

TimeOut Spas



SPA SALT PURIFICATION SYSTEMS

Salt Water Purification Systems use small amounts of salt that is dissolved into the water (becoming about half as salty as a human teardrop). The system's electrolytic cell is plumbed directly in-line with the spa or hot tub equipment.

The power control unit is then wired to the electronic control pack so it purifies the water when the filtration pump is running. As the water flows through the electrolytic cell, electrolysis separates the saline into its basic components, sodium and chlorine (or bromide and sodium depending on the type of salt used). Chlorine or bromine gas is produced by this process and goes to work in the cell chamber to oxidize bacteria and purify the water. Following this process most of the chlorine or bromine and sodium re-bond and become natural salt again in a self-perpetuating cycle. Because the purifying takes place in the cell chamber (not in the water itself) you can use your spa or hot tub without worrying about what the sanitizing chemicals may do to your skin, or clothing.

TYPES OF SYSTEMS

There are basically two types of salt systems available - single polarity units and reverse polarity units. The reverse polarity type reverses the electron flow through the cell causing mineral deposits to flake off so that these particles will then be filtered out in the filtration system. These cells do not require as much cleaning as there are less mineral deposits and it also has the side benefit of reducing the calcium content in the water. These generators can also help fight against waterline scum build-up and they create a better, healthier spa experience for most people. However you still need some sanitizing chemicals like chlorine or bromine at start-up or to "boost" the system when you have a higher than normal bather load or your sanitizer level falls too low.

INSTALLATION

Relatively easy to install for a qualified spa or hot tub technician the entire process can be completed in one day and your spa or hot tub will be up and running the following day. The control unit is normally installed in the surround of the spa or hot tub for easy access while the electrolysis unit itself is installed on the uptake or on the suction end of the pump depending on the configuration of the pipework. Once installed and running the amount of sanitizer generated can be controlled by the dial on the control unit so that an adequate amount of sanitizer can be generated depending on how much use the spa or hot tub is getting.

Salt Systems Pro's and Con's

Above we have the standard description of salt water systems as systems that are simple, easy to use and cheap. Now we are going to look at the rest of the story...

Salt water systems are being promoted as a better way to keep hot tub water clean because:

1. They require less work because it's automated and "hands free".
2. They don't depend on harsh chemicals like chlorine, bromine or spa shock
3. They use an inexpensive salt like table salt instead of expensive hot tub chemicals
4. They leave your skin feeling better because they don't have harsh, traditional sanitizers
5. They are environmentally friendly because they use less chemicals

So, let's peel back the "hype" and look at the reality by examining each of the above claims.

Claim 1, Less Work: They require less work because it's automated and hands free. The simplest answer to this claim is to look at one major hot tub manufacturer's salt water sanitization manual. The manual has 16 pages and includes 167 separate warnings, procedures and descriptions. This means that there is a huge amount of work required to operate and maintain this system. That manual is also full of dozens of required actions, making it much less "hands free" than traditional sanitizing. This includes fun things to do in maintaining a salt water system like removing the "cell" and cleaning it in an acid solution every three months, then reinstalling it.

Claim 2, No Harsh Chemicals: They don't depend on harsh chemicals like chlorine. Well, they use salt and water to constantly produce five harsh chemicals in your hot tub water as you use the tub. Their main "powerful cleaner" is in fact good old chlorine. Salt water system manufacturers also recommend that you use normal spa chlorine and spa water shock any time that the tested chlorine level gets low...which can be frequently. So much for not using "harsh chemicals".

Claim 3, Inexpensive To Use: It's true that special hot tub salt is a little less expensive than hot tub chlorine (10 € a month for hot tub salt vs. 15 € a month for hot tub chlorine). But, the salt is a very small factor in the overall salt water system cost. Here are the real costs:

1. Stand alone or built-in salt water systems: Around 1,000€ to purchase and install.
2. Cells have a 1.6 year average life and cost from 300€ to 500€ each time one is replaced.
3. Salt water system users also have to purchase: • Hot tub chlorine • Hot tub shock • Special calcium remover • PH up and PH down • Stain and scale defense • 5 way test strips

So, over five to ten years, the salt water system users will save a little on the salt, but overall they will spend thousands of euros more on water sanitization than traditional hot tub chlorine or bromine users.

Claim 4, Skin Feels Better: It's true that a little salt in the water will not affect your skin. However, the salt water system uses a special "cell" to generate elemental oxygen, chlorine and several other "powerful" cleaners and oxidizers. Your skin reacts to these powerful cleaners and oxidizers just like it will react to hot tub chlorine. Whether its salt water generated oxidizers or hot tub chlorine, having **too much of either will not be beneficial to your skin.**

Claim 5, Environmentally Beneficial: It's true that when the 167 cautions and procedures for salt water sanitization are regularly and carefully followed, less harsh chemicals will be used. Similarly, if the simple procedures for using regular hot tub sanitizers are followed, much less harsh chemicals will be used. However, the salt water system constantly uses electricity and requires the manufacturing of non environmentally friendly components that have to be thrown out on a regular basis.

The bottom line: Sadly salt water sanitization systems for hot tubs are not really efficient. They are in fact, complicated to operate properly, expensive to purchase and maintain, create harsh oxidizers and have no special environmental advantages. We say this from experience as we used to sell and install these systems and had nothing but dissatisfied customers and problems with broken cells and this why we don't sell them any more. So beware if you are thinking about installing one of these systems and research it well!