PENTAIR PRO-SOURCE

PLUS PREMIUM STEEL PRESSURIZED TANKS

- **Stainless Steel Service Connection – "The Professional's Choice"**
- **Metal Air Valve Assembly – "Field-Serviceable"**
- **125 PSI Maximum Operating Pressure – PSP50, PSP85, and PSP119**

APPLICATIONS

Residential Water Systems, Industrial, Commercial, and Agricultural.

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: 304SS

Service Connection: NPT threads, integral to flange

Air Valve: Nickel-plated brass, threaded for ease of service

FEATURES

Service Connection: 304 stainless steel

Air Valve: Nickel-plated brass

Maximum Operating Pressure:
100 PSI on 16" and 20" tanks;
125 PSI on 24" tanks. (models; PSP50, PSP85, PSP119)

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

Polyester Paint Finish: Electro statically 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

Stainless Service Connection:

- Corrosion-resistant
- Stainless steel – the professional's choice

Integral Standpipe: Promotes 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.

In order to provide the best products possible, specifications are subject to change.

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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	PSP19T	PSP35	PSP19T	PSP35	PSP19T	PSP50
7.5	PSP35	PSP50	PSP35	PSP50	PSP35	PSP85
10	PSP35	PSP85	PSP35	PSP85	PSP50	PSP85
12.5	PSP35	PSP85	PSP50	PSP85	PSP50	PSP119
15	PSP50	PSP85	PSP50	PSP119	PSP85	PSP119
20	PSP85	PSP119	PSP85	PSP85 (2)	PSP85	PSP85 (2)
30	PSP85	PSP85 (2)	PSP119	PSP119 (2)	PSP119	PSP119 (2)
50	PSP85 (2)	PSP119 (2) + PSP85	PSP85 (2)	PSP119 (3)	PSP119 (2)	PSP119 (4)

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:

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

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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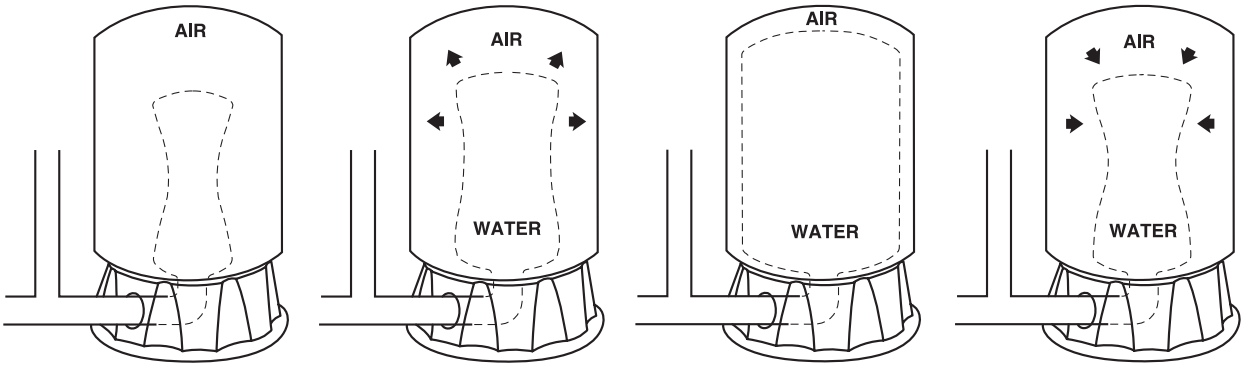
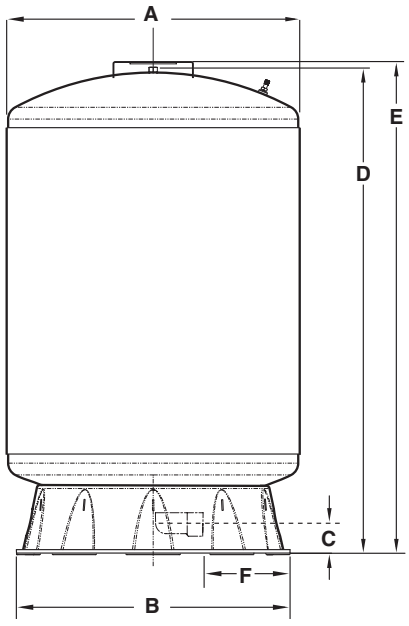
OPERATING CYCLE



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.

OPERATING DIMENSIONS



Dimensions (in inches) are for estimating purposes only.

CATALOG #	DISCHARGE NPT	A	B	C	D	E	F
PSP19T-T02	1"	16.1	15.5	2.0	27.8	–	3.9
PSP35-T05	1"	20.1	15.5	2.0	33.0	–	2.3
PSP50-T50	1-1/4"	24.1	22.7	2.5	33.2	–	5.5
PSP85-T52	1-1/4"	24.1	22.7	2.5	51.5	–	5.5
PSP119-TR50	1-1/4"	24.1	22.7	2.5	68.6	–	5.5

ORDERING INFORMATION

CATALOG NUMBER	MAX. CAPCITY GAL./ LITER	DIAMETER* INCH/CM	HEIGHT* INCH/CM	PRECHARGE PSI/KPA	CONNECTION SIZE FEMALE	DRAWDOWN IN GALLLONS/ LITERS			WEIGHT LBS./KG	MAX. OPERATING PSI
						20-40	30-50	40-60		
VERTICAL MODELS										
PSP19T-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	44/20.0	100
PSP35-T05	35/133	20/51	33/84	40/276	1" NPT	12.7/48.1	10.7/40.5	9.3/35.2	70/31.8	100
PSP50-T50	50/189	24/61	32.5/83	40/276	1-1/4" NPT	18.3/69.3	15.5/58.7	13.4/50.7	88/39.9	125
PSP85-T52	85/322	24/61	51/130	40/276	1-1/4" NPT	30/113.6	26/98.4	22.0/83.3	128/58.1	125
PSP119-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	125

*Subject to change without notice.
Maximum Liquid Temperature:120°F (49°C)
Maximum External (Ambient) Temperature:125°F (52°C)

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