



EXPANSION & PUMP TANKS



Reliance Water Heaters
500 Tennessee Waltz Parkway
Ashland City, TN 37015

Reliance Hotline: 1-800-365-4054
www.reliancewaterheaters.com

WHY EXPANSION TANKS ARE IMPORTANT

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 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.



RELIANCE EXPANSION TANK FEATURES

- Protection against dangerous thermal expansion in closed systems
- Steel shell with polyurethane coating for maximum corrosion resistance
- Drawn-steel tank with 2-coat bonded polymer inner lining

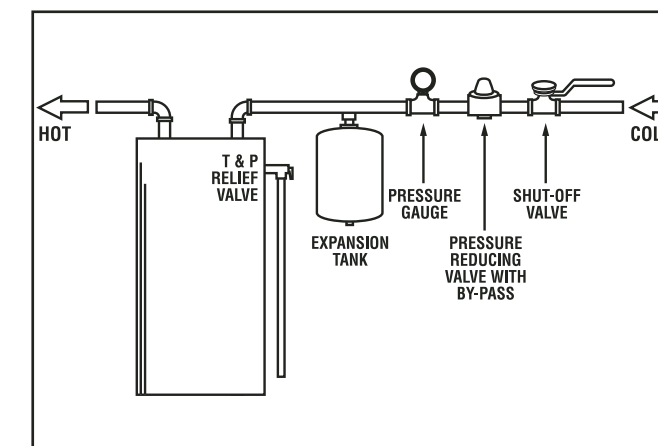


- Butyl diaphragm, for permanent separation of air and water, with no waterlogging
- In-line design, with 3/4" NPTM Connection: installs in cold water line of water heater
- Maximum Working Pressure 150 PSI
- Maximum Temperature: 140°F Residential, 180°F Commercial
- IAPMO Approved
- 5-Year Limited Warranty



Certified to NSF/ANSI 61

TYPICAL EXPANSION TANK INSTALLATION

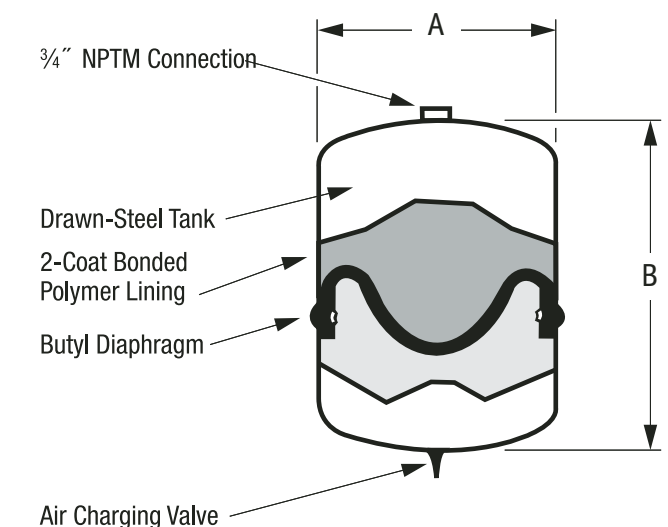


Expansion tanks are pre-charged with a 40 PSI air charge. If the inlet water pressure is higher than 40 PSI, the expansion tank's air pressure must be adjusted to match that pressure but must not be higher than 80 PSI.

Expansion Tank Sizing Chart For Residential Water Heaters

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

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



Water Heater Expansion Tanks

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

All models: 150 PSIG Maximum Working Pressure

WHY PUMP TANKS ARE IMPORTANT

A pump tank is an essential part of any well system, delivering these benefits:

- It ensures that your pump will run for at least one minute each time it cycles, as required by pump manufacturers.
- It stores a supplemental water supply between pump cycles, to reduce the number of cycles throughout the day, and helps prolong pump life.
- It helps maintain water pressure within your system, ensuring proper operation of your dishwasher and washing machine, and robust flow for showering and bathing.

A properly sized pump and pump tank will work as a team to meet your needs and will deliver many years of dependable service.

HOW TO SIZE A PUMP TANK

- If you know your current pump size, use columns 2 and 3 in the sizing chart to make your tank selection.
- If you do not know your pump size or the size of your current tank, count all your water fixtures. Be sure to include sinks, tubs, showerheads, outside faucets, utility sinks, dishwasher, washing machine, etc. Count each fixture individually. Use columns 1 and 3 in the size chart to make your tank selection.
- If replacing a glass-lined or other "standard" tank with a diaphragm tank, use columns 3 and 4 in the size chart to make your tank selection.

SIZING CHART			
1	2	3	4
NUMBER OF WATER FIXTURES	ESTIMATED PUMP SIZE	DIAPHRAGM TANK MODELS	"STANDARD" TANK SIZES
UP TO 7	5-7 GPM*	PMD-20, PMDH-20	42 GALLON
8-12	10 GPM*	PMD-45	82 GALLON
13-16	12-15 GPM*	PMD-65	120 GALLON
17-28	20 GPM*	PMD-85, PMD-119	220 GALLON

*GPM = Gallons Per Minute

HOW TO INSTALL A PUMP TANK

Each STA-CHARGED Pressurized Diaphragm Tank includes a detailed, manual that takes you step-by-step through installation procedures such as:

- Determining proper tank location.
- Attaching the acceptance fittings.
- Adjusting the tank pre-charge pressure.
- Leveling the tank and connecting it to the water supply line.
- Fine-tuning the tank to assure lag-free delivery.

TOOLS NEEDED FOR INSTALLATION

- Screwdriver
- Pipe Wrench
- Hacksaw
- Pliers
- Teflon Tape
- Pressure Gauge (Tire Gauge)

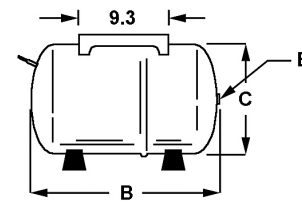
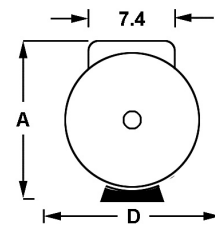
MODEL, ITEM, DIMENSIONS & DRAWDOWN

Drawdown is the actual useable water a tank can deliver during a cycle.

Drawdown will vary depending on the operating pressure range set for your pump tank. Drawdown is a function of the tank volume. Approximately 1/3rd of the tank total volume is usable water.

NOTE: The maximum working pressure is 100 PSI. Install a pressure relief valve on every pump installation.

HORIZONTAL

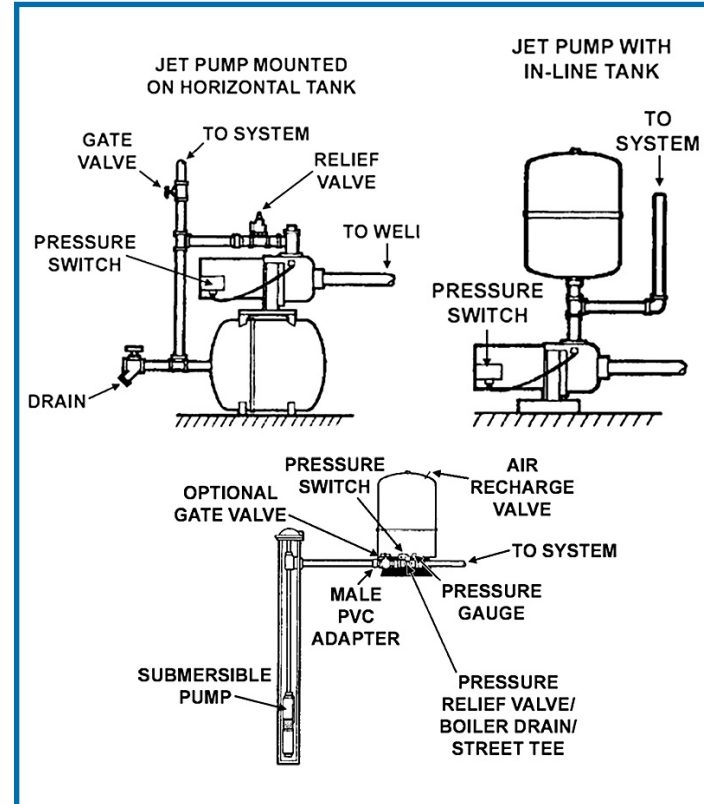


MODEL	VOL. US GAL	DRAWDOWN 30-50 PSI	CONN SIZE NPT INCHES	A INCHES	B INCHES	C INCHES	SHIPPING WEIGHT LBS
FREE STANDING PUMP TANKS							
PMD-14	14	4.3	1 F	24	2	15 3/8	24
PMD-20	20	6.2	1 F	31	2	15 3/8	34
PMD-26	26	8.1	1 F	38 1/2	2	15 3/8	40
PMD-32	32	9.9	1 F	46	2	15 3/8	52
PMD-45	45	13.9	1 1/4 F	35 1/2	2	22	65
PMD-65	65	20.1	1 1/4 F	47 1/2	2	22	90
PMD-85	85	26.7	1 1/4 F	60 1/8	2	22	114
PMD-119	119	37.0	1 1/4 F	61	2	26	161
IN-LINE PUMP TANKS							
PMDI-2	2	.6	3/4 M	12 1/2	-	8 3/8	4.5
PMDI-5	4.6	1.4	3/4 M	14 3/4	-	11 3/8	7.5
PMDI-7	7	2.3	3/4 M	18 7/8	-	11 3/8	11
PMDI-14	14	4.3	1 M	24	2	15 3/8	24
HORIZONTAL PUMP TANKS							
PMDH-7	7	2.3	3/4 M	18 7/8	-	11 3/8	11
PMDH-14	14	4.3	1 M	20	-	15 3/8	24
PMDH-20	20	6.2	1 M	28	-	15 3/8	34



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A TYPICAL PUMP TANK INSTALLATION



REPLACING AN EXISTING PUMP TANK

A standard pump tank can be replaced with a diaphragm tank. This will ensure operation of a maintenance-free system.

- Install a pressure relief valve at the tank connection to ensure system protection.
- Be sure to plug the air port on a jet pump, since outside air is no longer needed.
- All open bleeder orifices in the well casing must be plugged.

NOTE: A pressurized tank always takes up less space than a similar capacity standard pump tank.

DIAPHRAGM PUMP TANKS

- For dependable protection of your jet or submersible well pump
- Steel shell with powder-coated exterior for maximum corrosion resistance
- Metal air charge valve is conveniently located and resistant to mechanical damage
- Strong butyl diaphragm delivers dependable service
- Epoxy-coated inner shell protects the water reservoir



HOW A DIAPHRAGM PUMP TANK WORKS

1. START-UP CYCLE

Diaphragm is pressed against the bottom of the chamber.

2. FILL CYCLE

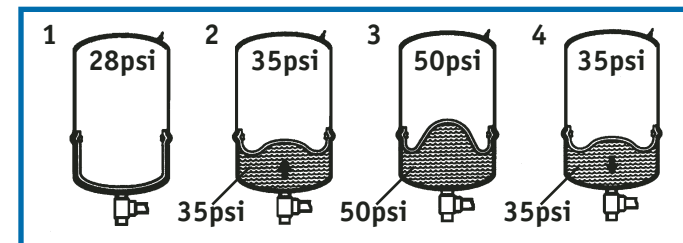
Water is pumped into the reservoir, which forces the diaphragm upward into the air chamber.

3. HOLD CYCLE

Pump-cutoff pressure is attained. Diaphragm reaches its upmost position. Reservoir is now filled to its rated capacity.

4. DELIVERY CYCLE

Pump remains shut off while air pressure in top chamber forces diaphragm downward, delivering water to the system.



We also offer glass-lined tanks up to 120 gallons and galvanized tanks up to 900 gallons. Please call 1-800-365-4054 for more information.

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