



# EXPANSION TANKS



**Available As Hydronic Or  
Potable Water Expansion Tanks**

**Drawn Steel Construction**

**Heavy Duty Butyl Diaphragm**

**IAPMO Approved**

**Max. Working Pressure**

150 PSI For Potable Water Expansion Tanks

100 PSI For Hydronic Expansion Tanks

**Warranty**

5-year Potable Expansion Tanks

1-year Hydronic Expansion Tanks

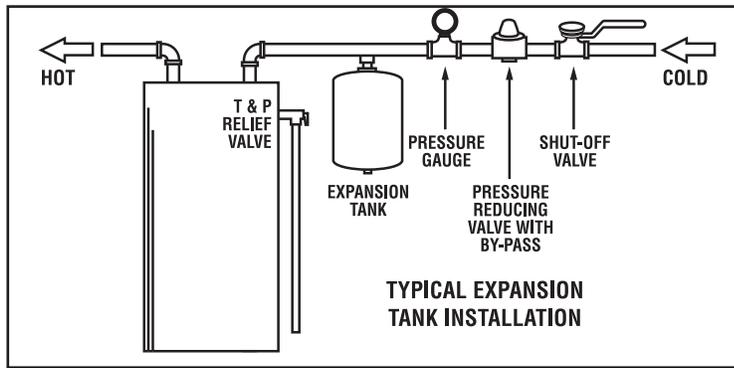
## POTABLE WATER EXPANSION TANKS

Thermal expansion occurs when water is heated during non-use periods. The installation of a Pressure Reducing Valve (PRV), Check Valve or Back Flow Preventer “closes” the water system, leaving water with no room for expansion. National Standard Plumbing code: 10.5.7 requires backflow prevention, to prevent backflow into the water main.

Thermal expansion in a closed plumbing system can be damaging, dangerous and costly. Its effects include damage to water heater connections, gas water heater flue tubes, pumps serving washers and dishwashers, leaking faucets, “weeping” of water through the water heater T&P Safety Valve, and noisy water hammer in the pipes.



A properly sized U.S. Craftmaster Expansion Tank eliminates these problems, by giving water a place to go when thermal expansion occurs. When a water heating cycle ends, or when any fixture is opened within the system, the impact of thermal expansion is reduced, and water drains out of the expansion tank back into the system.



Expansion tanks are pre-charged with a 40 PSI air charge. If the inlet water pressure is higher than 40 PSI, the expansion tank’s air pressure must be adjusted to match that pressure but must not be higher than 80 PSI.

### U.S. Craftmaster Sizing Chart for Residential Water Heaters

Inlet Water Pressure*	Water Heater Capacity in Gallons					
	30	40	50	66	82	100
40 PSI	AET-2	AET-2	AET-2	AET-2	AET-5	AET-5
50 PSI	AET-2	AET-2	AET-2	AET-2	AET-5	AET-5
60 PSI	AET-2	AET-2	AET-2	AET-2	AET-5	AET-5
70 PSI	AET-2	AET-2	AET-2	AET-2	AET-5	AET-5
80 PSI	AET-2	AET-5	AET-2	AET-5	AET-5	AET-5

### U.S. Craftmaster Sizing Chart for Commercial Water Heaters

Water Temperature	Water Heater Capacity in Gallons						
	30	40	50	66	82	100	120
140°	AET-2	AET-2	AET-5	AET-5	AET-5	AET-10	AET-10
150°	AET-2	AET-2	AET-5	AET-5	AET-5	AET-10	AET-10
160°	AET-5	AET-5	AET-5	AET-5	AET-5	AET-10	AET-10
170°	AET-5	AET-5	AET-10	AET-10	AET-10	AET-10	AET-10
180°	AET-5	AET-5	AET-10	AET-10	AET-10	AET-10	AET-10

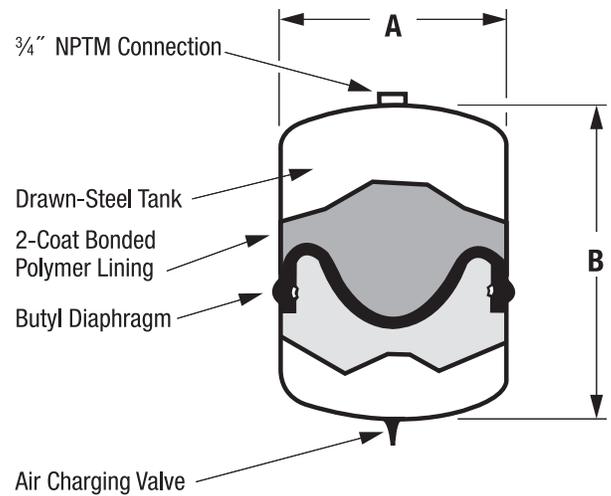
\*Highest recorded inlet water pressure in a 24-hour period of regulated water pressure.



Certified to NSF/ANSI 61

## POTABLE WATER EXPANSION TANKS

- Maximum Working Pressure: 150 PSI
- Maximum Temperature: 140°F Residential  
180°F Commercial
- For use with residential and commercial water heaters
- In-line design, with  $\frac{3}{4}$ " NPTM connection:  
installs in cold water line of water heater
- Field-adjustable 40 PSI air charge
- Drawn-steel tank with 2-coat bonded polymer inner lining
- Butyl diaphragm, for permanent separation of air and water, with no waterlogging
- 2-Gallon (AET-2), 5-Gallon (AET-5) and 10-Gallon (AET-10)
- IAPMO Approved
- NSF certified to NSF/ANSI 61
- 5-Year Limited Warranty



### U.S. Craftmaster Water Heater Expansion Tanks

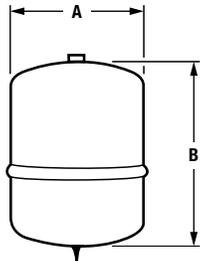
Model Number	Gallon Capacity	Maximum Acceptable Volume (Gallons)		Dimensions in Inches		Shipping Weight (Lbs.)
		40 PSI	60 PSI	A	B	
AET-2	1.96	1.27	1.03	8 $\frac{3}{8}$	12 $\frac{1}{2}$	5
AET-5	4.55	3.05	2.19	11 $\frac{3}{8}$	14 $\frac{3}{4}$	8
AET-10	9.21	6.55	5.25	15 $\frac{3}{8}$	15 $\frac{3}{4}$	20

All Models: 150 PSIG Maximum Working Pressure,  $\frac{3}{4}$ " NPTM Connections



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## HYDRONIC EXPANSION TANKS



IN-LINE

### U.S. Craftmaster Sizing Guide

Net Boiler Output in 1000s of Btu's	Recommended Tank(s)
25 – 50	AEH-2
75 – 150	AEH-5
175 – 200	AEH-7
200 – 400	AEH-14

Sizing based on the following operating conditions: Cold pressure 12 PSI, Relief set 30 PSI, maximum temperature 240°F. Sizes shown are for fin-tubed baseboard radiation. For systems with converters and/or unit heaters, increase tank one size. For cast-iron radiation, increase tank two sizes.

### U.S. Craftmaster Space Heating Expansion Tanks

	Model Number	Gallon Capacity	Maximum Acceptable Volume (Gallons) 20 PSIG	Dimensions in Inches		Shipping Weight (Lbs.)
				A	B	
In-Line	AEH-2	1.96	1.53	8 <sup>3</sup> / <sub>8</sub>	12 <sup>1</sup> / <sub>2</sub>	5
	AEH-5	4.55	3.75	11 <sup>3</sup> / <sub>8</sub>	14 <sup>3</sup> / <sub>4</sub>	8
	AEH-7	7.3	4.6	11 <sup>3</sup> / <sub>8</sub>	21 <sup>1</sup> / <sub>8</sub>	11
	AEH-14	14.6	10.5	15 <sup>3</sup> / <sub>8</sub>	15 <sup>3</sup> / <sub>4</sub>	22

All Models: 100 PSIG Maximum Working Pressure, 1/2" NPTM connections

- For use with space heating boilers in closed systems — not for use with potable water heating systems
- Models up to 14.6 gallons feature in-line design for installation directly into system piping
- Field-adjustable 12 PSI air charge
- Drawn-steel tank
- Butyl diaphragm, for permanent separation of air and water, with no waterlogging
- Maximum Working Pressure: 100 PSI
- Maximum Temperature: 240°F
- 1-Year Limited Warranty

U.S. Craftmaster Expansion Tanks for closed space heating systems provide a place for expanding water to go during cycles of thermal expansion, eliminating the risk of damage to the boiler and piping in the system.

For larger systems, it will be necessary to calculate the expansion of water within the system. Our engineering department can assist you, if you provide the size of the system in gallons, the pressure, and the maximum operating temperature. If you do not know the system capacity, it can be calculated from the amount and size of pipe used.

