Pump Tanks

5-Year Limited Warranty*

Metal Air Valve

100 PSI Working Pressure

Multiple Head Construction

- Provides added structural strength and more capacity within the same diameters

Interior Epoxy Coating

- Permanently bonded to the tank shell to provide the ultimate protection on the water side of the tank

Butyl Rubber Parabolic Diaphragm

- Ensures long life
- Prevents rubbing on the tank wall or rolling over on itself

Positive Lock Retention System

- Quality controlled compression in the diaphragm connection eliminates loss of air or water leaks in the tank

Ultra-UV Exterior Powder Coat

- Tough powder coating provides the ultimate exterior protection and is undercoated with zinc phosphate for the highest corrosion resistance

Certified to
NSF/ANSI 61-G and 372

*For complete warranty information consult the written warranty of American Water Heaters found at **www.americanwaterheater.com**, or call **(800) 999-9515**.

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Diaphragm Pump Tanks

American Diaphragm Pump Tanks are designed for great flexibility in installation and years of trouble-free service. They offer numerous advantages over competitive tanks. Smooth, dependable diaphragm design and operation provides precise control of system operation cycles.

Free-standing and in-line vertical tanks are available, as well as horizontal tanks with universal pump mounting bracket.

In-Line Tanks

APTI Series tanks, available in 2-, 5-, and 7-gallon sizes, are designed to be supported by system piping.

(See Typical Installations, page 4)

Metal Air Charge Valve is on all models

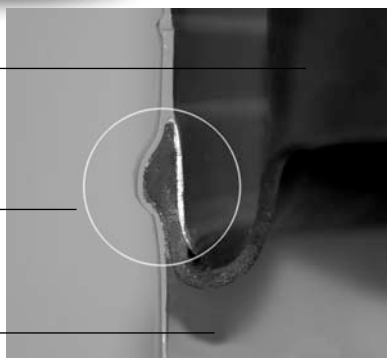
Ultra-UV exterior powder coating provides the ultimate protection and is undercoated with zinc phosphate for the highest corrosion resistance

Durable polymer rotating base resists corrosion and allows easy plumbing alignment

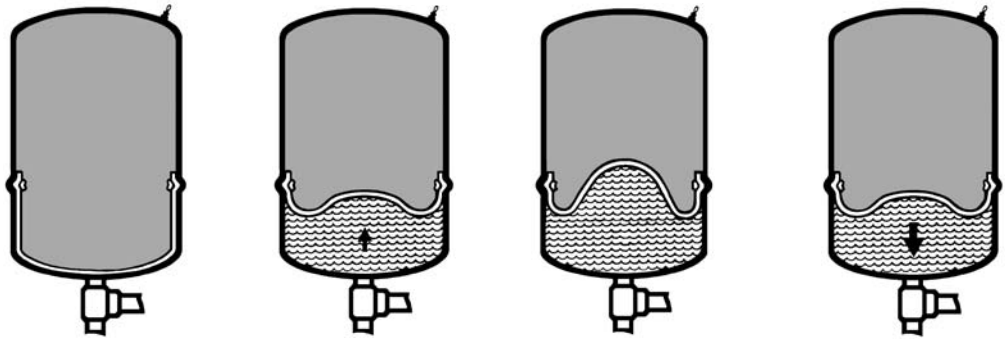
Butyl rubber parabolic Diaphragm ensures long life

Positive Lock Retention System quality controlled compression in the diaphragm connection eliminates the loss of air or water leaks in the tank

Interior Epoxy Coating permanently bonded to the tank shell to provide the ultimate protection onthe water side of the tank



Pre-Pressurized Pump Tank Operation Cycles



Start-Up Cycle*
Diaphragm is pressed against the bottom of the chamber.

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

Hold Cycle*
Pump-cutoff pressure is attained. Diaphragm reaches its uppermost position. Reservoir is now filled to its rated capacity.

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

* Based on 30-50 PSI operating system.

Sizing

The charts below allow you to easily select the right American APT Series tank for standard-size pumps between 2-1/2 and 30 gallons in capacity and for 20-40 PSI, 30-50 PSI and 40-60 PSI pressure ranges. Minimum run times shown (from start-up) are 1 minute, 1-1/2 minutes and 2 minutes. For example, for a system that delivers 12 GPM at 30-50 PSI, with a minimum run time of 1 minute, Chart 1 indicates that the proper tank is the APT-45.

Chart 1 – APT Series Free-Standing Tank Selection Chart

Pump GPM	System Pressure Ranges (PSI)								
	20-40			30-50			40-60		
	Minimum Run Times (Minutes)								
	1	1.5	2	1	1.5	2	1	1.5	2
2.5	APT-14	APT-14	APT-14	APT-14	APT-14	APT-20	APT-14	APT-20	APT-20
5	APT-14	APT-20	APT-45	APT-20	APT-32	APT-32	APT-20	APT-32	APT-45
7	APT-20	APT-32	APT-45	APT-32	APT-45	APT-45	APT-32	APT-45	APT-65
10	APT-32	APT-45	APT-86*	APT-32	APT-65	APT-65	APT-45	APT-65	APT-86*
12	APT-32	APT-65	APT-86*	APT-45	APT-65	APT-86*	APT-45	APT-65	APT-86*
15	APT-45	APT-65	APT-86*	APT-65	APT-86*	APT-119	APT-65	APT-86*	APT-119
20	APT-65	APT-86*	APT-119	APT-86*	APT-119	(2)APT-65	APT-86*	APT-119	(2)APT-86*
25	APT-86*	APT-119	(2)APT-86*	APT-86*	(2)APT-86*	(2)APT-86*	APT-119	(2)APT-86*	(2)APT-119
30	APT-86*	(2)APT-86*	(2)APT-86*	APT-119	(2)APT-86*	(2)APT-119	APT-119	(2)APT-119	(2)APT-119

* 85 or 86

Chart 2 – Drawdown Volume Multiplier (Approximate)

Pump Shutoff Pressure (PSI	Pump Start-Up Pressure (PSI)							
	10	20	30	40	50	60	70	80
20	.26							
30	.41	.22						
40		.37	.18					
50		.46	.31	.15				
60			.4	.27	.13			
70			.47	.35	.24	.12		
80				.42	.32	.21	.11	
90				.48	.38	.29	.19	.10
100					.44	.35	.26	.17

Chart 3 – Drawdown in Gallons

Model No.	Volume in Gallons	20-40	30-50	40-60
APTI-2	2.0	0.7	0.6	–
APTI-5	4.6	1.7	1.4	–
APTI-7	7.3	2.7	2.3	–
APTI-14	14.0	5.2	4.3	3.8
APT-14	14.0	5.2	4.3	3.8
APT-20	20.0	7.4	6.2	5.4
APT-32	32.0	11.5	9.6	8.4
APT-45	45.0	16.7	13.9	12.1
APT-65	65.0	24.1	20.1	17.5
APT-85	85.0	31.5	26.7	22.9
APT-86	86.0	31.8	26.7	23.2
APT-119	119.5	44.2	37.0	32.3

If proper tank selection cannot be made using Chart 1, follow this procedure. First, find the "drawdown multiplier" by matching the pump start-up and shut-off pressures on Chart 2. For example, the multiplier for a 30-50 PSI pressure range is .31.

Next, insert the pump GPM capacity and desired minimum run time into this formula:

$$\frac{\textbf{Pump GPM x Min. Run Time}}{\textbf{Multiplier}} = \textbf{Minimum Tank Volume Required}$$

To assume dependable drawdown volumes, and in keeping with present industry practice, drawdowns are based on Boyle's Law. For example, using a 10 GPM pump, a one-minute minimum run time, and a 30-50 PSI pressure range, the formula is as follows:

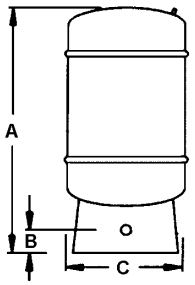
$$\frac{12 \times 1}{.31} = 38.7 \quad \textbf{Minimum Tank Volume}$$

Then, using Chart 3, select the tank that has a minimum volume that meets or exceeds your minimum volume requirement and supplies adequate drawdown at the required pressure range. Minimum drawdown equals Pump GPM X Minimum Run Time. Therefore, in the above example, select the APT-45 45-gallon tank. It provides adequate drawdown at 30-50 PSI.

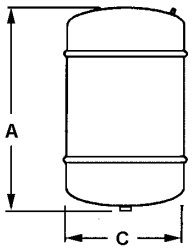
Pump Tanks

MODEL	VOL. U.S. GAL	DRAW DOWN 30-50 PSI	CONN SIZE NPT INCHES	A INCHES	B INCHES	C INCHES	SHIPPING WEIGHT LBS
FREE-STANDING PUMP TANKS							
APT-14	13.9	4.3	1 F	24-15/16	2	15-3/8	23
APT-20	19.9	6.1	1 F	32-3/8	2	15-3/8	34
APT-26	25.9	8.0	1 F	39-9 16	2	15-3/8	43
APT-32	31.8	9.9	1 F	47-1/4	2	15-3/8	52
APT-45	45.2	13.9	1-1/4 F	36-9/16	2	22	64
APT-65	65.1	20.0	1-1/4 F	48-5/8	2	22	89
APT-85	84.9	26.2	1-1/4 F	60-11/16	2	22	113
APT-86	83.5	25.9	1-1/4 F	46	2-1/2	26	116
APT-119	115.9	35.9	1-1/4 F	61-5/16	2	26	161
IN-LINE PUMP TANKS							
APTI-2	1.9	.6	3/4 M	10-3/16	–	8-1/4	5
APTI-5	4.8	1.5	3/4 M	14-3/4	–	11	9
APTI-7	7.3	2.3	3/4 M	21-1/16	–	11	14
HORIZONTAL PUMP TANKS							
APTH-7	7.3	2.3	3/4 M	12-7/8	21-1/16	11	16
APTH-14	13.9	4.3	1 M	18-1/4	21-1/16	15-3/8	25
APTH-20	19.9	6.1	1 M	18-1/4	28-1/2	15-3/8	36

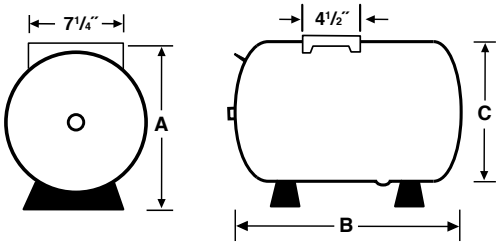
FREE-STANDING



IN-LINE

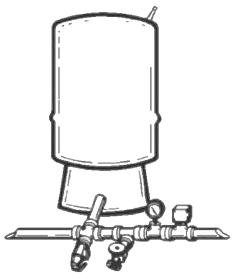


HORIZONTAL

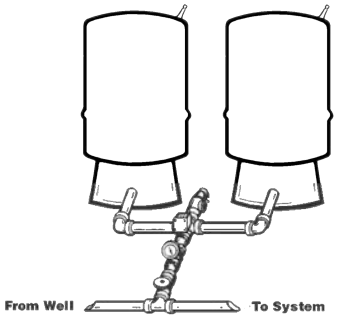


APT Free-Standing Series

The standard front-entry installation. Gauge, relief valve and pressure switch are installed in front of tank.



Single Installation

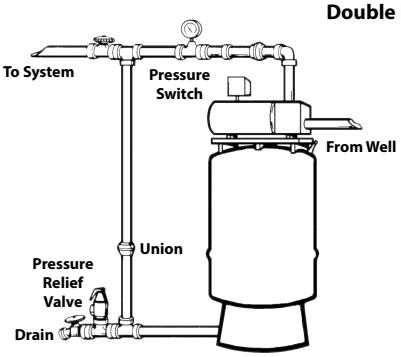


Double Installation

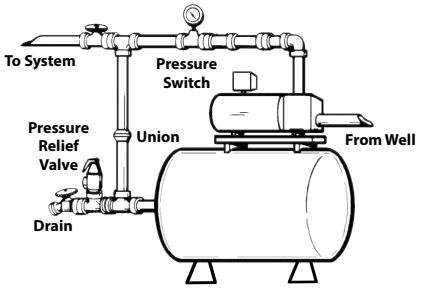
APT Free-Standing Series with Pump Mounted on Tank*

The pump can be mounted on the tank using a universal mounting base. The pump can be attached to the top of either a vertical or horizontal tank. For installation convenience, the horizontal series is available with pump mount and legs factory installed.

*Pump mount bracket available.



Vertical Installation



Horizontal Installation

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