

# 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 1,056kW(3,600,000 Btu/H).

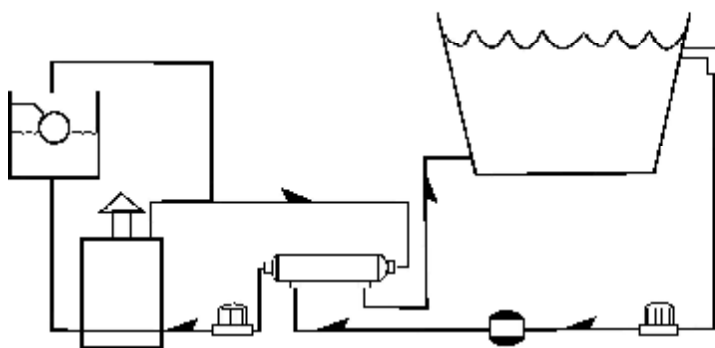
Please contact your nearest sales representative to assist you with the sizing of each application.



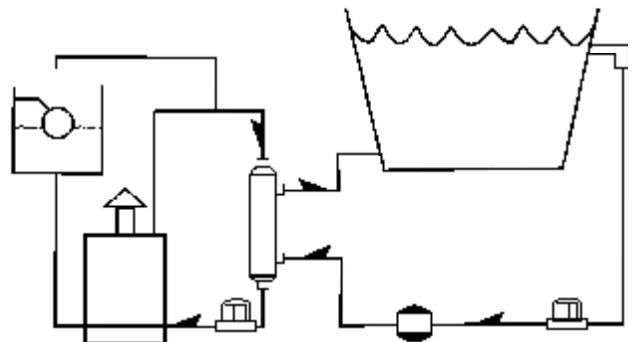
## Mounting

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

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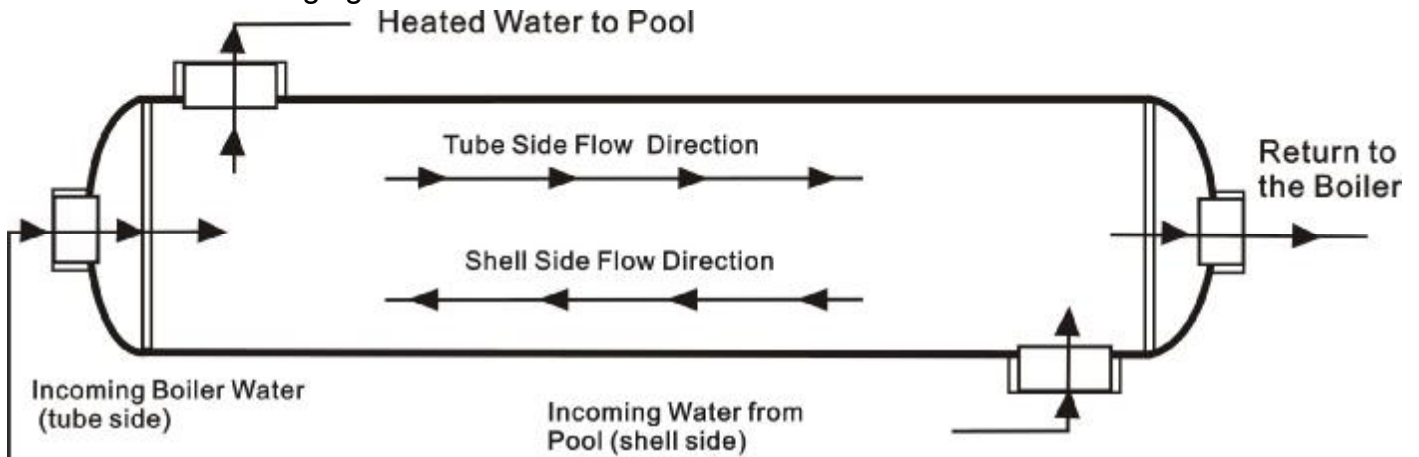
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Important: Always install the Titanium Pool & Spa Heat Exchanger in a counter flow pattern, as shown in the following figure.



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  $\text{TiO}_2$ ). 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  $\text{Cl}^2$  or  $\text{Cl}^{2-}$  sat, brines), and to hot, highly-oxidizing, acidic solutions (e.g.,  $\text{FeCl}_3$  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:  $-8^\circ \text{C}(-19^\circ \text{F})$ --- $208^\circ \text{C}(406^\circ \text{F})$
- 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.

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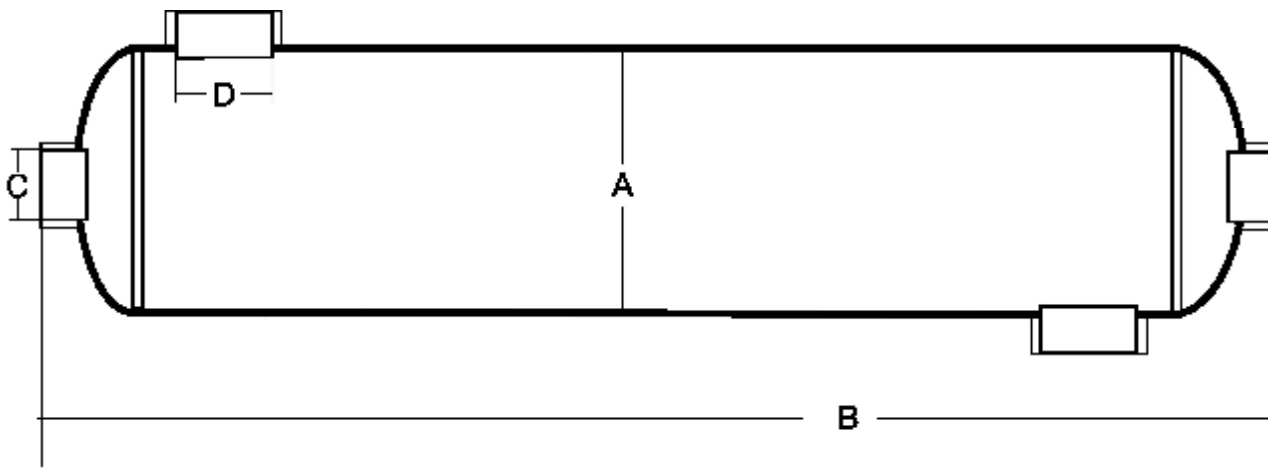
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- F) If you have installed a by-pass fitted to the heat exchanger circuit, it is important that any valve is correctly positioned to allow the recommended pool water flow to pass through the heat exchanger unit.
- G) The filter should be checked regularly, 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-55T	60	360	1"	1 1/2"
SP-85T	60	520	1"	1 1/2"
SP-155T	76	450	1"	1 1/2"
SP-210T	76	570	1 1/2"	1 1/2"
SP-300T	76	684	1 1/2"	2"
SP-360T	89	830	1 1/2"	2"
SP-600T	114	900	2"	2 1/2"
SP-1200T	133	900	2"	2 1/2"
SP-3600T	1220	200	3"	4"

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



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## Titanium Pool & Spa Heat Exchangers

# Quick Selection of Titanium Pool & Spa Heat Exchangers

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Model	Normal Capacity		Pool Capacity		Heat transfer area
	kW	Kbtu/hr	Gallons@1°F/hr	Liters@1°C/hr	m <sup>2</sup>
SP-55T	16	55	4700	32021	0.15
SP-85T	25	85	7300	49735	0.25
SP-155T	45	155	13300	90613	0.33
SP-210T	61	210	18000	122634	0.44
SP-300T	88	300	25800	175776	0.64
SP-360T	105	360	31500	214610	0.85
SP-600T	175	600	52500	357684	1.55
SP-1200T	352	1200	105600	719455	2.01
SP-3600T	1056	3600	316800	2158365	6.17

### 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.

## Titanium Pool & Spa Heat Exchangers

Contact your nearest representative.

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