Water Balance Introduction

Improper water balance and sanitisation can lead to uncomfortable swimming conditions, unsanitary water and deterioration of pool and equipment.

There are two essentials every pool must have.

- Adequate Filtration – Pool filters and their correct use are vital to the smooth operation of a swimming pool
- Correct Chemical Treatment

Balance and Sanitise Water

Balanced water is water which is neither corrosive nor scaling. Balancing pool water involves maintaining pH, Total alkalinity and Calcium Hardness at proper levels. Sanitised water is water which contains sufficient quantities of a disinfectant to kill bacteria and control algae growth. Sanitising pool water, involves maintaining the free chlorine residual and stabilised concentrations at proper levels.

Water Balance

pH Increase or pH Decrease

This is the measure of acidity or alkalinity of water. It is measured on a scale ranging from 1-14.

- A pH of 7.0 is neutral
- Above pH 7.0 the water is alkaline
- Below pH 7.0 the water is acidic
- pH should be maintained between 7.4 and 7.6

Total Alkalinity (PH Buffer)

It refers to the amount of carbonates and hydroxides dissolved in pool water. PH Buffer is measured in part per million (PPM) (mg/l).

- PH Buffer acts as a buffer to change in pH
- Reduces the reaction to factors that effect water pH
- If the Total Alkalinity level is low, the pH of the pool will be susceptible to rapid change
- The ideal range varies between 100-200ppm depending on the pool construction and type of sanitiser used

160 Plunket Avenue, Wiri, Auckland, New Zealand
Phone 09 262 3902 | Fax 09-262 3948 | Email: orders@spaceindustries.co.nz
Website: www.spaceindustries.co.nz

Total Hardness (Calcium Hardener)

Total Hardness refers to the amount of Calcium and Magnesium Salts in are in the pool water. In fact, only Calcium Hardness is important for pool water and is measured in parts per million (PPM).

- Desired level is between 100-300ppm

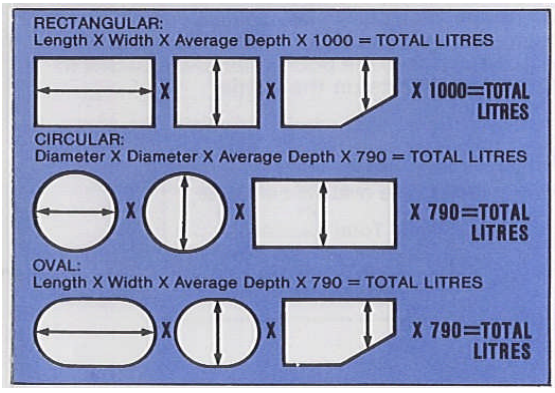
Achieving Water Balance

A simple guide to water balance is the Taylor Water Gram. This gives the relationship between Total Alkalinity, pH and Total Hardness and assumes that the TDS (Total Dissolved Solids) and temperature of the water are within the normal operating range.

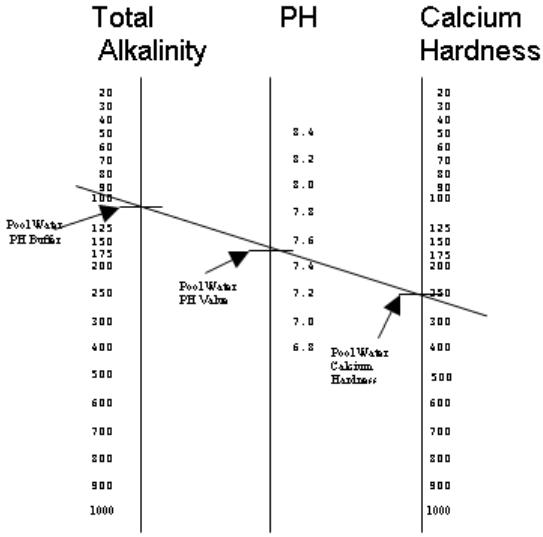
- Check levels in the pool for Total Alkalinity, pH and Calcium Hardness
- Draw imaginary line between Total Alkalinity and Calcium Hardness to find the pH at which the pool water is balanced
- The pH must be in the range 7.4-7.6
- pH outside the range will irritate the eyes and skin
- If your pool has sloping sides, multiply Total Litre by 0.85. Make all measurements in metres

Water Balance Parameters
pH 7.2-7.8 (Ideal 7.4-7.6)
PH Buffer 100-200ppm
Calcium Hardness 100-300ppm

Pool Size Chart



The Taylor Water Gram



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