

## Spa Water Balance

### Water Balance

For personal comfort and health and for the protection of equipment, the objective is to achieve water balance with the following characteristics:

- Calcium Hardness in the range of 150-300 parts per million (ppm)
- Total Alkalinity (TA) in the range of 120-150ppm
- A pH in the range of 7.4-7.6 with 7.5 being ideal

### Sanitation

The objective is to disinfect the water by the killing of bacteria and controlling algae growth, using one of several methods.

- Most methods are water soluble sanitisers that kill bacteria by oxidation
- The most common method is by using Chlorine: an alternative is Bromine. In some circumstances CW O2 Shock (Potassium Peroxymonosulphate) may be used.

### New Water Balance

- Add half a cupful (about 200 grams per 1,000 litres) of Calcium Hardener (unless in a very hard water area)
- Test the water for Total Alkalinity (TA). Add about ¼ cup (about 100 grams) of PH Buffer (Sodium Bicarbonate) for every 50ppm change required
- Test the water again and check for TA and pH
- If, after the desired TA is reached, the pH is too high – add 1 teaspoon of pH Decrease (Sodium Bisulphate) at a time and retest. Each teaspoon of pH Decrease will reduce the pH by about 0.2

### Spa Chlor or Dichlor (Sodium Dichloroisocyanurate 56%)

- The recommended level of Free Chlorine (FAC) is 3-5ppm
- After water balancing, shock dose with 5 teaspoons of Dichlor (Spa Chlor)
- If used frequently, apply a teaspoon of Dichlor per person after use
- If used infrequently, shock dose with about 5 teaspoons of Dichlor weekly and run the pump for about two hours so that the water is filtrated

### Bromine Tablets (Bromo-3-Chloro-5, 5-Dimethylhydantoin)

- The recommended level of residual active Bromine is 4-8ppm
- Maintain desired water balance for at least four hours before sanitising with bromine

- Place 2-3 tablets in the filter cavity or in a flotation device (feeder). Replace as dissolved – normally 1-2 weeks

## **O2 Shock (Potassium Peroxymonosulphate)**

- This formulation is a non-chlorine process. It is non-toxic and non-allergenic and instantly sanitises the water but no residual sanitiser remains after application. It can be used as a shock dose with Chlorine or Bromine
- After water balancing apply two teaspoons every 2-3 days when used regularly
- The regularity of application may be reduced with infrequent use
- After application wait 15 minutes before bathing

## **Other**

- Test the water at least weekly for water balance and residual sanitiser
- Replace the water about every 6-8 weeks. The level of maintenance and frequency of use will influence the change cycle
- Bore water or extra hard water may require alternative care
- When adding chemicals to the spa, it is recommended that the chemicals be dissolved in a container of water and then tipped into the spa. Add water to chemicals and not chemicals to water