

Structural Composite Vessels

Structural Composite Pressure Vessels offer reinforced fiberglass construction for outstanding performance and durability. Available in capacities up to 1,600 gallons, composite vessels are available with a variety of different configurations. ASME code available.



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 1600 gallons
- Factory-backed five-year warranty
- Commercial softening & filtration

Color Options

- AL - Almond
- BL - Blue
- BK - Black
- GR - Gray
- NA - Natural



Vessels Tested and Certified by NSF International to NSF/ANSI Standard 61 for material and structural integrity requirements.

Specifications

	Part No.	Description	Height w/base inches/mm	Height w/o base inches/mm	Capacity Gallons/Liters	Cubic Feet	Base	Ship Weight lbs.
18" Dia.	CH30948	18X65 COMP 4"T	66.95 / 1701	65.07 / 1669	64 / 242	8.56	SMC	67
	CH31343	18X65 COMP 4"T 4"B	73.13 / 1858	65.6 / 1394	64 / 242	8.56	SMC EXT	67
	CH31693	18X65 COMP 6"TF 6"BF	84.12 / 2137	70.5 / 1791	62 / 234	8.29	SMC EXT	92
21" Dia.	CH30950	21X36 COMP 4"T	41.7 / 1059	38.2 / 970	45 / 171	6.06	SMC	46
	CH31573	21X36 COMP 4"T 4"B	47.5 / 1205	38.25 / 970	45 / 171	6.06	SMC EXT	53
	CH30953	21X62 COMP 4"T	67.0 / 1702	63.4 / 1610	84 / 318	11.23	SMC	95
	CH30954	21X62 COMP 4"T 4"B	72.8 / 1848	63.5 / 1613	84 / 318	11.23	SMC EXT	95
24" Dia.	CH31043	24X38 COMP 4"T	42.6 / 1081	38.5 / 978	61 / 231	8.15	SMC	65
	CH31053	24X50 COMP 4"T	58 / 130	52.9 / 1343	83.5 / 316	11.16	SMC	90
	CH31611	24X50 COMP 4"T 4"B	63 / 1601	52.9 / 1343	83.5 / 316	11.16	SMC EXT	90
	CH32049	24X65 COMP 4"T	65.2 / 1655	61.1 / 1552	100 / 378	13.36	SMC	109
	CH32481	24X65 COMP 4"T 4"B	70.1 / 257	60 / 1524	100 / 378	13.36	SMC EXT	115
	CH32129	24X65 COMP 6"TF	65 / 1651	61.2 / 1556	100 / 378	13.36	SMC	114
	CH32139	24X65 COMP 6"TF 6"BF	79 / 2007	65 / 1651	100 / 378	13.36	TRIPOD	114
	CH31153	24X72 COMP 4"T	74.2 / 1884	70.12 / 1781	118 / 451	15.77	SMC	109
	CH31154	24X72 COMP 4"T 4"B	80.4 / 2043	70.3 / 1786	118 / 451	15.77	SMC EXT	124
	CH31155	24X72 COMP 6"TF	77 / 1956	73.4 / 1864	118 / 451	15.77	SMC	137
	CH31157	24X72 COMP 6"TF 6"BF	88.5 / 2248	74.5 / 1892	118 / 451	15.77	TRIPOD	137
30" Dia.	CH34177	30X60 COMP 6"TF	71.6 / 1819	64.3 / 1634	151 / 572	20.2	SMC EXT	195
	CH34178	30X60 COMP 6"TF 6"BF	82.5 / 2096	68.5 / 1740	151 / 572	20.2	TRIPOD	195
	CH33653	30X72 COMP 4"T	77.2 / 1961	69.8 / 1772	187 / 708	24.99	SMC EXT	198
	CH31161	30X72 COMP 4"T 4"B	77.2 / 1961	69.8 / 1772	187 / 708	24.99	SMC EXT	198
	CH31162	30X72 COMP 6"TF	79.7 / 2025	69.9 / 1778	187 / 708	24.99	SMC EXT	195
	CH311613	30X72 COMP 6"TF 6"BF	88.9 / 2258	74.9 / 1903	187 / 708	24.99	SMC EXT	211
36" Dia.	CH31209	36X36 COMP 6"TB	55.3 / 1403	41 / 1041	118 / 447	15.8	TRIPOD	148
	CH31417	36X57 COMP 6"TF	68 / 1727	59.3 / 1505	205 / 776	27.4	SMC EXT	225
	CH31418	36X57 COMP 6"TF 6"BF	77.3 / 1962	63 / 1600	205 / 776	27.4	TRIPOD	225
	CH33652	36X72 COMP 4"T	80.4 / 2042	71.8 / 1823	264 / 999	35.2	SMC EXT	264
	CH31523	36X72 COMP 4"T 4"B	80.5 / 2045	70.5 / 1791	264 / 999	35.2	SMC EXT	285
	CH31214	36X72 COMP 6"TF	83 / 2108	74.3 / 1886	264 / 999	35.2	SMC EXT	285
	CH31217	36X72 COMP 6"TF 6"BF	90.4 / 2296	76.1 / 1934	264 / 999	35.2	TRIPOD	285
	CH31712	36X72 COMP 6"TF 6"BF 4"TB	89.6 / 2275	75.3 / 1913	264 / 999	35.2	TRIPOD	292
42" Dia.	CH31272	42X72 COMP 6"TF	72.5 / 1842	71.1 / 1807	345 / 1306	46.1	SMC	370
	CH31276	42X72 COMP 6"TF 6"BF	90.1 / 2289	73 / 1854	345 / 1306	46.1	TRIPOD	400
	CH34226	42X72 COMP 6"TF 6"BF 4"TB	94.6 / 2403	77.5 / 1969	345 / 1306	46.1	TRIPOD	415



Specifications (cont'd.)

	Part No.	Description	Height w/base inches/mm	Height w/o base inches/mm	Capacity Gallons/Liters	Cubic Feet	Base	Ship Weight lbs.
48" Dia	CH31281	48X72 COMP 6"TF	81.5 / 2071	75.2 / 1909	463 / 1753	61.9	SMC	494
	CH31285	48X72 COMP 6"TF 6"BF	92.9 / 2360	76.9 / 1953	463 / 1753	61.9	TRIPOD	494
	CH31283	48X72 COMP 6"TF 6"BF 4"TBSF	96.75 / 2458	80.75 / 2051	463 / 1753	61.9	TRIPOD	504
63" Dia.	CH31390	63X67 COMP 6"TF 6"BF	81.4 / 2068	67.1 / 1704.3	600 / 2271	80.2	TRIPOD	680
	CH31326	63X86 COMP 6"TF 6"BF	98.5 / 2503	84.1 / 2136	900 / 3407	120.3	TRIPOD	950
	CH31327	63X86 COMP 16"TMWY 6"BF	98.9 / 2513	84.5 / 2146	900 / 3407	120.3	TRIPOD	950
	CH31292	63X86 COMP 16"TMWY 6"BF 4"TBSF	99 / 2515	85 / 2159	900 / 3407	120.3	TRIPOD	950
	CH34234	63X116 16"TMWY 6"BF 4"TBSF	130.4 / 3312	115.9 / 2945	1250 / 4732	167	TRIPOD	1190
	CH31607	63X144 16"TMWY 6"BF 4"TBSF	157.9 / 4012	143.9 / 3656	1600 / 6057	214	TRIPOD	1398

*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.

NOTE: Different base options can be selected on different tank diameters. The bases selected above illustrate most common base selection.

Material of Construction

- Polyethylene inner shell

Operating Parameters

- Maximum operating pressure: 150 psi
- Maximum operating temperature:
 - 120°F (threaded)
 - 150°F (flanged)

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

Installation Tips

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

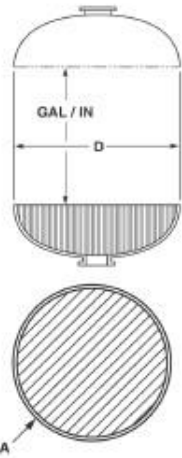
Fleck Valve	Tank Dia. inches/mm	Adder Ht. (X) inches/mm
2750	18/457	6.5/165
2850	21/533	6.5/165
2900	24,30/610,762	12/305
3150	42/1067	10/254
3900	48-63/1219-1600	15/381

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



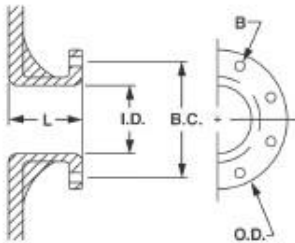
Structural Composite Vessels

Dome Volume (gallons) and Straight Wall Gallon per Inch



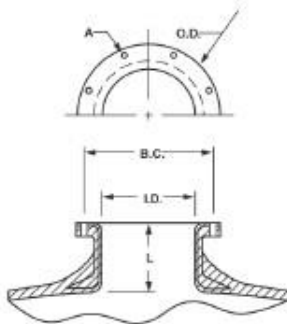
D (inches)	Nominal Diameter		
	Gallons* (One Dome)	Gallon/Inch (Approx.)	A (Sq. Feet)
12	1.0	0.5	0.7
13	1.4	0.5	0.9
14	1.7	0.6	1.1
16	2.7	0.8	1.3
18	3.7	1.0	1.8
21	6.2	1.4	2.4
24	9.3	1.9	3.0
30	18	2.9	4.6
36	33	4.2	6.7
42	52	5.7	9.0
48	74	7.5	12.0
63	168	13.0	20.0

*Cubic Ft. = 0.1337 x Gallons



Side Flange

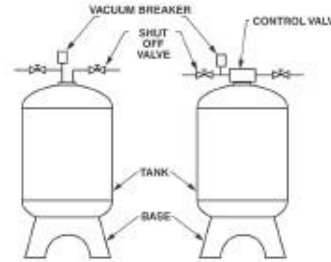
Size	L	I.D.	B.C.	O.D.	A Bolt Dia.	Number of Holes	Weight (lbs.)
4" ANSI	4.1"	4.0"	7.5"	9.0"	0.63"	8	6.4



Top and Bottom Opening Flanges/Manway

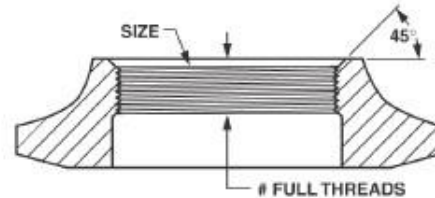
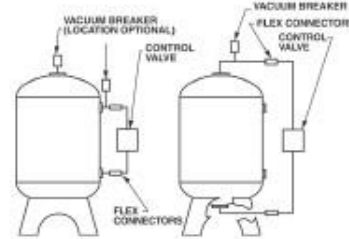
Size	L	I.D.	B.C.	O.D.	A Bolt Dia.	Number of Holes	Weight (lbs.)
6" SNA	3.6"	5.9"	8.5"	9.4"	0.31"	12	5.8
10" ANSI	3.7"	10.0"	14.3"	16.0"	0.88"	12	17.8
16" Manway SNA	4.3"	16.0"	20.4"	21.3"	0.50"	24	34.0

Vacuum Breaker Installation



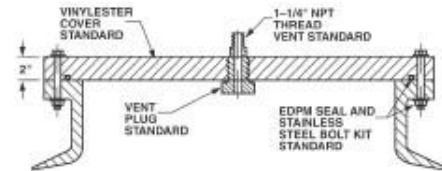
NOTE: Flexible connectors must be installed between hard piping and tank openings. These pressure vessels are treated for an internal negative pressure of 5y HG (17 Pa) vacuum below atmospheric. If negative pressure could ever exceed 5y Hg (17 Pa), an adequate vacuum breaker must also be properly installed. Failure to install flex connection properly, or improper installation of a vacuum breaker when required, may void the warranty.

Flex Connectors Installation



Top and Bottom Opening Threads

Size	Composite/ Poly Glass	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



Manway Cover

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