

Composite Vessels

Product Features

- For commercial and industrial water treatment and storage
- 100% composite fiberglass construction
- Outstanding performance and durability in harsh chemical environments
- Absolutely will not - and cannot - rust
- Requires little or no maintenance
- Capacities up to 2500 gallons
- Factory-backed five-year warranty

Materials of Construction

- Polyethylene inner shell (PVDF available)

Operating Parameters

- Maximum operating pressure: 150 psi
- Maximum operating temperature:
150°F (flanged) 180°F (threaded)

Pentair Design Parameters

- Safety factor: 4:1
- Minimum burst at 600 psi
- Tested to 250,000 cycles without leakage

NSF Design Parameters

- Safety factor: 4:1
- Minimum burst at 600 psi
- Tested to 100,000 cycles without leakage

ASME Design Parameters

Top/bottom flange:

- Safety factor: 5:1
- Minimum burst at 750 psi
- Tested to 33,000 cycles without leakage

Side flange:

- Safety factor: 6:1
- Minimum burst at 900 psi
- Tested to 100,000 cycles without leakage



Specifications

	Part No.	Description	Height w/ base Inches / mm	Height w/o base Inches / mm	Capacity Gallons / Liters	Cubic Feet	Top Open	Bottom Open	Top Side	Bottom Side	Base	Ship Weight
18" Dia.	30948	18 x 65	67.1 / 1704	66.5 / 1689	62.4 / 236	8.3	4" - 8" UN	N/A	N/A	N/A	SMC	67.7
	31343	18 x 65	79.8 / 2027	63.3 / 1608	62.4 / 236	8.3	4" - 8" UN	4" - 8" UN	N/A	N/A	tripod	79.7
	31693	18 x 65	84.4 / 2144	70.0 / 1778	62.4 / 236	8.3	6" FLG	6" FLG	N/A	N/A	tripod	79.7
21" Dia.	30949	21 x 36	41.7 / 1059	38.2 / 970	45.3 / 171	6.1	2.5" NPSM	N/A	N/A	N/A	SMC	46
	30950	21 x 36	41.7 / 1059	38.2 / 970	45.3 / 171	6.1	4" - 8" UN	N/A	N/A	N/A	SMC	46
	31573	21 x 36	54.5 / 1386	38.2 / 970	45.3 / 171	6.1	4" - 8" UN	4" - 8" UN	N/A	N/A	tripod	46
	30953	21 x 62	66.9 / 1699	62.6 / 1590	82.4 / 312	11.0	4" - 8" UN	N/A	N/A	N/A	SMC	90
	30954	21 x 62	79.0 / 2006	62.6 / 1590	82.4 / 312	11.0	4" - 8" UN	4" - 8" UN	N/A	N/A	*tripod	90
24" Dia.	31043	24 x 38	42.0 / 1059	38.5 / 978	61.0 / 231	8.2	4" - 8" UN	N/A	N/A	N/A	SMC	46
	31053	24 x 50	55.6 / 1412	51.5 / 1308	83.5 / 316	11.2	4" - 8" UN	N/A	N/A	N/A	SMC	83.5
	31611	24 x 50	68.4 / 1738	52.9 / 1344	83.5 / 316	11.2	4" - 8" UN	4" - 8" UN	N/A	N/A	*tripod	83.5
	32049	24 x 65	64 / 1626	60.5 / 1537	100 / 378	13.4	4" - 8" UN	N/A	N/A	N/A	SMC	100
	32129	24 x 65	66.5 / 1689	62.6 / 1590	100 / 378	13.4	6" FLG	N/A	N/A	N/A	SMC	100
	32139	24 x 65	79.0 / 2008	65.0 / 1651	100 / 378	13.4	6" FLG	6" FLG	N/A	N/A	tripod	100
	32481	24 x 65	75.7 / 1924	60.0 / 1524	100 / 378	13.4	4" - 8" UN	4" - 8" UN	N/A	N/A	*tripod	100
	31153	24 x 72	74.1 / 1882	70.6 / 1793	119 / 450	15.9	4" - 8" UN	N/A	N/A	N/A	SMC	139
	31154	24 x 72	84.5 / 2147	69.0 / 1753	119 / 450	15.9	4" - 8" UN	4" - 8" UN	N/A	N/A	*tripod	139
	31155	24 x 72	76.8 / 1951	73.3 / 1862	119 / 450	15.9	6" FLG	N/A	N/A	N/A	SMC	149
	31157	24 x 72	87.9 / 2232	74.5 / 1892	119 / 450	15.9	6" FLG	6" FLG	N/A	N/A	tripod	149
30" Dia.	31161	30 x 72	85.9 / 2182	70.2 / 1783	187 / 708	25.0	4" - 8" UN	4" - 8" UN	N/A	N/A	*tripod	234
	31162	30 x 72	80.8 / 2052	73.0 / 1854	187 / 708	25.0	6" FLG	N/A	N/A	N/A	SMC	240
	31163	30 x 72	88.3 / 2242	74.7 / 1897	187 / 708	25.0	6" FLG	6" FLG	N/A	N/A	tripod	240
36" Dia.	31417	36 x 57	70.5 / 1791	60.0 / 1524	205 / 776	27.4	6" FLG	N/A	N/A	N/A	SMC	160
	31418	36 x 57	77.0 / 1956	63.0 / 1600	205 / 776	27.4	6" FLG	6" FLG	N/A	N/A	tripod	160
	31712	36 x 72	89.0 / 2261	75.0 / 1905	264 / 999	35.3	6" FLG	6" FLG	4" FLG	4" FLG	tripod	292
	31214	36 x 72	83.0 / 2108	73.5 / 1867	264 / 999	35.3	6" FLG	N/A	N/A	N/A	SMC	292
	31217	36 x 72	89.0 / 2261	75.0 / 1905	264 / 999	35.3	6" FLG	6" FLG	N/A	N/A	tripod	292
	31523	36 x 72	86.2 / 2190	70.5 / 1791	264 / 999	35.3	4" - 8" UN	4" - 8" UN	N/A	N/A	*tripod	292
42" Dia.	31272	42 x 72	94.5 / 2401	71.0 / 1803	345 / 1306	46.1	6" FLG	N/A	N/A	N/A	tripod	678
	31272	42 x 72	72.0 / 1828	71.0 / 1803	345 / 1306	46.1	6" FLG	N/A	N/A	N/A	short SMC	xxx
	31276	42 x 72	94.6 / 2404	73.0 / 1854	345 / 1306	46.1	6" FLG	6" FLG	N/A	N/A	tripod	678
48" Dia.	31281	48 x 72	91.8 / 2332	76.0 / 1930	463 / 1753	61.9	6" FLG	N/A	N/A	N/A	tripod	780
	31283	48 x 72	96.6 / 2454	80.8 / 2052	463 / 1753	61.9	6" FLG	6" FLG	4" FLG	4" FLG	tripod	780
	31285	48 x 72	92.8 / 2357	77.0 / 1955	463 / 1753	61.9	6" FLG	6" FLG	N/A	N/A	tripod	780
	31432	48 x 72	97.5 / 2477	81.7 / 2075	463 / 1753	61.9	16" MWY	6" FLG	4" FLG	4" FLG	tripod	780
	31647	48 x 72	93.8 / 2383	78.0 / 1981	463 / 1753	61.9	16" MWY	6" FLG	N/A	N/A	tripod	780
63" Dia.	31290	63 x 67	80.3 / 2344	67.8 / 1722	600 / 2271	80.2	16" MWY	6" FLG	N/A	N/A	tripod	900
	31390	63 x 67	79.5 / 2324	67.0 / 1702	600 / 2271	80.2	6" FLG	6" FLG	N/A	N/A	tripod	900
	32008	63 x 67	80.3 / 2344	67.8 / 1722	600 / 2271	80.2	16" MWY	10" FLG	N/A	N/A	tripod	900
	31292	63 x 86	97.0 / 2769	84.5 / 2146	850 / 3218	114	16" MWY	6" FLG	4" FLG	4" FLG	tripod	1425
	31326	63 x 86	96.6 / 2758	84.1 / 2136	850 / 3218	114	6" FLG	6" FLG	N/A	N/A	tripod	1425
	31327	63 x 86	97.0 / 2769	84.5 / 2146	850 / 3218	114	16" MWY	6" FLG	N/A	N/A	tripod	1200
	32253	63 x 86	96.6 / 2758	84.1 / 2136	850 / 3218	114	10" FLG	6" FLG	N/A	N/A	tripod	1200
	32356	63 x 86	97.0 / 2769	84.5 / 2146	850 / 3218	114	16" MWY	10" FLG	N/A	N/A	tripod	1425
	32678	63 x 86	96.6 / 2758	84.1 / 2136	850 / 3218	114	6" FLG	6" FLG	4" FLG	4" FLG	tripod	1425
	31325	63 x 116	128.5 / 3264	116.0 / 2946	1250 / 4732	167	16" MWY	6" FLG	4" FLG	4" FLG	tripod	1775
	32500	63 x 116	128.5 / 3264	116.0 / 2946	1250 / 4732	167	16" MWY	6" FLG	N/A	N/A	tripod	1425
	31456	63 x 144	158.5 / 4026	146.0 / 3708	1600 / 6057	214	16" MWY	6" FLG	N/A	N/A	tripod	2025
	31607	63 x 144	158.5 / 4026	146.0 / 3708	1600 / 6057	214	16" MWY	6" FLG	4" FLG	4" FLG	tripod	2025
	31664	63 x 144	158.5 / 4026	146.0 / 3708	1600 / 6057	214	16" MWY	10" FLG	N/A	N/A	tripod	2025

Color Options: AL - Almond  BL - Blue  BK - Black  GR - Gray  NA - Natural 

*Measurements are subject to change without notice and are for reference only.

NOTE: Flexible connections must be installed between hard piping and tank openings. Failure to install flex connection properly with the vessel will void the warranty.


Composite Vessels – Specifications



Fleck Valve	Tank Dia. Inches / mm	Adder Ht. (X) Inches / mm
2750	18 / 457	6.5 / 165
2850	21 / 533	6.5 / 165
2900	24, 30 / 610, 762	12 / 305
3150	42 / 1067	10 / 254
3900	48-63 / 1219-1600	15 / 381

Installation Tips:

- Bolt base to floor
- Calculate height for valve and base combined (see photo)

Color Options: AL - Almond  BL - Blue  BK - Black  GR - Gray  NA - Natural 

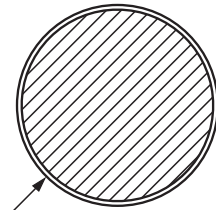
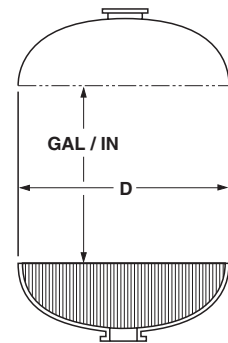
*Measurements are subject to change without notice and are for reference only.

Dome Volume (gallons) and Straight Wall Gallon per Inch

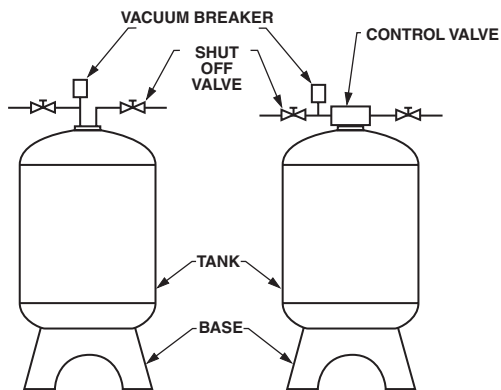
Nominal Diameter

D (inches)	Gallons* (One Dome)	Gallon / Inch (Approx.)	A (Sq. Feet)
12	1.0	0.5	0.7
13	1.4	0.5	0.9
14	1.7	0.6	1.1
16	2.7	0.8	1.3
18	3.7	1.0	1.8
21	6.2	1.4	2.4
24	9.3	1.9	3.0
30	18	2.9	4.6
36	33	4.2	6.7
42	52	5.7	9.0
48	74	7.5	12.0
63	168	13.0	20.0

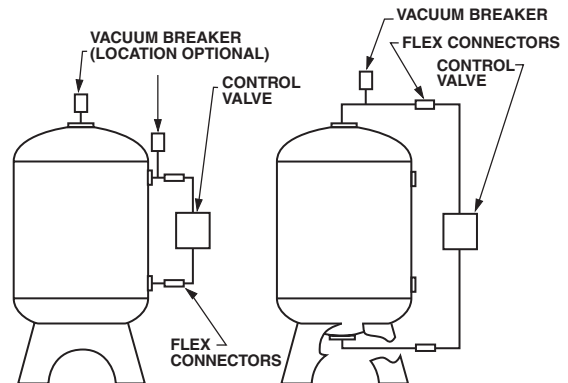
*Cubic Ft. = 0.1337 x Gallons



Vacuum Breaker Installation



Flex Connectors Installation

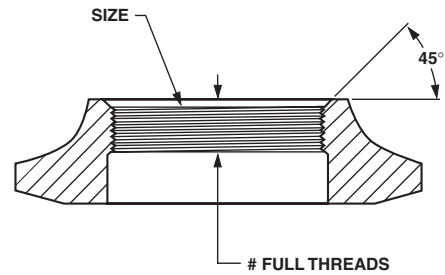


NOTE: Flexible connectors must be installed between hard piping and tank openings. These pressure vessels are rated for an internal negative pressure of 5½ HG (17 Pa) vacuum below atmospheric. If negative pressure could ever exceed 5½ Hg (17 Pa), an adequate vacuum breaker must also be properly installed. Failure to install flex connection properly, or improper installation of a vacuum breaker when required, may void the warranty.

Composite Vessels – Specifications

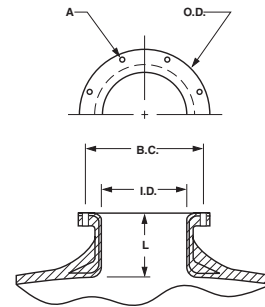
Top and Bottom Opening Threads

Size	Composite/ Polyglass	Number of Full Threads	Composite
2.5"- 8" NPSM	6	3 min	6
4"- 8" UN	7	3 min	7
4.5"- 8" Buttress	7	3 min	7



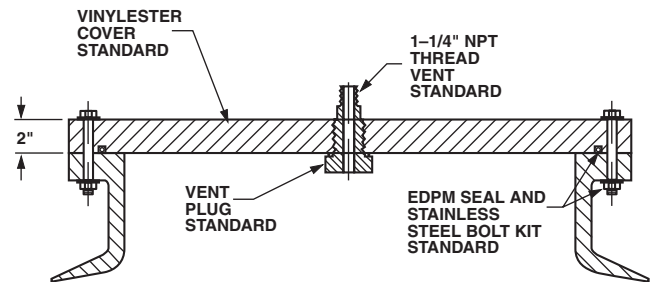
Top and Bottom Opening Flanges/Manway

Size	L	I.D.	B.C.	O.D.	A Bolt Dia.	Number of Holes	Weight (lbs.)
6" SNA	3.6"	5.9"	8.5"	9.4"	0.31"	12	5.8
10" ANSI	3.7"	10.0"	14.3"	16.0"	0.88"	12	17.8
16" Manway SNA	4.3"	16.0"	20.4"	21.3"	0.50"	24	34.0



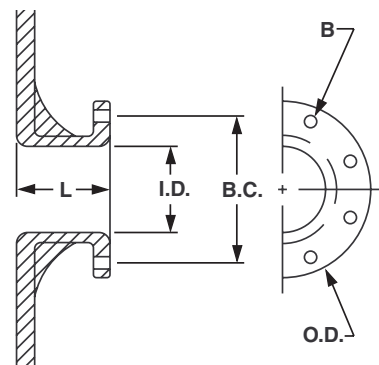
Manway Cover

Material	Pressure Rating	Tapping
CPVC	100 psi	As requested
VE	150 psi	As shown only



Side Flange

Size	L	I.D.	B.C.	O.D.	B Bolt Dia.	Number of Holes	Weight (lbs.)
4" ANSI	4.1"	4.0"	7.5"	9.0"	0.63"	8	6.4





STRUCTURAL

Pentair Water



COMPOSITE PRESSURE VESSELS

COMPOSITE VS. STEEL



Global Leaders in Composite Pressure Vessel Technology

The non-corrosive, cost-effective solution for commercial/industrial water treatment and storage

STRUCTURAL® TECHNOLOGY AND MANUFACTURING PROCESSES

Our exclusive, patented manufacturing process creates a seamless polyethylene shell that is wound continuously with fiberglass roving and sealed with epoxy resin. This process results in a corrosion-resistant, leak-free vessel. Computer-aided winding machines and other customized equipment are used to produce a tank that offers outstanding performance and durability.

APPLICATIONS

Composite Pressure Vessels are used for large commercial and industrial applications such as:

- Softening
- Filtration
- Storage

WHY CUSTOMERS SPECIFY STRUCTURAL

- Trusted performance
- High quality products
- Unparalleled customer support
- Rapid delivery

COMPOSITE PRESSURE VESSELS

SPECIFICATIONS

DESCRIPTION	OPENING	OPERATING PRESSURE (PSI/BAR)	HEIGHT W/ BASE (IN/MM) ¹	HEIGHT W/O BASE (IN/MM) ¹	DIAMETER (IN/MM) ²	CAPACITY (GAL/LITER)	BASE	WEIGHT W/ BASE (LBS/KG) ³
18 x 65	4" T	150/10.34	66.25/1682.0	65.00/1651.0	18.65/473.8	64/242.0	SMC	67/30.4
18 x 65	4" TB	150/10.34	73.13/1857.5	65.63/1667.0	18.65/473.8	64/242.0	SMC EXT	67/30.4
21 x 62	4" T	150/10.34	67.13/1705.0	63.50/1612.9	22.00/558.8	84/318.0	SMC	95/43.1
21 x 62	4" TB	150/10.34	72.75/1847.9	63.50/1612.9	21.75/552.5	84/318.0	SMC EXT	95/43.1
24 x 72	4" T	150/10.34	74.66/1896.3	70.60/1793.2	24.25/616.0	118/446.7	SMC	109/49.4
24 x 72	4" TB	150/10.34	80.42/2042.7	70.30/1785.6	24.60/624.8	119/450.5	SMC EXT	124/56.2
24 x 72	6" TBF	150/10.34	88.50/2247.9	74.50/1892.3	24.20/614.7	119/450.5	TRIPOD	137/62.1
30 x 60	6" TF	150/10.34	71.63/1819.4	64.34/1634.2	30.20/767.0	151/571.6	SMC EXT	185/83.9
30 x 60	6" TBF	150/10.34	82.50/2095.5	68.50/1739.9	30.20/767.0	151/571.6	TRIPOD	185/83.9
30 x 72	4" TB	150/10.34	78.90/2004.1	70.40/1788.2	30.07/763.8	187/707.9	SMC EXT	198/89.8
30 x 72	6" TBF	150/10.34	88.90/2258.1	74.90/1902.5	30.20/767.1	187/707.9	TRIPOD	211/95.7
36 x 72	4" TB	150/10.34	80.50/2004.7	70.50/1790.7	36.00/914.4	264/999.3	SMC EXT	285/129.3
36 x 72	6" TBF	150/10.34	90.39/2295.9	76.14/1933.9	36.12/917.4	264/999.3	TRIPOD	285/129.3
42 x 72	6" TF	150/10.34	72.52/1842.0	71.14/1807.0	42.25/1073.2	345/1306.0	SMC LOW	370/168.0
42 x 72	6" TBF	150/10.34	90.12/2289.0	73.00/1854.2	42.25/1073.2	345/1306.0	TRIPOD	400/181.0
48 x 72	6" TF	150/10.34	81.54/2071.2	75.16/1909.1	48.25/1225.6	463/1753.0	SMC LOW	494/224.0
48 x 72	6" TBF	150/10.34	92.90/2359.7	76.90/1953.3	48.25/1225.6	463/1753.0	TRIPOD	494/224.0
63 x 67	6" TBF	150/10.34	81.41/2067.8	67.10/1704.3	64.00/1625.7	600/2271.0	TRIPOD	680/308.0
63 x 67	16" TMY, 6" BF	150/10.34	82.24/2088.9	67.80/1722.1	64.00/1625.7	600/2271.0	TRIPOD	680/308.0
63 x 86	6" TBF	150/10.34	98.54/2502.9	84.10/2136.1	64.00/1625.7	900/3407.0	TRIPOD	950/431.0
63 x 86	16" TMY, 6" BF	150/10.34	98.94/2513.1	84.50/2146.3	64.00/1625.7	900/3407.0	TRIPOD	950/431.0
63 x 116	16" TMY, 6" BF	150/10.34	130.44/3313.2	116.00/2946.4	64.00/1625.7	1250/4732.0	TRIPOD	1190/540.0
63 x 144	16" TMY, 6" BF	150/10.34	160.18/4068.6	145.50/3695.7	64.50/1638.3	1600/6057.0	TRIPOD	1398/634.0

¹ Height Tolerance is +/- 1.00in/ 25.4 mm

² Diameter Tolerance is +/- .50in/ 12.7 mm

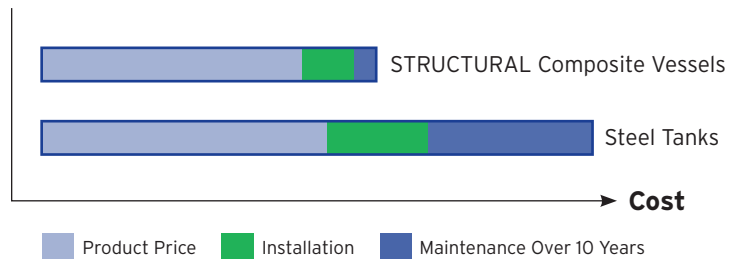
³ Product Weight - Contact customer service for shipping weight

Note: ASME Code available on flanged tanks 18" to 48" in diameter

COMPOSITE VESSEL BENEFITS OVER STEEL TANKS

Steel Tanks	STRUCTURAL Composite Vessels
Very heavy and difficult to handle thus involves higher labor cost to install	60% lighter than steel and easier to handle thus lower installation costs
Corrode and rust over a period of time	Corrosion-resistant both inside and out
Lining has to be periodically treated	Low maintenance
Painting and coating have to be undertaken regularly	Natural fiberglass shell never fades or changes color; colored shells recommended for UV protection

COMPOSITE VESSELS: LOWER TOTAL OPERATION COSTS VERSUS STEEL TANKS



Distributed By:
 Roanoke Water Treatment, Inc.
 1948 Franklin Road SW
 Roanoke, VA 24014
 (540) 982-2324

