

## POOL WATER BALANCE

The balance of your pool water is no less critical because you have installed a salt chlorinator.

All the parameters relating to water balance in Pool and Spa water must be constantly checked and adjusted.

We strongly recommend you seek advice from a pool professional regarding the balancing of water for your pool. A correctly balanced pool will protect it and the equipment from chemical damage and ensure bathers are swimming in clean clear healthy pool water.

## WATER BALANCE PARAMETERS

### 1. pH

High pH:

- Reduces the effectiveness of chlorine
- Can cause scale on both the pool and the equipment
- Irritate bathers

Low pH:

- Can cause the water to become corrosive
- Damage the pool interior finish & equipment (heat exchangers especially)
- Irritate bathers

Each pool finish and type have a specific range in which the pH should remain. Generally, a pH of between 7.2 – 7.6 is suitable for most pool types, however those requiring a higher pH will also require a higher chlorine residual.

### 2. Total Alkalinity

The total alkalinity is a measurement of all the alkalis in your pool water, (Carbonates, Bicarbonates and Hydroxides).

When adjusted within the accepted levels, T.A. acts as a pH buffer, resisting changes to the pH level.

The recommended T.A. level of your pool may vary from 80ppm – 120ppm depending on the pool finish - consult with a pool water professional for advice on the recommended range for your pool.

### 3. Calcium Hardness

The hardness of your pool water is very important in controlling scale and the

corrosive effects of water.

A low calcium level may cause pool water to become corrosive even if the pH is within its recommended range. A sign of this is brown stains on the pool finish and in adjoining spas especially. This is metal staining, the source of which is usually the heater.

A high calcium level may cause pool water to deposit scale, even if the pH is within its recommended range.

The salt chlorinator cell may require very frequent cleaning and scale may deposit on pool finish and equipment.

Generally, a level of 100ppm – 200ppm is recommended. Consult with your pool builder or pool shop for specific advice on the correct level for your pool.

#### **4. Salt Level**

With a salt chlorinator, it is essential to have salt in the water within the correct range to achieve the conductivity required for the chlorine cell to work efficiently. Pool Lab recommend using regular pool salt (Sodium Chloride). Do not use salt with iodine, anti-caking agents or other additives.

#### **5. Chlorine Stabilizer – Cyanuric Acid**

The sun's ultraviolet light breaks down chlorine rapidly, so in domestic applications it is essential to use a chlorine stabilizer in pools with exposure to the sun.

The importance of its use is such that our range of chlorinators are sized with the express requirement that chlorine stabilizer be used as per the directions.

Cyanuric acid or chlorine stabilizer, when dissolved in the pool water to achieve levels of between 40ppm to 80ppm, will reduce the breakdown of chlorine by ultraviolet light.

Higher stabilizer levels (greater than 100ppm) can be detrimental to the pool water, and will actually stop the chlorine from killing bacteria and algae effectively.

Consult with your local pool professional for the appropriate amount to use in your pool.

#### **6. Combined Chlorine – Chloramines**

A common cause for unusually high chlorine demand is the presence of chloramines in the pool water, detectable when a Total Chlorine test result is higher than a Free Chlorine test result by greater than 1.0ppm.

The difference between these two test results is known as the "Combined Chlorine". More advanced test kits will include the Total Chlorine test, otherwise you will need to have your water tested professionally to check for this.

Chloramines are formed when free chlorine reacts with ammonia like compounds called 'amines', and this will build up over time.

Chloramines are a poor disinfectant and also reduce the disinfecting power of the free chlorine in the water.

Chloramines are irritating to the eyes and respiratory system, and are responsible for the “chlorine smell” most noticeable around heavily used indoor pools.

As a general rule, Pool Lab recommends shock dosing your pool with liquid chlorine at least once every swim season as this can significantly reduce chlorine demand and greatly improves the disinfecting power of the free chlorine in the water.

For pools with heavier bather loads this may need to be done more often.

An accurate measurement of the pool volume and combined chlorine level is essential for calculating the required amount of chlorine to perform the shock dose.

**You should consult your local swimming pool professionals for advice on this procedure, and how often is appropriate for your pool.**

*Note: When shock dosing, avoid the use of persulfate based products as this can adversely affect water test results. Pool Lab recommends to shock dose with liquid chlorine.*