PENTAIR PRO-SOURCE

STEEL PRESSURIZED TANKS

APPLICATIONS

Use wherever pressurized tanks are needed in water systems applications.

SPECIFICATIONS

Shell: Heavy-gauge steel

Base: High-impact composite, ABS

Finish: Electrostatically applied, baked-on polyester paint

Water Cell: One-piece seamless PVC, made from FDA listed material

Flange: Reinforced polypropylene

Service Connection: Reinforced polypropylene integral to flange

Air Valve: Rubber stem/brass body Schrader valve assembly

UV Valve Cover: High-density polypropylene

FEATURES

Heavy-Gauge Metal Construction: Sturdy "welded wrapper and head design." Built to last.

Polyester Paint Finish: Electrostatically powder-painted, then oven-baked for a smooth high-gloss, appliance-quality finish. Resists corrosion.

Elongated, Seamless Water Cell:

- Controlled 2-dimensional cell expansion.
- Rugged, seamless "water cell" prevents the most common cause of tank failure – "waterlogging."
- Water never touches the steel tank material.
- Translucent bag material facilitates manufacturing quality control inspection.

Composite Sealing Flange:

- Corrosion-resistant.
- Integral O-ring groove better traps the water cell's sealing ring.
- Reinforcing ribs strengthen and maintain a flat smooth sealing surface.

Integral Standpipe: Keeps the water cell standing erect, promoting complete flushing of the water entering/exiting the tank.

Nitrogen-Rich Precharge: Decreases air permeation three to four times over straight air precharge.

40 PSI Precharge: Ready for use with 40/60 pressure range systems. Enables installer to reduce pressure depending on pressure switch setting.

Sturdy Base: Tested-tough composite construction.

Tank Sizing Rule: Size tank for one gallon of drawdown for each gallon per minute at pump capacity.

Example: For a 1 HP, 20 GPM unit pumping 20 gallons per minute on a 30-50 pressure switch setting, the properly sized PLUS tank is a PSP85-T52 which has a 26 gallon drawdown.

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TANK SELECTION CHART (CHART A)

PUMP GPM	SYSTEM PRESSURE SWITCH SETTING – PSI					
	20-40		30-50		40-60	
	RUN TIMES					
	1 MINUTE	2 MINUTE	1 MINUTE	2 MINUTE	1 MINUTE	2 MINUTE
5	PS19T	PS35	PS19T	PS35	PS19T	PS50
7.5	PS35	PS50	PS35	PS50	PS35	PS85
10	PS35	PS85	PS35	PS85	PS50	PS85
12.5	PS35	PS85	PS50	PS85	PS50	PS119
15	PS50	PS85	PS50	PS119	PS85	PS119
20	PS85	PS119	PS85	PS85 (2)	PS85	PS85 (2)
30	PS85	PS85 (2)	PS119	PS119 + PS85	PS119	PS119 (2)
	-	-	PS119	PS119 + PS85	PS119	PS119 (2)
50	PS85(2)	PS85 (3)	PS85 (2)	PS119 (3)	PS85 + PS119	PS119 (3) + PS50

Note: Drawdown will be affected by operating temperature of the system, accuracy of the pressure switch and gauge, the actual precharge pressure, and rate of fill. Pumps installed with a Pro-Source PLUS tank require a relief valve equal to the tank's maximum operating pressure. Relief valve must be capable of relieving entire flow of pump at relief pressure.

DRAWDOWN VOLUME MULTIPLIER* (APPROX.) (CHART B)

PUMP GPM	PUMP START PRESSURE – PSI							
	10	20	30	40	50	60	70	80
20	0.26							
30	0.41	0.22						
40		0.37	0.18					
50		0.46	0.31	0.15				
60			0.40	0.27	0.13			
70			0.47	0.35	0.24	0.12		
80				0.42	0.32	0.21	0.11	
90				0.48	0.38	0.29	0.19	0.10
100					0.44	0.35	0.26	0.17

*Utilize this chart if proper selection cannot be made using Chart A. Drawdown based on Boyle's Law.

PROCEDURE: 1. Identify drawdown multiplier relating to specific application.

2. Insert multiplier (X) into the following formula:

$$\frac{\textbf{Pump GPM x Min Runtime}}{\textbf{Multiplier (X)}} = \textbf{Minimum Tank Capacity Required}$$

EXAMPLE: An example of a 20 GPM pump with a minimum runtime of 1 minute, installed on a 50-70 PSIG system pressure range:

$$\frac{\text{20 GPM x 1 minute}}{\text{.24 (factor) from Chart B}} = \text{83.3 minimum U.S. gal. tank capacity required}$$

Referring to "Ordering Information" chart, the model PSP85-T52 has the closest U.S. gallon capacity that is greater or equal to the minimum volume requirement of 83.3 U.S. gallons.

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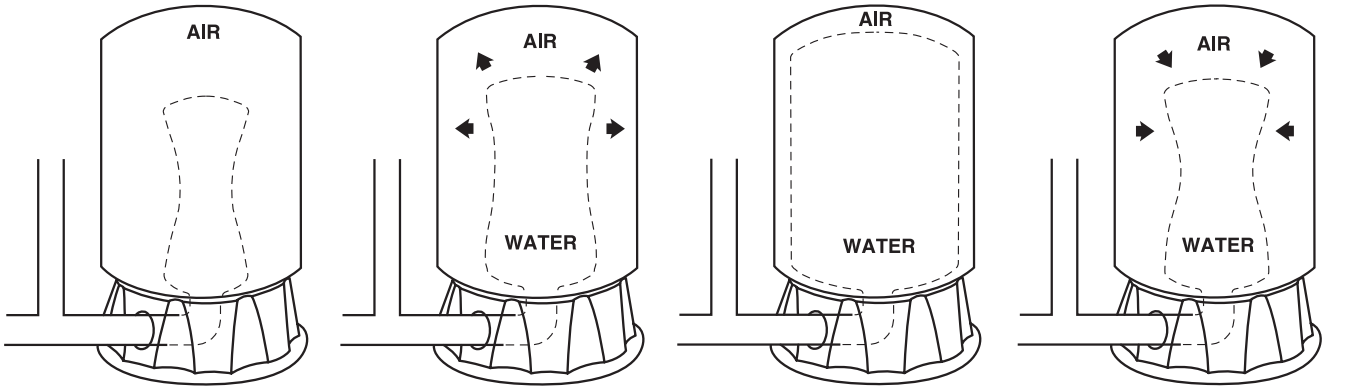
STEEL PRESSURIZED TANKS

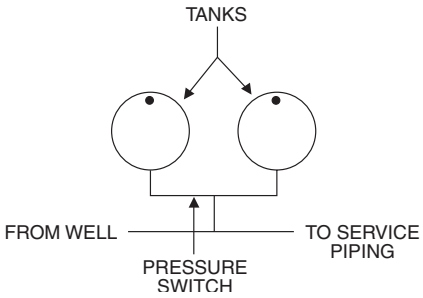
OPERATING CYCLE

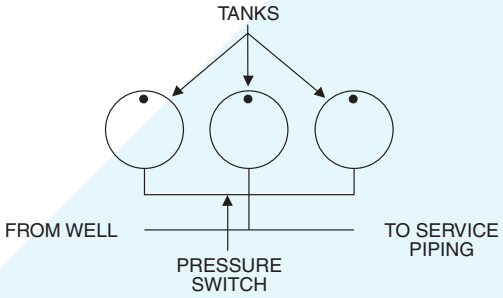


1. Separator is completely empty: A new cycle is ready to begin. Simple, positive action produces maximum drawdown on every cycle.
2. Water begins to enter the tank: Air is compressed around the water separator as it fills with water.
3. Pump-up cycle completed: Air is now compressed to the cut-off setting of pressure switch.
4. Water is being drawn from the tank: Compressed air in the tank forces water out of the separator.

MULTIPLE TANK INSTALLATION

Pro-Source tanks can be connected together to increase the supply of usable water (drawdown). Two tanks of the same size will double the supply and three tanks will triple the supply. See Figures No. 1 and 2 for the typical installations of this kind.





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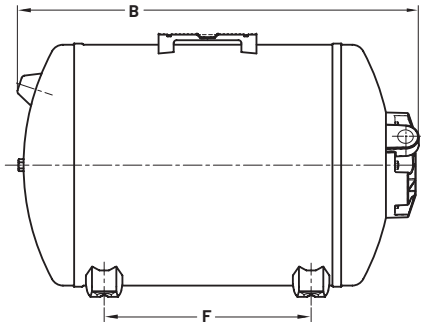
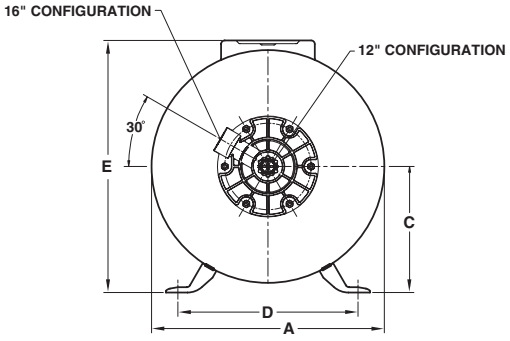
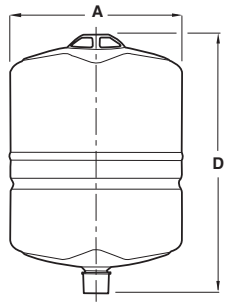
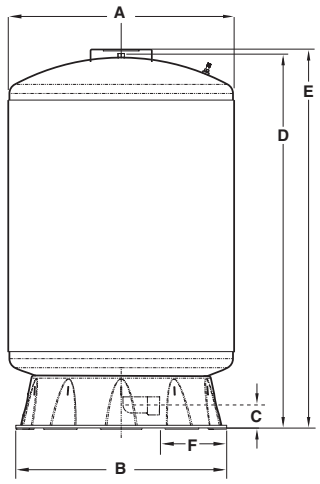
OUTLINE DIMENSIONS







IN-LINE VERTICAL MODELS



CATALOG #	DISCHARGE NPT	A	B	C	D	E	F
VERTICAL MODELS							
PS6-S02	3/4"	12.0	–	–	16.1	–	–
PS19T-T02	1"	16.1	15.5	2.0	27.8	–	3.9
PS35-T05	1"	20.1	15.5	2.0	33.0	–	2.3
PS50-T50	1-1/4"	24.1	22.7	2.5	33.2	–	5.5
PS85-T52	1-1/4"	24.1	22.7	2.5	51.5	–	5.5
PS119-TR50	1-1/4"	24.1	22.7	2.5	68.6	–	5.5
IN-LINE VERTICAL MODELS							
PS2-S01	3/4"	18.4	–	–	12.6	–	–
PS5-S02	3/4"	10.6	–	–	16.2	–	–
HORIZONTAL MODELS							
PS6H	3/4"	12.1	16.9	6.9	10.0	13.3	6.1
PS19H	1"	16.2	26.6	8.7	12.5	17.5	13.8

Dimensions (in inches) are for estimating purposes only.

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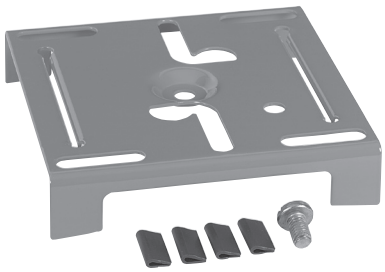
ACCESSORIES



PKG 198: Universal Jet Pump to Tank Bracket

PKG 111, PKG 112, or PKG 207: Jet Pump-to-Tank Mounting Pkg.

ORDERING INFORMATION

CATALOG #	MAX. CAPACITY GAL./LITER	DIAMETER* INCH/CM	HEIGHT INCH/CM	LENGTH INCH/CM	PRECHARGE PSI/KPA	CONNECTION SIZE FEMALE	DRAWDOWN IN GALLONS/LITERS			WEIGHT LBS./KG
							20-40	30-50	40-60	
VERTICAL MODELS										
PS6-S02	6.0/22.7	12/30.5	16.1/40.9	-	40/276	3/4" NPT	2.2/8.3	1.8/6.8	1.6/6.0	18/8.2
PS19T-T02	19/72	16/40.6	27.5/70	-	40/276	1" NPT	6.9/26.1	5.8/21.9	5.0/18.9	40/18.1
PS35-T05	35/133	20/51	33/84	-	40/276	1" NPT	12.7/48.1	10.7/40.5	9.3/35.2	66/29.9
PS50-T50	50/189	20/51	32.5/83	-	40/276	1-1/4" NPT	18.3/69.3	15.5/58.7	13.4/50.7	84/38.1
PS85-T52	85/322	24/61	51/130	-	40/276	1-1/4" NPT	30/113.6	26/98.4	22/83.3	124/56.2
PS119-TR50	119/450	24/61	68/173	-	40/276	1-1/4" NPT	41.3/156.3	35.4/134.0	31.0/117.3	140/63.5
IN-LINE MODELS										
PS2-S01	2.0/7.6	8.4/21.3	12.6/32.0	-	20/137.8	3/4" NPTM	0.7/2.65	0.6 /2.2	N/A	12.6/5.7
PS5-S02	5.0/18.9	10.6/26.9	16.2/41.1	-	30/206.8	3/4" NPTM	2.2/8.3	1.8/6.8	1.8/6.8	16.2/7.3
HORIZONTAL MODELS										
PS6H-S05	6.0/22.7	12/30.5	13.8/35.0	16/40.6	30/206.8	3/4" NPT	2.2/8.3	1.8/6.8	1.6/6.0	22/10
PS19H-S00	19/72	16/40.6	17.5/44.5	28/71.1	40/276	1" NPT	6.9/26.1	5.8/21.9	5.0/18.9	40/18

*Subject to change without notice.

Maximum Operating Pressure = 100 PSI

Maximum Liquid Temperature: 120˚F (49˚C)

Maximum External (Ambient) Temperature: 125˚F (52˚C)

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