

## People assume swimming in a salt chlorinated pool must be like swimming in the sea, but it's quite different.

Salt chlorination uses an electrolysis process to produce chlorine from common salt (Sodium Chloride) which has been added to the pool water in a measured amount. The chlorine gas produced by this process is soluble in water, and so dissolves instantly to form Hypochlorous Acid which is the sanitizer we use to sterilize the pool water.

A salt chlorinator consists of two major components: the power supply, and the cell.

### THE CELL

The cell is the component which pool water passes through. A very low voltage electric current is applied to electrodes inside the cell, causing the electrolysis process to take place. The electrodes are usually made from titanium with exotic metal coatings applied to their surface. Various sizes are available to suit the pool size / chlorine demand.

### THE POWER SUPPLY

Most power supplies come with a number of options: chlorine output control, time clock, salt level indicators, etc. The power supply must be matched to the correct size cell.

### SELECTING A SUITABLE UNIT

The right salt chlorinator for your needs will not only depend on the size of the pool or spa. Larger pools do need larger chlorinators but the bathing load also has an impact – high usage consumes more chlorine.

The size of the filtration system is also a factor. Poor water flow will require longer running time. In summer, high water temperatures and strong sunlight create an increase in chlorine demand.

### HOW MUCH SALT?

The amount of salt needed varies depending on the type of chlorinator. Most models require only weak salt solutions of between 0.3% to 0.7% (3000 ppm to 7000 ppm) to effectively chlorinate a pool.

These levels are between one fifth to one tenth the level of salt in sea water. Follow the manufacturer's recommendations strictly to avoid damage to the chlorinator and to ensure adequate chlorine production.

Salt is not consumed in the electrolytic process but will need to be topped up after any water loss due to filter backwashing, splash out, or overflow due to rainfall.

### MAINTENANCE

There are maintenance free cells available. Other cells will require periodic cleaning to remove the calcium deposits that build up on the electrodes during electrolysis. Again, follow manufacturer's instructions strictly to avoid damage to the assembly.

### OTHER CHEMICALS

Salt chlorinated pools need to achieve the same chemical balance as traditionally chlorinated pools. Total Alkalinity, pH, Calcium Hardness and chlorine levels should be checked regularly. Chlorine stabiliser (isocyanuric acid) should be added to the pool and maintained at approximately 30-50ppm, to reduce chlorine loss due to UV rays.

During periods of high pool usage it may be necessary to manually supplement with sodium hypochlorite (liquid chlorine) to maintain correct chlorine levels, and regular superchlorination or shock dosing should be carried out.

As with all chemical issues, check with your local SPASA member for expert advice.

