Titanium Pool & Spa Heat Exchangers

Instruction

Thank you for purchasing our Titanium Pool & Spa Heat Exchanger, our heat exchanger is fully constructed with titanium shell and titanium corrugated inner tubes this ensures high velocities inside the unit making Titanium Pool & Spa Heat Exchanger a very reliable, efficient and cost effective way to transfer heat indirectly between any boiler circuit and any pool or spa circuit, besides other application.

We have a large range of heat exchangers well suited from small spa up to Olympic size pools, our units are rated from 16kW(55,000 Btu/H) to up to 1,320kW(4,500,000 Btu/H).

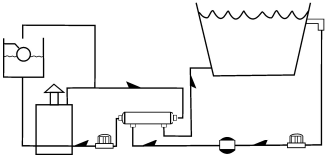
Please contact your nearest sales representative to assist you with the sizing of each application.

Mounting

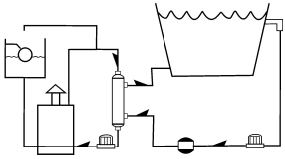
The method of mounting used is total responsibility of the installer. The units are designed for both horizontal and vertical mounting, it is

recommended to always install the unit with a mounting bracket fixed to a wall, and/or ceiling or floor to prevent hammer heads or vibrations which could damage the unit, the use of expansion joints on the boiler circuit is recommended.

Horizontal Mounting

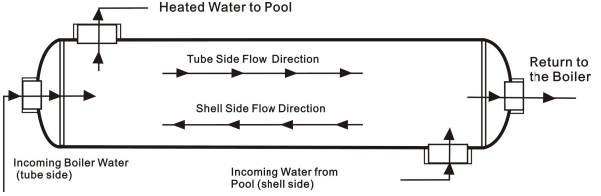


Vertical Mounting



Installation Instructions

Important: Always install the Titanium Pool & Spa Heat Exchanger in a counter flow pattern, as shown in the following figure.



Titanium Pool & Spa Heat Exchangers should be installed downstream of the filtration and pumping equipment. The boiler water must be assisted and the usual precautions taken to prevent air locks. The pool water pump should be controlled by a thermostat

in the pool pipe work before the heat exchanger and set at the required temperature.

Operation Instructions

A) Titanium Pool & Spa Heat Exchangers are suited for a vast range of chemical environments and conditions, due to a thin, invisible, but extremely protective, surface oxide film (primarily TiO_2). Titanium is especially known for its elevated resistance to localized attack and stress corrosion in aqueous chlorides (e.g., brines, seawater) and other halides and wet halogens (e.g., wet Cl^2 or Cl^{2-} sat, brines), and to hot, highly-oxidizing, acidic solutions (e.g., $FeCl_3$ and nitric acid solutions). Titanium is also recognized for its superior resistance to erosion, erosion-corrosion, cavitations, and impingement in flowing, turbulent fluids.

B) Operation the unit under the following design parameters；
Shell/tube side pressure: 1.3MPa(190PSI)，
Shell/tube side temperature: -8° C(-19° F)---208° C(406° F)

C) Install unit before chlorination device.

D) Start-Up:

- Valves should be opened gradually to achieve a steady increase in flow and pressure into the unit;

- The cold(heated) fluid should first enter into the system;
- The hot(heating) fluid, water or steam, should be gradually brought into the system;
- Check all connections for leaks.

E) Shut-Down: Shut down hot fluid side first, then the cold fluid side.

F) If you have installed a by-pass fitted to the heat exchanger circuit, it is important that any valve is correctly positioned to allow the recommended pool water flow to pass through the heat exchanger unit.

G) The filter should be checked regularly, specially sand filters, this type of filtration if working improperly will allow sand to pass around the pool circuit causing erosion of the heat exchanger and other components of the system as well.

H) It is important to winterize properly if the pool is exposed to winter conditions, we recommended fully draining down the heat exchanger or removing it completely from the installation through the duration of the shutdown period, otherwise icing of the unit would damage the heat exchanger for good.

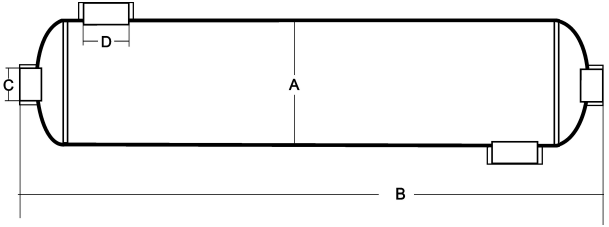
I) Always choose harmless cleaning liquids if needed and clean carefully.

J) Chlorinator should be in optimal working conditions.

Specifications of Titanium Pool & Spa Heat Exchangers

Model	A (mm)	B (mm)	C	D
SP-55Kti	60	344	3/4"	1"
SP-85Kti	60	504	3/4"	1"
SP-155Kti	76	440	1"	1 1/2"
SP-210Kti	76	556	1 1/2"	1 1/2"
SP-300Kti	76	766	1 1/2"	2"
SP-360Kti	89	830	1 1/2"	2"
SP-600Kti	114	870	2"	2 1/2"
SP-1200Kti	133	896	2"	2 1/2"
SP-2400Kti	168	950	2”	4”
SP-3000Kti	168	1100	2 1/2"	4”
SP-3600Kti	168	1300	2 1/2"	4”
SP-4500Kti	219	1070	2 1/2"	4”
SP-5000Kti	219	1120	2 1/2"	4”
SP-6000Kti	219	1220	2 1/2"	4”

Note: Units with the same side shell connections are available.



Quick Selection of Titanium Pool & Spa Heat Exchangers

Model	Normal Capacity		Pool Capacity		Heat transfer area
	kW	Kbtu/hr	Gal@1°F/hr	L@1°C/hr	m^2
SP-55Kti	16	55	4700	32021	0.15
SP-85Kti	25	85	7300	49735	0.25
SP-155Kti	45	155	13300	90613	0.33
SP-210Kti	61	210	18000	122634	0.44
SP-300Kti	88	300	25800	175776	0.64
SP-360Kti	105	360	31500	214610	0.85
SP-600Kti	175	600	52500	357684	1.55
SP-1200Kti	352	1200	105600	719455	2.01
SP-2400Kti	704	2400	211200	1438910	4.47
SP-3000Kti	880	3000	264000	1798638	5.30
SP-3600Kti	1056	3600	316800	2158365	6.42
SP-4500Kti	1320	4500	396000	2697956	8.46
SP-5000Kti	1467	5000	439000	3000000	8.87
SP-6000Kti	1760	6000	526800	3600000	10.64

Note:

1. For occasional (holidays & weekends) use pools we recommend a 2x output multiplier to obtain a 2°F/hr(2°C/hr) heat up rate;
2. Nominal values are based on 60°C temperature between incoming heating and heated water.

IMPORTANT!!!

IT IS PURCHASER'S RESPONSIBILITY TO ENSURE THAT ALL FLUIDS IN CONTACT WITH THE PRODUCTS ARE COMPATIBLE WITH THE CONSTRUCTION MATERIAL OF THE PRODUCT. THIS INCLUDES OPERATIONAL FLUIDS AND CLEANING FLUIDS. CORROSIVE ENVIRONMENTS ARE OFTEN A COMBINATION OF CHEMICAL LEVELS, FLOW RATES, AND TEMPERATURES. FAILURE TO ENSURE THIS WILL RESULT IN DAMAGES TO THE PRODUCT.

IF ANY OF THE PREVIOUS CONDITIONS IS NOT FULLY COMPLIED THE WARRANTY OF THIS UNIT IS VOID.

Technical or commercial considerations may, from time to time to alter the design, performance and dimensions of the equipment and the right is reserved to making such changes without previous notice.

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Contact your nearest representative.