

## What Makes Chlorine Generation a Good Choice?

With so many different choices to sanitize your hot tub available, how do you know which one to use? The answer is not always easy to come by as there are a lot of opinions, almost to the point of putting 5 people in a room, asking the question and getting 10 different answers! In the 23 years I have been in this business, I have seen many things come and go and come again but few ever really do what they claim. I have even been suckered into many of them myself.

For decades, traditional chlorine and bromine tablets and powders have been the dominant players in the marketplace. They are widely available and you can get started with them for under \$100.00. The problem with these products is not so much the chlorine or bromine itself, but all the other "stuff" needed to carry the chlorine and bromine molecules. As these other ingredients dissolve and build up in the water, they actually inhibit the chlorine or bromine from being able to oxidize the contaminants which leads to poor water quality. This is the primary reason you need to frequently drain a hot tub to keep the water clear. You will notice with these products that the first month after you drain and refill your hot tub things go reasonable well with your water. Then it all goes down hill from there.

Another problem with chlorine and bromine tablets is the fact that they are extremely low in pH which causes your water to become very aggressive as the pH and total alkalinity start dropping to low levels. This causes metal parts to deteriorate potential discoloration to the shell and of course eye and skin irritation. Skin irritation can also be contributed to lack of sanitizing caused by the condition explained in the previous paragraph.

Then came ozone. Ozone is a very effective oxidizer provided you have enough being properly introduced into the water. It's only real downfall is that it is highly unstable and only lasts a short period of time so there is no residual of ozone in the water. It does make for a very effective supplement though. If you do have ozone, it is necessary to replace the cartridge every couple of years in order to keep it producing an effective level of ozone.

Now we have mineral treatments which have plenty of arguments for and against them. These are typically copper/silver ions being introduced into the water by passing water through a cartridge filled with beads containing low levels of copper/silver ions. The ions have the ability to kill bacteria and algae but at a slower rate and they will not oxidize impurities so they can be filtered out. Minerals are also likely to fall out of solution when the pH goes up and then stain surfaces, skin and clothing. Ozone in high enough quantity will actually oxidize the ions so they end up in the filter. Minerals must have a supplemental oxidizing agent in order to make the water acceptable to use.

Bromine generation was a short lived fad that showed promise but was found to have produced questionable by-products and would work great for an undetermined amount of time and then suddenly crash.

Chlorine generation has been the best option in the alternative sanitizer category because it actually makes pure chlorine that is highly effective in keeping water clear & sanitary as long as it is properly used.

Chlorine generation also is good as it recycles. The electrolytic cells split ordinary salt into chlorine and sodium. When the chlorine is used, it reverts back to salt and the process begins all over again. A similar process takes place over our oceans as high electrical charges from lightning occur over a highly concentrated amount of salt found in sea water.

Quality chlorine generation systems that are properly sized and maintained have proven themselves over a long period of time. They continually produce chlorine at a user selected rate to satisfy the demand of their particular situation. Chlorine generation users also have the benefit of clearer water, increased comfort and ease of maintenance. Although chlorine generation has its limitations in some commercial pool and spa applications, it has proven itself to be a top choice for residential use. Chlorine generation has become so popular that it is now installed in approximately 50% of all new pool construction.

When using non-stabilized chlorine products (liquid chlorine, calcium hypochlorite and chlorine generation), chlorine is a very effective and predictable way to sanitize water. In fact, the majority of public facilities use non-stabilized chlorine to treat their pools and spas. Some states actually prohibit the use of stabilized chlorine in public facilities because of the items mentioned in paragraph 2.