



Regal Spas

"The Emperors in Hydrotherapy!"

Single Sheathed Titanium heater is the best for a spa application

Electric heaters are commonly used in spas to heat and maintain water temperature. For a spa application electric heaters are normally submerged in the water flow path to maximize the transfer from electric to heat energy. Our patent pending single sheathed electric heaters is 100% efficient since it is 100% submerged in water.

Many spa consumers complained for years about spa heater failures:

Dry fires and corrosions have been the most commonly known failures of the electric heaters in a spa application. Most companies do not address these facts in their sale pitch since that would be considered as negative marketing. Once the heater fails due to corrosions or dry fire, consumers will end up paying for them since these conditions are not covered under warranty.

Dry Fired Heaters in Spas

It is commonly known that air trapped in the heater chamber will burn the heater. Our patented Automatic Air Bleeder is installed on heater manifolds. Our patented Automatic Air Bleeder allows the air to escape from the heater chamber providing an effective solution to dry fire heaters.

Corrosion and Spa Heaters:

Electric heaters are commonly made out of Incoloy® 840, 800 and 825. These alloys are also used for home water heaters. Rarely are the heating elements in water heaters damaged or replaced due to corrosion, in many cases the heater's tank will age, yet the heating element is not damaged and still operable. In a spa application, the heating element should also last for a long time since they are made of the same alloys and heating the same household water. However, the water in spas is normally changed once every six months and treated with various chemicals to sanitize and purify the water for the bather's enjoyment. These chemicals such as chlorine, bromine, ozone, and various acids commonly used in spa water treatment will attack the Incoloy® alloys over a short time leading to damaged and corroded heating elements. Spa consumers are concerned, and rightfully so, with keeping their spas clean and properly sanitized. Spa water treatment manufacturers have done an exceptional job in promoting and providing the best sanitized systems for treating spa water. However the heaters would corrode if the water treatment systems and chemicals usages were not used and maintained properly by consumers,

Only single sheath submergible electric heaters are 100% efficient:

Many spa manufactures started using heaters that are not submerged in water in order to solve the corrosion issue. However heaters that are not 100% submerged in water are not 100% efficient.

Other spa manufacturers are using dual sheathed submersible electric heaters. Only the outer sheath is Titanium and the inner sheath is STD metal.

Air could be trapped between the inner sheath and outer sheath resulting in moisture inside the heater that would destroy it.

Even though the dual sheath heater is 100% submerged in water it may not be 100% efficient when converting electric to heat energy.

Regal Spas have the best solution when it comes to spa heaters:

At Regal Spas we always strive to be part of the solution. We have a well-developed patent-pending heating element that can be **inexpensively** made out of Titanium. The Titanium heating element is fully submerged in water for the best transfer of energy and well secured inside the Patent Pending heater manifold without being **sealed by epoxy**.

Titanium is a lustrous silver-white metal that exhibits allotropy. It is very corrosion resistant and is unaffected by most acids, by moist chlorine gas, by bromine, by common salt solutions, and is highly resistant to oxygen (ozone). These various chemicals are commonly used by spa water treatment systems. Titanium metal is light in weight and has a very high tensile strength, even at high temperatures. Titanium is 42% stronger than steel. Titanium is utilized in aircraft, spacecraft construction, naval ships, guided missiles, and lightweight armor plate for tanks. Titanium also is known to be very expensive due to its complicated manufacturing processes.

Corrosion free, Flame-Retardant, Patented Heater Manifold

Industry standard heater manifold is made from seamed 2" tubular 304 Stainless Steel that will corrode with time when chemicals are present in a spa application. When this corrosion occurs, many spa manufacturers will not cover it under warranty causing the spa user to pay for a replacement. At Regal Spas we went a step further in our design and made the manifold flame-retardant and corrosion free. In addition we designed it with a 3½" inside diameter to optimize pump performance and water flow.

We are proud to provide the best when it could be made.

Regal Spas, Inc
Joseph Elnar
President