	280	294	309
AX-180V	90.0	34.0	24	60	1	256	294	309	324	340
AX-200V	110.0	34.0	24	66	1	278	360	378	397	417
AX-240V	132.0	46.0	30	58	1	436	453	476	499	524
AX-260V	159.0	56.0	30	65	1¼	467	505	530	557	585
AX-280V	211.0	84.0	30	82	1¼	605	685	719	755	793

²AX-15V through AX-100V: Malleable Iron NPTF System Connection. Location: Top Center.
 AX-120V through AX-240V: Malleable Iron NPTF System Connection. Location: Bottom.
 AX-260V and AX-280V: Malleable Iron NPTM System Connection. Location: Top Offset.

ASME Commercial Expansion Tanks



EXTROL L Series

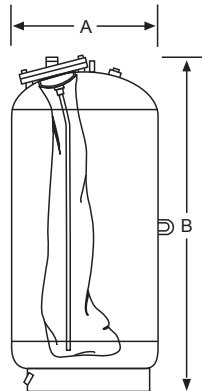
- Replaceable, full acceptance bladder design.
- Heavy duty butyl bladder; industry's thickest.
- Free-standing on integral welded ring base.
- Factory pre-charge: 12 psig.
- Maximum operating temperature: 240° F.

How to Order: Specify Item & Options

800-L-175-SGR

Base Item Number _____
 Pressure _____
 Sight Glass Option _____
 Restraint Option _____

800-L 175 PSI Rating with Sight Glass & Restraints



L Series Specifications

Model Number	Tank Volume (Gallons)	Max. Accept. Volume (Gallons)	A Diameter (Inches)	B Height (Inches)	System Conn. ¹ NPTF (Inches)	Shipping Weight (lbs.) Max. Working Pressure				
						125 PSI	150 PSI	175 PSI	250 PSI	300 PSI
200-L	53	53	24	38	1	190	205	250	290	297
300-L	80	80	24	52	1	230	292	320	385	372
400-L	106	106	24	66	1	275	343	375	465	595
500-L	132	132	24	79	1	311	372	435	545	750
600-L	159	159	30	64	1½	439	510	595	720	810
800-L	211	211	30	82	1½	543	565	620	905	950
1000-L	264	264	36	74	1½	609	750	750	1,015	1,065
1200-L	317	317	36	86	1½	700	860	860	1,175	1,235
1400-L	370	370	36	98	1½	783	970	970	1,335	1,400
1600-L	422	422	48	69	1½	1,106	1,425	1,425	1,916	2,015
2000-L	528	528	48	84	1½	1,284	1,675	1,675	2,215	2,325
2500-L	660	660	48	101	2	1,544	1,945	1,945	2,585	2,715
3000-L	793	793	48	118	2	1,719	2,225	2,225	2,950	3,100
3500-L	925	925	54	111	2	2,187	2,375	2,375	3,660	3,780
4000-L	1,057	1,057	54	125	2	2,352	2,640	2,640	4,080	4,285
5000-L	1,321	1,321	60	128	2	2,450	3,740	4,100	4,200	4,410
7500-L	1,980	1,980	72	127	3	4,000	4,300	4,500	5,550	5,830
10000-L	2,640	2,640	72	159	3	4,900	5,300	5,500	6,800	7,150
15000-L	3,963	3,963	72	233	3	6,000	7,600	7,900	9,800	10,300

¹Malleable Iron System Connection.



EXTROL LBC Series

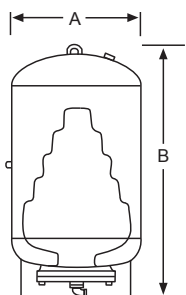
- Replaceable, partial acceptance bladder design.
- Heavy duty butyl bladder; industry's thickest.
- Free-standing on integral welded ring base.
- Factory pre-charge: 12 psig.
- Maximum operating temperature: 240° F.

How to Order: Specify Item & Options

130-LBC-125 R

Base Item Number _____
 Pressure _____
 Sight Glass Option _____
 Restraint Option _____

130-LBC 125 PSI Rating with Restraints (No Sight Glass)



LBC Series Specifications

Model Number	Tank Volume (Gallons)	Max. Accept. Volume (Gallons)	A Diameter (Inches)	B Height (Inches)	System Conn. ¹ NPTF (Inches)	Shipping Weight (lbs.) Max. Working Pressure				
						125 PSI	150 PSI	175 PSI	250 PSI	300 PSI
35-LBC	10	10	10	37	1	65	76	78	81	83
50-LBC	13	11	12	37	1	76	78	81	83	86
85-LBC	22	11	16	35	1	92	95	98	101	104
100-LBC	26	11	16	39	1	99	102	105	108	111
130-LBC	34	27	20	35	1	130	134	138	142	146
165-LBC	44	27	20	40	1	149	153	158	163	168
200-LBC	53	27	24	41	1	195	205	211	217	224
300-LBC	80	27	24	56	1	233	254	262	269	278
400-LBC	106	53	24	69	1	274	308	317	327	337
500-LBC	132	53	24	83	1	310	352	363	373	385
600-LBC	158	53	30	67	1	438	442	455	469	483

¹Malleable Iron System Connection.



EXTROL® Sizing Guide

Things You Must Know:

1. Total System Volume _____ gallons
2. Minimum System Temperature _____ °F
3. Maximum System Temperature _____ °F
4. Minimum Operating Pressure at Expansion Tank . . _____ psig
5. Maximum Operating Pressure at Expansion Tank . _____ psig

Selection of Expansion Tank:

6. Find and enter "Water Expansion Factor" _____ (see Table 1)
7. Amount of Expanded Water = Line (1) x Line (6) . . _____ gallons
8. Find and enter "Tank Acceptance Factor" _____ (see Table 2)
9. Minimum Volume = Line (7) ÷ Line (8) _____ gallons
10. Select an Expansion Tank that is at least equal to Line (9) for Tank Volume (gallons) and Line (7) for Max. Acceptance Volume (gallons). Multiple tanks may be required.

Table 1: Water Expansion Factor

Maximum System Temp.	Minimum System Temperature						
	40° F	50° F	60° F	70° F	80° F	90° F	100° F
60° F	.0005	.0049	—	—	—	—	—
70° F	.0015	.0014	.0009	—	—	—	—
80° F	.0026	.0025	.0020	.0011	—	—	—
90° F	.0041	.0040	.0035	.0026	.0015	—	—
100° F	.0058	.0057	.0052	.0043	.0031	.0017	—
110° F	.0077	.0077	.0072	.0062	.0051	.0037	.0019
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

For fluid applications other than water, consult AMTROL technical services.

Table 2: Tank Acceptance Factor

Maximum Operating Pressure (psig)	Minimum Operating Pressure at Tank (psig)										
	5	10	12	15	20	30	40	50	60	70	80
27	0.527	0.408	0.360	0.288	0.168	—	—	—	—	—	—
30	0.560	0.447	0.403	0.336	0.224	—	—	—	—	—	—
35	0.604	0.503	0.463	0.403	0.302	0.101	—	—	—	—	—
40	0.640	0.548	0.512	0.457	0.366	0.183	—	—	—	—	—
45	0.670	0.586	0.553	0.503	0.419	0.251	0.084	—	—	—	—
50	0.696	0.618	0.587	0.541	0.464	0.309	0.155	—	—	—	—
55	0.717	0.646	0.617	0.574	0.502	0.359	0.215	0.072	—	—	—
60	0.736	0.669	0.643	0.602	0.536	0.402	0.268	0.134	—	—	—
65	0.753	0.690	0.665	0.627	0.565	0.439	0.314	0.188	0.062	—	—
70	0.767	0.708	0.685	0.649	0.590	0.472	0.354	0.236	0.118	—	—
75	0.780	0.725	0.702	0.669	0.613	0.502	0.390	0.279	0.167	0.056	—
80	0.792	0.739	0.718	0.686	0.634	0.528	0.422	0.317	0.211	0.106	—
90	0.812	0.764	0.745	0.716	0.669	0.573	0.478	0.382	0.287	0.191	0.096
100	0.828	0.785	0.767	0.741	0.698	0.610	0.523	0.436	0.347	0.261	0.174
110	0.842	0.802	0.786	0.762	0.723	0.642	0.561	0.481	0.401	0.321	0.240

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



Non-ASME & Residential Models can be found in catalog MC 2680.



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