



THE PLATINUM SERIES

The Platinum Series Diaphragm Pump Tank with the features you asked for:

- Larger drawdown in key sizes improves pump performance.
- Durable butyl diaphragm for smooth, trouble-free operation.
- Positive diaphragm seal prevents any leakage between water and air chambers.
- Two-layer epoxy coating on water chamber provides maximum protection against corrosion.
- Metal air valve with "O" ring cap seal for double protection.
- One-piece airflow base design eliminates condensate build-up.
- Two-piece construction (up to 86 gallons) reduces welds on tanks.
- Two-part electrostatic powder finish offers the ultimate UV protection.
- 5-year warranty



 NSF International
Listed Standard 61
D022652

www.permatank.com

 Perma Tank

A. O. Smith Water Systems
500 Tennessee Waltz Parkway
Ashland City, TN 37015



Diaphragm Tanks

Pre-pressurized • Lightweight drawn-steel construction
Steel base • 100 PSI maximum working pressure

Features and Benefits

Air Charge Valve

- Metal air valve with “O” ring cap seal for added protection
- Conveniently located for easy pressure adjustment

Designer Finish

- Provides positive protection against corrosion
- An attractive addition to any home
- High UV resistance

Durable Butyl Diaphragm

- Strong and flexible with smooth operation for long life

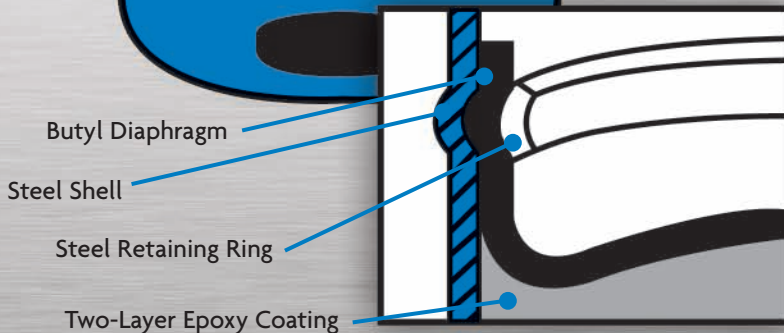
Two-Layer Epoxy Coating

- Epoxy coating, permanently bonded to the shell
- Proven protection against internal corrosion

Steel Base



In-Line Model (PIL)



Positive Diaphragm Seal

On PAD (free-standing) and PIL (in-line) models. Seals diaphragm directly to shell, ensuring permanent separation of water and air.



Diaphragm Tanks

Sizing

The charts below allow you to easily select the right Perma-Air SBD 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 10 GPM at 30-50 PSI, with a minimum run time of 1 minute, Chart 1 indicates that the proper tank is the SBD-36S.

Chart 1 – SBD 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	PAD-14	PAD-14	PAD-14	PAD-14	PAD-14	SBD-20	PAD-14	SBD-20	SBD-20
5	PAD-14	SBD-20	SBD-36S	SBD-20	SBD-36S	SBD-36S	SBD-20	SBD-36S	SBD-52
7	SBD-20	SBD-36S	SBD-52	SBD-36S	SBD-36S	SBD-52	SBD-36S	SBD-52	SBD-86
10	SBD-36S	SBD-52	SBD-86	SBD-36S	SBD-52	SBD-86	SBD-52	SBD-86	SBD-86
12	SBD-36S	SBD-52	SBD-86	SBD-52	SBD-86	SBD-86	SBD-52	SBD-86	SBD-96
15	SBD-52	SBD-86	SBD-86	SBD-52	SBD-86	SBD-119	SBD-86	SBD-96	SBD-119
20	SBD-86	SBD-86	SBD-119	SBD-86	SBD-119	(2)SBD-86	SBD-86	SBD-119	(2)SBD-86
25	SBD-86	SBD-119	(2)SBD-86	SBD-86	(2)SBD-86	(2)SBD-86	SBD-96	(2)SBD-86	(2)SBD-96
30	SBD-86	(2)SBD-86	(2)SBD-86	SBD-119	(2)SBD-86	(2)SBD-119	SBD-119	(2)SBD-96	(2)SBD-119

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

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:

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

To assume dependable drawdown volumes, and in keeping with present industry practice, drawdowns are based on

Chart 3 – Drawdown in Gallons

Model No.	Volume in Gallons	20-40	30-50	40-60
PIL-2	2.0	0.7	0.6	–
PIL-5	4.6	1.7	1.4	–
PIL-7	7.3	2.7	2.3	–
PIL-14	14.0	5.2	4.3	3.8
SBD-14	14.0	5.2	4.3	3.8
SBD-20	20.0	7.4	6.2	5.4
SBD-32	32.0	11.5	9.6	8.4
SBD-36S	36.0	13.3	11.2	9.7
SBD-52	52.0	19.2	16.1	14.0
SBD-86	86.0	31.8	26.7	23.2
SBD-96	96.0	35.5	29.8	25.9
SBD-119	119.5	44.2	37.0	32.3

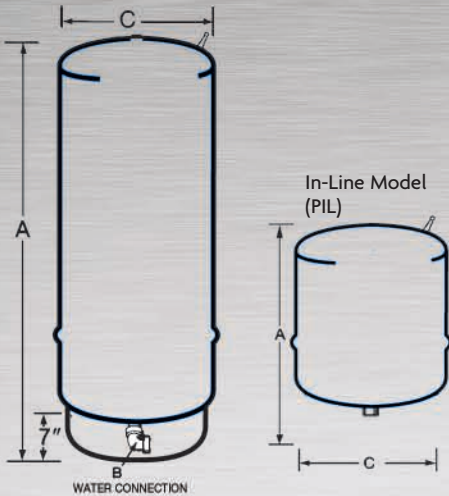
Boyle’s Law. For example, using a 10 GPM pump, a one-minute minimum run time, and a 30-50 PSI pressure range, the formula is as follows:

$$\frac{10 \times 1}{.31} = 32.26 \text{ Minimum Tank Volume}$$

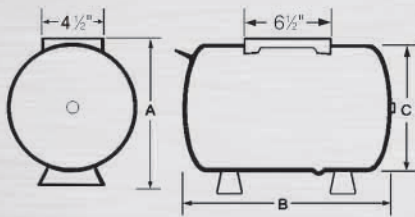
Then, using Chart 3, select the tank that has a minimum volume that meets or exceeds your minimum volume requirement and supplies adequate drawdown at the required pressure range. Minimum drawdown equals Pump GPM X Minimum Run Time. Therefore, in the above example, select the SBD-36S 36-gallon tank. It provides adequate drawdown at 30-50 PSI.

Diaphragm Tanks

Volume, Dimension and Weight Specifications



Model No.	Volume (Gals.)	"A" Overall Height (inches)	"B" Center of Water Inlet to Bottom of Tank (inches)	"C" Diameter (inches)	Weight (Lbs.)
SBD Series (Free-Standing)					
SBD-20	20	32 3/4	2 1/4	15 3/8	30
SBD-32	31	45 1/2	2 1/4	15 3/8	40
SBD-36S	36	32 5/8	2 1/4	20	45
SBD-52	52	38 5/8	2 1/4	23 3/8	77
SBD-86	86	59	2 1/4	23 3/8	105
SBD-96	96	63 3/8	2 1/4	23 3/8	111
SBD-119	119.5	61 1/4	2 1/4	26	165
PIL Series (In-Line)					
PIL-2	2	12 9/16	-	8 3/8	4.5
PIL-5	4.6	14 11/16	-	11 3/8	7.5
PIL-7	7.3	21 1/8	-	11 3/8	10.5
PIL-14	14	21 3/4	-	15 3/8	22

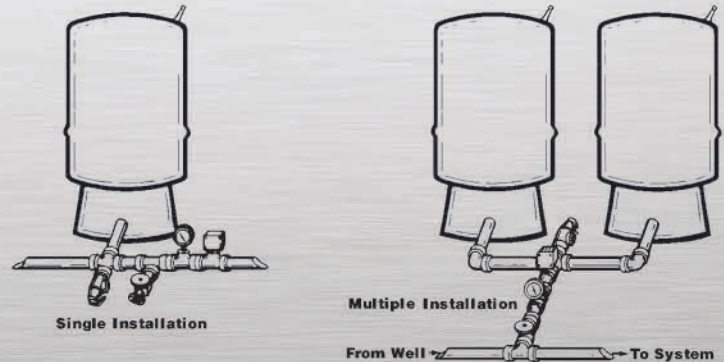


SBD-20, SBD-31 and SBD-36S 1" female connection.
 SBD-52, SBD-86, SBD-96, SBD 119 connection 1-1/4" female connection
 PIL connection 3/4" Male connection
 PIL-14 - 1" Female connection

Model Number	Volume (Gals.)	Dimensions in Inches			Weight (Lbs.)
		A	B	C	
PADH Series					
PADH-7	7.3	12 5/8	21 1/8	11 3/8	16
PADH-14	14	17 3/8	21 3/4	15 3/8	25 1/2
PADH-20	20	17 3/8	27 1/8	15 3/8	30

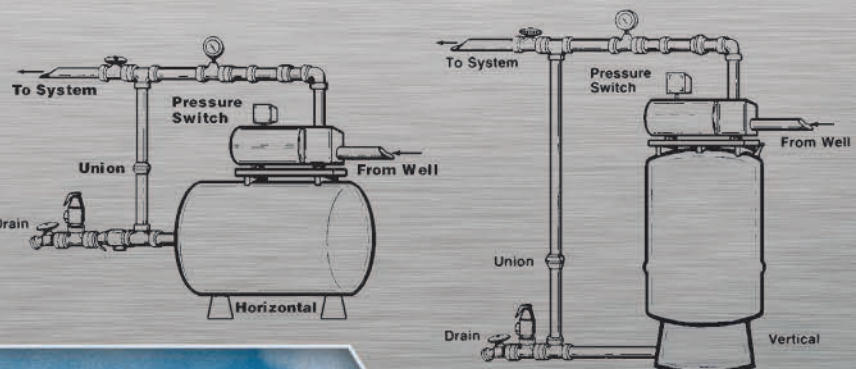
SBD Free-Standing Series

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



SBD 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. (Part # 205366-000)