DIY Fiberglass Pools!

Salt Water Pools: Everything You Need to Know!

By Jason Hughes

Salt Water Pools are one of the biggest sensations the swimming pool industry has ever encountered. You have probably listened to friends and acquaintances share their enthusiasm about their salt water pool.

As you consider the purchase of an inground swimming pool, you probably find the idea of a salt water pool intriguing, but you probably also have a lot of questions…and that's the purpose of this guide. To answer the five main questions people have about Salt Water Chlorinators.

Here's What We'll Cover:

Question 1: How Do Salt Water Systems Work?

Question 2: What are the Benefits of Salt Water Chlorinators?

Question 3: How much does it cost to Purchase and Own a Salt Water Chlorintor?

Question 4: How Long Should Salt Water Chlorinators Last?

Question 5: What problems are associated with Salt Water Systems?

Let's get started!

Question 1: How Do Salt Water Systems Work?

Many people are not aware that a salt water pool is actually chlorine pool. In fact, salt water systems work by creating Chlorine from Salt. These systems convert the salt molecule (NaCl) down to pure chlorine by creating electrolysis between a series of metallic grids in the part of the unit known as the salt chlorinator cell.

The pool salt that is used is granular in form and typically comes in forty pound bags which are dumped straight into the pool. The dissolved salt stays in the water and passes through the cell unit which is located in the plumbing at the pump and filter system.

The other component of salt systems is known as the control board. This is what allows you to control how much chlorine is generated by the cell. Most units have a digital display and buttons that allow you to increase or decrease the chlorine output.

Question 2: What are the Benefits of Salt Water Chlorinators?

There are quite a few benefits of having a salt water chlorinator on a fiberglass pool. The most prolific being how ridiculously easy they make pool ownership. Because salt water systems generate a consistent level of chlorine, pool owners find that once they get their unit "dialed in" to the right chlorine output for their pool, they have to do little to insure the water stays clear. There is also no need to "shock" salt water pools.

Traditional chlorine pools get a build-up of what are known as chloramines, or combined chlorine molecules. These, in fact, are the nasty little boogers that are responsible for the harsh side effects that most folks associate with chlorine. "Shocking" the pool is a process of manually adding enough chlorine to the pool to elevate the chlorine level to a breakpoint that will eliminate the chloramines and restore the normal, or free available chlorine, in the pool.

Salt pools never get a build-up of chloramines because as the water passes through the cell unit, and is exposed to the electrolysis process, the chloramines are naturally eliminated. That means no "shocking" your pool....which if you've ever had the pleasure of doing that, you're well aware that this is great news indeed.

From a maintenance standpoint, salt systems also eliminate the need to go to the pool store and lug buckets of chlorine back to the house. Plus you will never have to touch, feel, or smell those nasty chlorine tablets or granular powder again. Instead you work with pure granular salt, which you'll probably only need to add once or twice a season. The only regular maintenance these units require is an annual cleaning of the chlorinator cell, which is done by removing the cell and submerging it in vinegar for 30 to 45 minutes or until it stops fizzing. Then simply rinse the unit off and put it back in place.

The second major benefit of salt water chlorinators is that the water quality in a salt pool is second to none…mainly for two reasons. First, as we've already discussed, there is no build-up of chloramines which eliminates many of the harsh side effects typically associated with chlorine pools. Second, chlorines natural state is gas. Salt systems create pure chlorine gas and inject it straight into the pool. Chlorine you purchase as the pool store is manipulated to bring it into a solid form and this does have an effect on water quality. With salt water pools, most folks have no idea there is any chlorine in the water at all. The smell, burning eyes, and other harsh effects are simply not there.

A third benefit often touted by salesman is that salt systems save you money….this is simply not true. On a year to year basis you will spend less on salt then you would on chlorine. However, when you factor the replacement cost of the unit into the equation it turns out to be a wash. I mention this to

make you aware that even though salt systems are amazing, they are not money savers over the long run.

Question 3: How much does it cost to Purchase and Own a Salt Water Chlorintor?

The initial cost of a salt water chlorinator on the internet is typically $700 to $1,000. From a pool builder you should expect to spend $1,200 to $1,600 for a basic unit installed including the salt you need for start-up.

There are two things to consider regarding the lifetime costs of salt water chlorinators.

First, there's your yearly chemical costs which consists of the salt and stabilizer you'll add to the pool. Stabilizer, also known as cyanuric acid, is what makes the chlorine "stick". Without an adequate amount of stabilizer, your salt system will constantly pump chlorine into the water only to have it consumed within seconds. For this reason it's important to check your stabilizer level regularly. I'd say 90% of the initial problems associated with salt system stem from low stabilizer. But regarding yearly cost, plan on adding salt and stabilizer to your pool between one and three times per season at a cost of $75 to $150 per year.

The second thing to consider regarding the lifetime cost of salt water chlorinators is the replacement cost of the unit. We'll cover the expected lifetime of these units in a moment, but you should anticipate replacing the cell and/or the entire system at some point in the future.

Question 4: How Long Should Salt Chlorine Generators for Pools Last?

Just to recap, the cell is the part of the system that actually converts Salt (NaCl) to Chlorine. Water passes through the cell and over solid titanium plates that are coated with either ruthenium or iridium, which are naturally occurring metals. As a charge is sent to the cell from the control board and electrolysis occurs resulting in the production of chlorine.

Eventually the metallic coating on the cells erodes away, requiring the cell to be replaced, but there are several factors that impact how long your cell could last.

A well maintained cell will last 3-7 years at an average replacement cost of $700-$1100. The life span of a chlorinator cell can be significantly shortened by two things: Too Frequent Cleaning and Improper Cleaning.
As the chlorinator cell produces chlorine, scale develops on the metallic grids decreasing its performance. The cell is cleaned by submerging in a mild acid solution (usually 1 part acid to 15 parts water or just straight vinegar) until the scale that has developed has dissolved.
Cleaning the cell too frequently or using an acid solution that is too concentrated will prematurely erode the coating off the titanium grids, and thus rendering the cell useless. Many times, when the cell needs

replacing pool owners find that it makes sense to replace the entire chlorine generator because a new unit is only several hundred dollars more.

The Control Board
Again, the other component in the system is the control board which is the source from which the cell receives its charge. The primary function of the control board is to provide electricity to the cell, and allow the user to control how much electricity is sent to the cell, thus controlling how much chlorine is produced.
The primary component of the control board is an internal circuit board. Due to the nature of electronics, a circuit boards life span may vary dramatically for no obvious reason. A typical life span is 3 to 7 years at a replacement cost of $500-$900.

Proper Maintenance For Salt Chlorinators
To maximize the life of your salt chlorinator, consider the following tips:
-Maintain a consistent salt level (typically 2700-3900 ppm)
-Clean the chlorinator cell at least once a season or as needed
-Avoid too frequent cleaning of the chlorinator cell
-Turn pool equipment off during lightning storms to avoid damaging power surges
-Keep Calcium levels as low as possible and still remain in accordance with guidelines set by pool equipment manufactures.
-Purchase Chlorinators with Reverse Polarity, a function that greatly reduces scale build-up on the cell.

Question 5: What are the Most Common Problems with Salt Water Chlorinators?

Let me begin my answer by saying that I am a huge proponent of salt water chlorine generators and do recommend them to most customers. However, there is no such thing as a perfect system and it is helpful to bring to light several of the issues I've seen with salt water chlorine systems after installing close to 1,000 of them over the past 8 or 9 years. As you'll see, most of the issues I've encountered haven't been with the actual salt water systems, but with the impact that the system has on other pool components.

1. Corroded handrail and ladder anchors
The high salinity level of the water does cause galvanized deck anchors to corrode prematurely. We've found that within 4 to 5 years of installing a salt system that galvanized deck anchors will corrode to a point where it is difficult or impossible to remove the handrail or ladder. The solution to this problem is to use brass anchors as opposed to galvanized steel. If you are considering installing a salt system on an existing pool with galvanized deck anchors it would be a good idea to spray them with some type of corrosion inhibitor to slow the deterioration process. If you are having a new pool built, make sure the contractor uses brass anchors.

2. High Chorine
One of the greatest advantages of salt water systems is that you reap the benefits of a chlorine pool without the adverse effects associated with chlorine. This is wonderful….no strong smell, no burning eyes, etc. The disadvantage is that it's possible to generate a high level of chlorine in the pool and never

know it. This can have an adverse effect on the pool shell, pool equipment, etc. To keep this from happening, simply test chlorine levels on a weekly basis.

3. Cell Replacement

Although salt chlorinators typically cost less during a given season than chlorine, there will come a day when the cell, which is the component of the machine that converts salt to chlorine, will fail. The cost of cell replacement may off-set the savings experienced over the previous years. The average cost of cell replacement is $700-$1200 and the average life expectancy is three to seven years. As I stated earlier, there are many wonderful advantages of salt chlorine systems, but my experience is that in the long run cost savings is not one of them.

4. Tough on Auto Covers

There's simply no getting around this one. Salt systems are tough on the metal components of automatic covers. Many of the major components of "auto-covers" such as the track system, the tube the cover rolls up on, the hardware and the leading edge are all made of metal. The best way to prevent premature corrosion of these components is to periodically rinse them with fresh water from a garden hose. As a general rule, we do not install salt systems on pools with automatic covers. Check with automatic cover manufacturers to see if they warranty their product on pools with salt water systems.

Well, there you have it: Salt Water Pools 101. Hopefully you've found this informative!

Thanks and Good Luck!