

Perma-Span Expansion Tanks

for Potable Water,
Residential and
Commercial Hydronic
Heating

- Permanent Air Charge
- Diaphragm Operated
- Drawn Steel Tanks



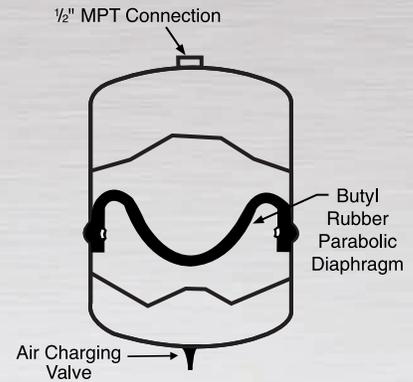
Service	Type	Model
Residential Space Heating	In-Line Models	PS Series (page 2)
Residential Space Heating	In-Line with Separator and Auto Vent	PS-V Series (page 2)
Commercial Space Heating	Free Standing Models	PS Series (page 3)
Potable Water Heating	In-Line and Free Standing Models	PSC Series (page 4)

DESIGNED • ENGINEERED
& ASSEMBLED IN THE
USA ★

Hydronic Expansion Tanks

Features and Benefits

- Drawn Steel Construction
- Butyl Rubber Parabolic Diaphragm
- In-Line Installation with or without Air Vent and Separator
- Max. Working Pressure 100 PSI - Max. Temperature 240°F
- Not for use with Potable Water Heating Systems



12 PSI Air Charge (field adjustable)

Perma Span Expansion Tanks are designed for the specific purpose of accommodating the natural expansion of water in a Hydronic Heating System. To eliminate the water logging that is troublesome but normal in a plain steel expansion tank, the air and water within the tank is permanently separated by a butyl rubber parabolic diaphragm. The In-Line series shown on this page are light in weight, easy to install, and afford many years of trouble-free service. Sizing is quickly done with the easy-to-use chart below. For other sizing conditions please contact our engineering department.

Model Number	Max. Working Pressure (PSIG)	Tank Volume (Gals)	Max. Accept Volume (Gals) 20 PSIG	Conn. MPT Size (Inches)	Dimensions In Inches		Ship Weight (Lbs.)
					Diameter	Height	
PS-2	100	2	1.53	1/2	8 1/4	10 3/16	5
PS-5	100	5	3.75	1/2	11	14 3/4	8
PS-7	100	7	4.6	1/2	11	21 1/16	14
PS-14	100	14	10.5	1/2	15 5/8	23 1/2	25

Tanks are shipped with 12 PSI air charge (field adjustable).

Model No.	Net Boiler Output in 1000s of BTUs										
	25	50	75	100	125	150	175	200	250	300	
	PS-2	PS-2	PS-5	PS-5	PS-5	PS-5	PS-5	PS-7	PS-7	PS-7	PS-14

Operating conditions: cold pressure 12 PSI, relief set 30 PSI, maximum temperature 240°F

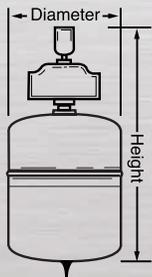
Sizes shown are for finned tube baseboard radiation.

For systems with converters and/or unit heaters increase tank one size; for cast iron radiation increase two sizes.

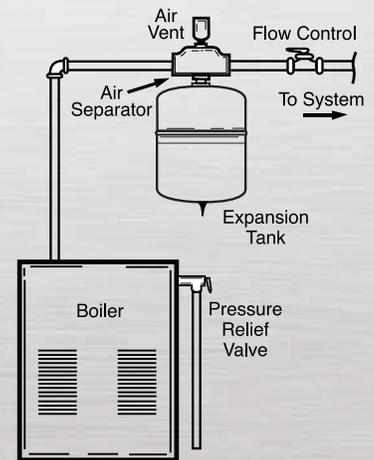
Perma Span Combination Unit

12 PSI Air Charge (field adjustable)

The “Perma Span Combination Unit” offers a compact package that combines three necessary functions: expansion compensation, air separation and air venting. The air vent and air separator are shipped in the carton, and the components are easily assembled. Air vent and air separator (sizes as shown).



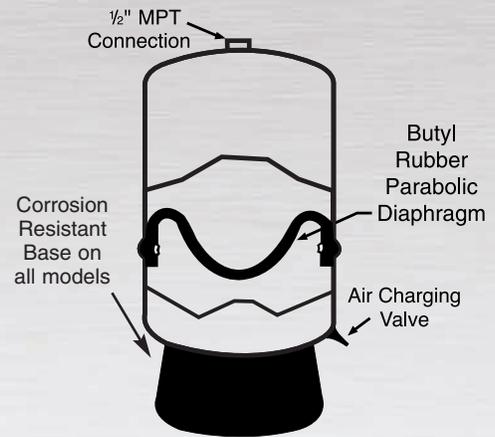
Model	Height	Diameter	Weight	Connection
PS-2V-1	20 1/2	8 1/4	10	1
PS-2V-2	20 1/2	8 1/4	10	1 1/4
PS-5V-1	22 3/4	11	13	1
PS-5V-2	22 3/4	11	13	1 1/4
PS-7V-1	29 1/8	11	16	1
PS-7V-2	29 1/8	11	16	1 1/4



Hydronic Expansion Tanks - Free Standing Models

Features and Benefits

- Drawn Steel Construction
- Heavy Duty Butyl Rubber Parabolic Diaphragm
- Free Standing Tanks
- Not for use with Potable Water Heating Systems
- Maximum working pressure 100 PSI - Maximum temperature 240°F



12 PSI Air Charge (field adjustable)

For the larger systems, Perma Span offers a complete line of free standing expansion tanks. They feature drawn steel construction, heavy duty Butyl Rubber Parabolic Diaphragms, corrosion resistant base mounts on most models and permanent separation of air and water—no water logging. For installations larger in size than those shown below, these tanks are easily manifolded. For additional sizing and installation data, call toll free 800-365-4300.

Model Number	Max. Working Pressure (PSIG)	Tank Volume (Gals)	Max. Accept Volume (Gals)		Conn. MPT Size (Inches)	Dimensions In Inches		Ship Weight (Lbs.)
			20 PSIG			Diameter	Height	
PS-15	100	15	10.5		1/2	15 ³ / ₈	24 ³ / ₄	25.5
PS-20	100	20	13.5		1/2	15 ³ / ₈	32 ³ / ₄	32
PS-36	100	36	21.0		1/2	20	32 ³ / ₈	45
PS-52	100	52	33.8		1/2	23 ³ / ₈	38 ⁵ / ₈	77
PS-86	100	86	61.2		1/2	23 ³ / ₈	59	105

Tanks are shipped with 12 PSI air charge (field adjustable).

Model No.	Net Boiler Output in 1000s of BTUs									
	From	To	From	To	From	To	From	To	From	To
	200	400	425	600	625	950	975	1350	1375	1600
	PS-15		PS-20		PS-36		PS-52		PS-86	

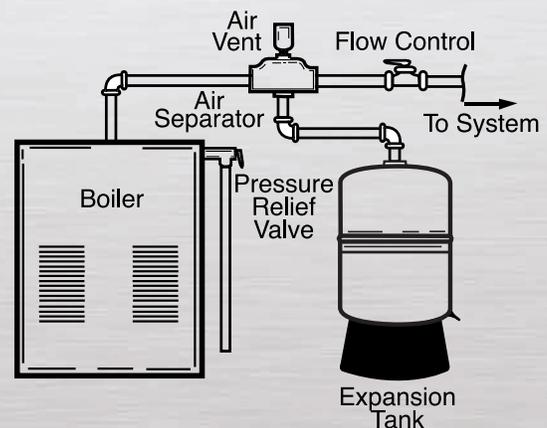
Operating conditions: cold pressure 12 PSI, relief set 30 PSI, maximum temperature 240°F.
 Sizes shown are for finned tube baseboard radiation.

For systems with converters and/or unit heaters increase tank one size; for cast iron radiation increase two sizes.

Additional Sizing Data

For larger systems it will be necessary to calculate the expansion of water within the system. Our engineering department will be glad to assist you. When you call please have available the size of the system in gallons, the pressure, and the maximum operating temperature.

If you do not know the capacity of the system this can be calculated from the amount and size of pipe used.



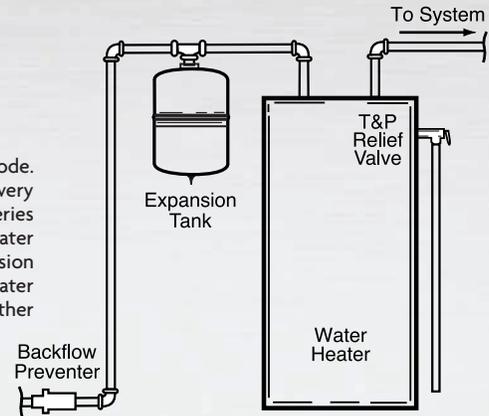
Expansion Tanks - For Potable Water

Features and Benefits

- Drawn Steel Construction
- Butyl Rubber Parabolic Diaphragm
- Maximim Working Pressure 150 PSI on Models PSC-2X, PSC-5X and PSC-10X
- In-Line Series, models PSC-2X to PSC-10X
- 38 PSI Air Charge (field adjustable)
- Powder Coated Interior

In many of today's potable hot water heating systems, back flow preventers are required by code. Since this seals off the system an expansion tank is required or the relief valve will discharge on every heating cycle. Perma Span Expansion Tanks eliminate this wasteful and costly practice. The PSC series has all the features of the PS series but include a unique powder coated interior in the water containing area. This unique bonded surface provides positive protection against rust and corrosion and meets today's sanitation requirements. The sizing chart below covers most of the standard water heaters manufactured today, and proper tank size is easily selected from the chart. For other conditions please contact our engineering department for assistance.

Expansion Tank must be installed on the cold water supply side of the water heater and placed between the water heater and check valve or back flow prevention device.



Model Number	Max. Working Pressure (PSIG)	Tank Volume (Gals)	Max. Accept Volume (Gals)		Conn. MPT Size (Inches)	Dimensions In Inches		Ship Weight (Lbs.)
			40 PSIG	60 PSIG		Diameter	Height	
PSC-2X	150	2	1.27	1.03	3/4	8 1/4	10 3/16	5
PSC-5X	150	5	3.05	2.19	3/4	11	14 3/4	9
PSC-10X	150	10	6.55	5.25	3/4	15 3/8	15 1/2	18

Model Number	Max. Working Pressure (PSIG)	Tank Volume (Gals)	Max. Accept Volume (Gals)	Conn. MPT Size (Inches)	Dimensions In Inches		Ship Weight (Lbs.)
			20 PSIG		Diameter	Height	
PSC-15	100	15	10.5	1 F	15 3/8	24 3/4	25.5
PSC-20	100	20	13.5	1 F	15 3/8	32 3/4	30
PSC-36	100	36	21.0	1 F	20	32 3/8	45
PSC-52	100	52	33.8	1 1/4 F	23 3/8	38 5/8	77
PSC-86	100	86	61.2	1 1/4 F	23 3/8	59	105

Tanks are shipped with 38 PSI air charge (field adjustable).

CHART VALID IF WATER AND AIR IN EXPANSION TANK COOLS DOWN TO ROOM TEMPERATURE

Use Tank Model Number	Water Temp.	WATER HEATER SIZE IN GALLONS*						
		30	40	52	66	82	100	120
	140°	PSC-2X	PSC-2X	PSC-2X	PSC-2X	PSC-5X	PSC-5X	PSC-5X
	150°	PSC-2X	PSC-2X	PSC-2X	PSC-2X	PSC-5X	PSC-5X	PSC-5X
	160°	PSC-2X	PSC-2X	PSC-2X	PSC-2X	PSC-5X	PSC-5X	PSC-5X
	170°	PSC-2X	PSC-2X	PSC-2X	PSC-2X	PSC-5X	PSC-5X	PSC-10X
	180°	PSC-2X	PSC-2X	PSC-2X	PSC-5X	PSC-5X	PSC-10X	PSC-10X

PSC-2X, PSC-5X and PSC-10X — 3/4" NPT Connection

*For larger size commercial water heaters, contact the factory for sizing.



WATER SYSTEMS
AN A. O. SMITH COMPANY

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