PENTAIR

STRUCTURAL™

PRESSURE VESSELS

Performance People Trust

As the largest supplier of components and subsystems for handling, treatment and storage of water, Pentair Water products are key to virtually every water treatment, filtration and storage system made today. In all continents, and in more than 80 countries, our advanced technologies have created a clear competitive advantage, earning us the water treatment leadership position in residential, commercial and industrial markets worldwide.

The Product

Today, we lead the industry with highly advanced manufacturing facilities and dedicated sales personnel located around the world.

Structural™ high performance pressure vessels are guaranteed to provide years of dependable service. It also provides cost-effective solutions for the most challenging applications. Our pressure vessels are accepted globally as a superior solutions for water treatment.

Technology & manufacturing process

Our exclusive patented manufacturing process creates a seamless polyethylene shell that is wound continuously with fiberglass reinforcements and sealed with epoxy resins. This process makes the vessels non-corrosive and there is no chance of any leakage. Computer aided winding machine and other customised equipment are to create a product that offers outstanding performance and durability.

Why customers specify structural™ pressure vessels ?

- High-quality products
- On-time delivery
- The best warranties in the business
- Unparalleled customer support
- Raw material used are from best Multinational suppliers

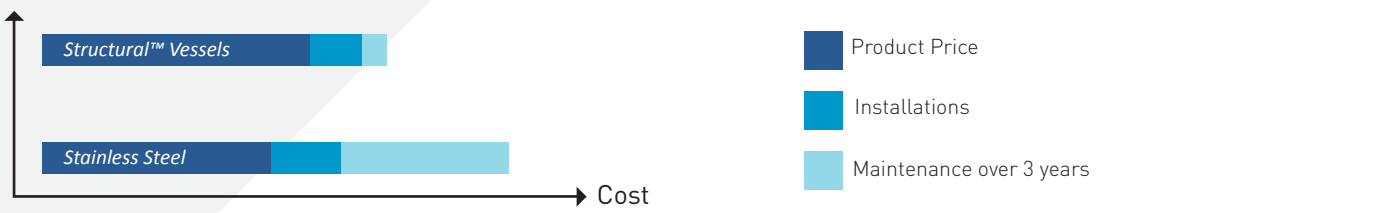
Product Features

- Full choice of vessels available upto 63" diameter with 86" height
- Diameter with capacities from 33 to 2500 liters
- Outstanding performance and durability in harsh chemical environment
- Unmatched strength with rust free guarantee
- Structural™ pressure vessels comes with an unmatched 3 years warranty
- Compliance with PED/97/23/EC to mark CE marking

Application Areas

Structural™ pressure vessels serves all residential, commercial and industrial applications and these vessels are mainly for filtration, softening, water treatment and storage.

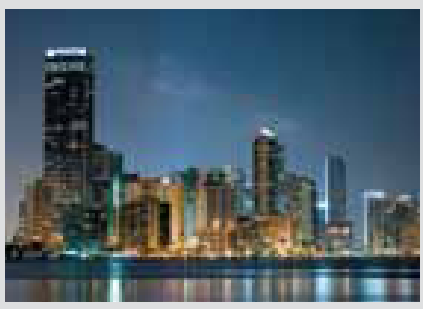
Cost-effectiveness graph of Structural™ Vessels

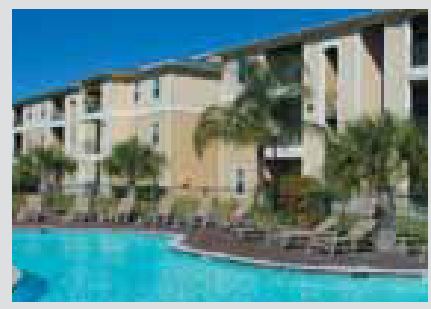


(e.g.) Water Softener

Benefits & Advantages over Conventional vessels

Structural™ Pressure Vessels	Steel Water Tanks
Durability	
Excellent ultra violet (UV) resistant characteristics and performance. Vacuum test of 5" of Hg at 120˚F 100% vessels are hydrotested at 1.1times the operating pressure. Design to qualify for One Lakh Cycle Test (Hot, Ambient and Cold) and Burst factor of 4 times the operating pressure	Exposure to weather variations such as cold and heat as well as varying water levels on the tank walls results in expansion and contraction creating cracks on the laminated surfaces which leads to a shorter life due to corrosion. Lack of regular maintenance results in a short life for steel water tanks. Freezing results in deformation and possible cracking.
Water Quality	
Light proof to prevent algae growth. Structural™ Pressure Vessels are completely sealed, manhole covers and air vents are by design dust and insect proof. No metal components need to be in contact with water. Reinforcement bolts and nuts for assembly are on the outside.	Residual chlorides causes chlorine gas when water pours into tank through inlet, this degrades both metal and water quality. Bottom slope will not allow complete drainage of hose pressure water with chemicals used for cleaning resulting in contamination of incoming water.
Leakage	
Long life UV protection prevents the tank from leakage. Seamless design except Manholes & side ports.	Weak points at welded joints lead to leakage problems with welded tanks. Bolted steel tanks are susceptible to high expansion and contraction due to thermal properties, which will over time affect sealant causing leakage. If corrosion is not corrected regularly it will eventually cause leakage. Freezing will result is leaks at the joints.
Repairs & Maintenance	
Maintenance limited to outside bolt tightening/ and internal hose water pressure wash down without chemicals.	Needs frequent maintenance due to corrosion. Maintenance is often done with paint & lining which contains toxic chemicals. Heavily corroded sections may need to be cut out and replaced which is a costly and time consuming exercise with long interrupted water supply periods. Maintenance results in interruption of water supply.
Adaptability of Size and Design	
Flexible sizes and shapes by design	Limited size and shape by design
Corrosion Properties	
Not applicable (No steel in direct contact with water).	Highly susceptible to corrosion causing frequent and costly maintenance. Materials used to rectify corrosion may be toxic. Any process to protect the steel from corrosion is easily scratched as a result of accidents during handling and assembly which in turn cause corrosion.





Material of Construction

- Inner shell of polyethylene
- Threaded & Flanged inlets in various sizes

Operating Parameters

- Maximum operating pressure: 150 psi
- Maximum operating temperature: 49ºC

Pentair design parameters

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

NSF design parameters

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

Quality Standards at Pentair

Pentair Water India is an ISO 9001:2000 company and has ISO 9001:2008, ASME Sec X , NSF 44 & NSF 61 cerfification on its wide 9001:2008, range of products respectively. Many of our products are complying to European Pressure Equipment Directives (PED/97/23/EC). Every vessel is designed to last 250,000 cycles without failure, and has a minimum burst pressure of 4 times the rated pressure. Our commitment to quality and innovation remains strong. We continually strive to improve existing products and develop new ones giving our customers the very best pressure vessels money can buy.

Using the latest tools and technologies, at Pentair we critically evaluate every design detail to ensure our product meet or exceed ISO, NSF, PED and required global standards.

Mini Vessels

Description	Size (inches)	System Connection	Operating Pressure	Height w/base inches/mm	Height w/o Base Inches/mm	Capacity Gallons/ Liters	Cubic Feet
0844 PG 2.5"T	08x44	2.5" Threaded	10 Bar	44.35/1126	44.2/1123	8.7/32.9	1.16
0948 PG 2.5"T	09x48	2.5" Threaded	10 Bar	48.85/1241	48.00/1219	11.8/44.7	1.58
1035 PG 2.5"T	10x35	2.5" Threaded	10 Bar	35.90/912	35.3/897	10.2/38.6	1.36
1054 PG 2.5"T	10x54	2.5" Threaded	10 Bar	55.00/1397	54.5/1335	16.4/62.0	2.19
1248 PG 2.5"T	12x48	2.5" Threaded	10 Bar	49.10/1247	48.3/1227	20.6/78.0	2.75
1354 PG 2.5"T	13x54	2.5" Threaded	10 Bar	54.1/1374	53.8/1367	27.5/104.0	3.68
1354 PG 4"T	13x54	4.0" Threaded	10 Bar	54.6/1387	53.9/1369	27.5/104.0	3.68
1465 PG 4"T	14x65	4.0" Threaded	10 Bar	65.10/1654	64.3/1633	40.6/154.0	5.43
1665 PG 4"T	16x65	4.0" Threaded	10 Bar	65.5/1664	64.3/1633	49.0/185.0	6.55

* Pentair strongly recommends use of vacuum breaker while installing Structural™ Vessels
** Please refer individual general arrangement drawing for dimensions, volumes etc.

Large Vessels

Description	Opening	Operating pressure	Height w/base (mm)	Height w/o base (mm)	Dia (mm)	Capacity (litres)	Base	Weight of vessel with base (Kg)
1865	4"T	10 Bar	1753	1640	473	250	SMC	32.83
1865	4"T/B	10 Bar	2060	1645	473	250	Tripod	38.26
2162	4"T	10 Bar	1619	1489	552	310	SMC	42.23
2162	4"T/B	10 Bar	1925	1505	552	310	Tripod	39.71
2472	4"T	10 Bar	1857	1731	610	450	SMC	45.68
2472	4"T/B	10 Bar	2163	1740	610	450	Tripod	47.96
2472	6"T/B	10 Bar	2222	1875	610	450	Tripod	56.42
3072	4"T/B	10 Bar	2225	1815	770	710	Tripod	80.96
3072	6"T/B	10 Bar	2261	1946	770	710	Tripod	88.92
3672	4"T/B	10 Bar	2281	1856	927	1020	Tripod	105.26
3672	6"T/B	10 Bar	2353	2000	927	1020	Tripod	114.52
4242	6" T/B	5 Bar	1497	1067	1070	670	Tripod	95.92
4272	6" T/B	10 Bar	2292	1880	1074	1360	Tripod	145.72
4848	6"T/B	5 Bar	1629	1219	1221	970	Tripod	122.4
4872	6"T/B	10 Bar	2470	2070	1226	1840	Tripod	182.72
6363	6"T/B	5 Bar	1941	1610	1582	2000	Tripod	301.92
6363	6" T/B	10 Bar	1941	1610	1592	2000	Tripod	308.50
6386	6" T/B	5 Bar	2474	2136	1616	3218	Tripod	332
6386	6" T/B	10 Bar	2474	2136	1623	3218	Tripod	345

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