



The Original Handcrafted Hot Tub



## BASIC WATER MANAGEMENT GUIDE

A clean and healthy Hot Tub is achieved by a combination of the following working in harmony:

1. Filtration
2. Appropriate Water Circulation
3. Correct Water Balance
4. Effective Sanitisation

### 1. FILTRATION

Your Hot Tub is fitted with Cartridge Filtration. The Cartridge Filter removes solids; the condition of the cartridge is displayed on the pressure gauge (if installed), which has a green (ok) and red (not ok) zone.

When the cartridge pressure enters the red zone it will require cleaning, follow the cleaning procedure in the filter manual. If pressure gauge is not fitted then cartridge should be cleaned at least every 2 weeks.

### 2. WATER CIRCULATION

For the Cartridge Filter to operate it has to have water circulation which is provided by the Circulation Pump. This Pump also provides the water for the heating system, and jets.

Allow a minimum of 4 hours per day once the tub has reached the heating level you require for a time clock model, if you have a 2-speed system it automatically maintains the temperature and required circulation to keep the water filtered

### 3. CORRECT WATER BALANCE.

It is essential to establish the correct parameters of the following:

- PH
- Alkalinity
- Hardness
- TDS

The chemical Pack provided allows you to adjust the amount of minerals in the hot tub water to attain correct water balance.

To do this you require a suitable measuring device for all of the chemical additions required.

Testing Strips provided allow you to test the above. The correct levels are:

- PH 7.2 to 7.6
- Alkalinity 125 to 150 ppm
- Hardness 100 to 200 ppm
- TDS 0 to 1500ppm

### PH

To raise PH, use either Alkalinity increaser (BUFFER), or if the PH is under 6.8 use PH increaser (SODA ASH). Maximum one time addition per 1000 litres is 50 grams per hour.

To lower PH use PH reducer (DRY ACID). Maximum one time addition per 1000 litres is 25 grams per hour.

### ALKALINITY

To increase alkalinity use Alkalinity increaser (BUFFER) Maximum one time addition is 50 grams per hour.

To decrease Alkalinity you can partly empty the tub or use dry acid at the rate of 25 grams per 1000 litres per hour. This will lower the alkalinity by 15 ppm

### HARDNESS

Normal town supply water has enough for your hot tub, however if the level is lower than 100ppm add hardness increaser at the rate of 10 grams per 1000 litres per hour this will raise the hardness by 10ppm, To lower the level Partly empty the tub.

### TDS

TDS stands for Totally Dissolved Solids. Fresh fill the Hot tub and the TDS will be low, perhaps 100ppm is normal. During the operation of the tub and over 2 months the level will rise. We recommend a full empty every 3 months to keep the level under 1500ppm.

**IMPORTANT: Follow the instructions on the chemical label as to how to apply the chemical contained inside.**

**Dosages may vary depending on the quality of the product the chemical manufacture provides, adjust the amount to be added to the instructions.**

**QUESTIONS?** Contact Charles by phone **09 836 4688** or by email **info@hottubs.co.nz**

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#### 4. EFFECTIVE SANITATION

Successful tub control is achieved when the water balance, sanitation and filtration are monitored and adjusted to suit the bather load, contamination and temperature settings of the tub.

Each component of the treatment program will support a clean healthy bathing environment.

Regular maintenance routines will assist in maintaining optimum water quality.

Treating the hot tub requires the use of sanitising agents, most commonly used is Chlorine or Bromine compounds.

#### CHLORINE

The required chlorine level is 2.0 to 3ppm.

The chlorine used in hot tubs is a dry product added at the rate of 15 to 25 grams per day per 1000 litres. Weekly additions of a SHOCK DOSE are required (50grams per 1000 litres).

**IMPORTANT: the hot tub cover MUST be left off for 30 minutes, with the circulating pump operating.**

Heavy bathing loads will require extra chlorine to be added. In this situation your testing strips will guide you.

**NOTE:** you should separate the daily dosage if the bather load requires more than the standard daily requirement.

#### BROMINE

This product is used should the owner wish to remove the need to add a daily dose of sanitizer.

Bromine is added to the hot tub via a dispenser, which is floating on the tubs water surface.

The bromine dissolves slowly into the water providing the sanitising the tub needs.

The correct level is 3 to 6 ppm. Bromine is in a 20 gram tablet and 4 to 5 should be added to the floater and the floater adjusted to maintain the correct level.

Shock dose with Chlorine before adding the Bromine via the floater and once a week as per a chlorine tub.

The testing strips MUST be able to read Bromine.

#### DAILY REQUIREMENTS

Add chlorine to keep the tub sanitised, generally one teaspoon after use.

Maintain water level.

#### WEEKLY REQUIREMENTS

Test and add Chlorine Shock dose and Bromine tablets as required.

Maintain water level.

Check the operating cartridge filter pressure, clean as required.

Maintain water balance add and adjust as required.

Clean cover.

#### MONTHLY REQUIREMENTS

All of the above as per weekly requirements.

#### THREE MONTHLY REQUIREMENTS.

Drain and refill tub, generally every 2-3 months depending on usage.

Clean cartridge every week for the first month, then bi-weekly.

Clean inside tub, when you change water.

Clean cover.



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### COMMON OPERATING PROBLEMS

#### Cloudy Water

- Check the tubs PH 7.2 to 7.6 adjust as required
- Check sanitizer level Shock Dose if level is under 1ppm
- Check filter pressure clean cartridge
- Extend circulating time
- Replace cartridge if cartridge is worn or unable to be cleaned, use cartridge-cleaning product.

#### Tub Smells of Chlorine? Eyes Stinging?

- The fix for this problem is to Burn out the bather wastes and make the tub safe to use again.
- Shock dose the tub and leave cover off for 1 hour. If the tub has had extended heavy bather loading it may require the water being emptied, if shock dosing does not solve the problem.

#### Tub feels slimy on the walls and floor

- Check sanitizer level is adequate, Brush walls and floor, filter for 4 hours, clean cartridge filter after the 4 hours.

#### Other Spa Products

- Wide ranges of speciality chemical products are available for enhancing the bather comfort and maintenance of the tub. For further information and details contact us.

### FILTER CLEANING INSTRUCTIONS

#### **IMPORTANT: Make sure all power is off when cleaning filter or doing anything with the Pump.**

- Once the valves have been shut as instructed, you are safe to then unscrew the filter top, pull off lid, take filter cartridge out and squirt thoroughly with a hose until clean.
- It is a good idea to clean with the Spa Pool filter clean wash; if your filter is left unclean this could seriously affect the running of your hot tub.
- A blocked filter can overwork the pump and stop the heater from turning on.

### GENERAL INFORMATION

- Your hot tub is a natural product. Below are a few do's and don'ts with your tub.
- Do not water blast your hot tub, inside or outside of the tub, high pressure water will remove excessive quantities of grain from the wood and shorten the life of the wood and effectively the life of the hot tub.
- Do not leave your hot tub empty for long lengths of time. Once the wood dries out there are no guarantees that it will expand into it's original form and may leak for some time once refilled. You can leave them empty for a few day's with the cover on in a moderate climate but you should keep the wood wet if possible by squirting water on the inside of the Tub.
- Cedar is a soft timber that needs to be looked after. Once your tub is installed it is likely that you will need to put a second coat of CD50 on to complete the exterior coating system. The two main colours are Black Ash and Colonial Honey.
- If your tub is sunken into the ground or a deck in any way, it is important to check that soil hasn't built up around the base of the tub, as the wood needs to breathe.

### WATER REPLACEMENT PROCEDURE

- The Tub is drained by gravity. Ensure the power is turned off before opening the valves.
- Once pool is empty you may want to spray the inside of the Tub with a low-pressure hose (not a water blaster) to remove any debris.
- Once you are ready to refill the Tub, return the Valves the position for normal operation where water can circulate.
- Before you turn the unit back on, you will need to open the bleed valve on your filter to let air out of the system and water in. When water comes out the bleed valve you can shut the valve and turn the system back on.
- If you run your pump without water in it then the impeller will burn out. Once the tub is running and heating again the start up chemicals for new water are as below.
  - 1 cup of alkalinity increase. (sodium Bicarb)
  - 1 teaspoon of sanitiser. (chlorine)
  - 1 teaspoon of PH increase.

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