

## Starter or Shock Dosing

### After the spa has been installed

Freshly filled new spas or spas left drained for a period of time require an initial start up dose of 20mg/l (ppm) of free chlorine circulated for a minimum of 2.5 hours to ensure any contamination from factory wet tests or whilst hot tubs are in transit, is eradicated. Dose either quick dissolving sanitisers - **Jacuzzi® Chlorine Granules** or **Jacuzzi® Bromine Granules**, whilst the pump (only) is running and this procedure ensures that any water remaining in the spa (e.g. from factory wet tests) is immediately treated and bacteria free. Begin bathing only when chlorine or bromine levels fall back to the normal range (see below).

DOSE	PRE-TREATMENT TIME	SPA VOLUME
40 grams	2.5 hours	220 gallons (1,000 litres)

See page 4 for typical Spa volumes.

### The importance of circulation & filtration

Most spas include a pump, blower and cartridge filter chamber as standard. It is a combination of circulating the water through the cartridge, to collect suspended particles and grease, together with good chemical water treatment, that helps you maintain clear, clean and healthy water.

It is advised to run your spa's circulation every day, as outlined in your spa owner's booklet. Some spas run on a timer, which automatically ensures circulation, in which case just ensure the system is in good working order.

Note, when the cartridge filter is dirty, filter efficiency and circulation are impaired often leading to poor water quality. Typically, cartridges will need cleaning every fortnight or so (depending on use), but more regularly when usage or contamination (e.g. grass in tub) is high.

### Water testing and ideal pool levels

Using **Jacuzzi® Test Strips** you are able to quickly and accurately assess your spa's water conditions and make adjustments to chemical levels by adding appropriate quantities where necessary. Test daily whether the spa is in use or not, to keep on top of requirements as warm water will need regular sanitisation.

TEST	IDEAL READING	
Free Chlorine/Bromine	3 – 5 ppm *	* ppm = parts per million
pH	7.2 – 7.6	* total alkalinity should be learnt in time only after mastering chlorine and pH first
Total Alkalinity	80 – 150 ppm *	

When using **Jacuzzi® Test Strips** follow the instructions on the bottle for best results being observant of the optimal reading times and always holding strips level (to avoid indicator pad colours mixing).



By regular testing of spa water you will soon learn how various activities like refilling, topping up, adding chemicals and general usage can affect various test readings.

## Chemical Water Treatments

**Bacteria Control** – Use either **Jacuzzi® Chlorine Granules** or **Jacuzzi® Bromine Granules** directly into your spa to disinfect your spa water and keep it free from bacteria and slime.

To raise spa's water by 1 ppm using chlorine or bromine granules  
Add 2 grams 220 gallons ( 1,000 litres)

To ensure the ideal reading of 3 – 5 ppm is maintained it is advised to aim for 5 ppm to provide a useful "buffer" for fluctuating conditions such as bathing loads and hot weather. The rate of chlorine/bromine consumption can and does vary depending on different conditions and they will be consumed even when there is no bathing (i.e. just sunlight or heat). Because of this, the only way to be sure that there is chlorine present in the water is to test regularly.

**Oxidising** – Regular oxidation, either weekly or fortnightly, is recommended to remove any excess contamination and/or remove non filterable wastes. Ideal products are **Jacuzzi® Chlorine Shock** or **Jacuzzi® Non Chlorine Shock** - dose as per product instructions.

**pH Control and water balance** – The pH scale of 0 – 14 measures acidic or alkali conditions respectively. The middle reading of 7 is neutral, so spa water with a pH below 7 is acidic and spa water with a pH above 7 is alkaline.

For spa users the ideal pH level is slightly alkaline between 7.2 – 7.6, promoting equipment protection and bather comfort are maintained (the pH level of the eye is consistent with this level). Maintaining TA (Total Alkalinity) and Total Hardness is also helpful to promote balanced water: Low levels tend to lead to aggressive water; with higher levels leading to scale formation. It is easy to raise levels, although more difficult to lower them without draining / diluting the spa. However, high levels of hardness associated with hard water areas may be countered by regular treatment with **Jacuzzi® No Scale**.

High pH High Total Alkalinity High Hardness	RISK OF... * skin / eye irritation * scale formation * reduces chlorine effectiveness
<b>7.2-7.6</b> → <b>IDEAL PH</b>	
Low pH Low Total Alkalinity Low Hardness	RISK OF... * equipment corrosion especially metals * unpleasant smells and bather discomfort * chlorine quickly used up



### Adjusting for water balance

If the pH of your spa water is above 7.6 then use **Jacuzzi® pH -** to reduce it, using the application instructions on the bottle. If the pH of your spa water is below 7.2 then use **Jacuzzi® pH +** to increase it, using the application instructions on the bottle. If TA or Hardness are below 80 and/or 100 respectively use **Jacuzzi® Alkalinity Increaser** and/or **Jacuzzi® Hardness Increaser** to raise.

**Foam Control** – Foam appearing on the water surface can be unsightly. Due to warmer spa water the build up of foaming agents from body oils, cosmetics etc, can sometimes exceed the spa filter cartridge's ability to remove them. In such cases an easy remedy is available using **Jacuzzi® No Foam**, dosed as below for effective foam control.

Initial dose	100ml	220 gallons (1,000 litres)
Weekly dose	50ml	220 gallons (1,000 litres)

**Cleaning and Maintenance** – Periodic cleaning of waterline grease using **Jacuzzi® Surface Cleaner** will not only help your spa look good but will also optimise the use of your chemicals and help to reduce the time in which your spa's filter cartridge becomes dirty. Use spa cleaning preparations since household cleaners often contain detergents that cause foam.

**Draining, refilling and cleaning cartridges** – Over time water absorbs minerals, chemicals and other soluble materials that lead to an increase in Total Dissolved Solids (TDS) in spa water. This, in turn, reduces the efficiency of chemicals, can create dull water and makes spa's hard to maintain correctly.

To avoid this as a guide drain and refill every 3 - 4 months.

It is highly recommended to periodically ie. every year, purge hot tub pipework by adding **Jacuzzi® Hot Tub Pipe Cleaner** prior to draining the hot tub. Follow the label instructions for best results.

When cleaning dirty cartridges every fortnight or so (depending on use) it is prudent to always have a spare cartridge to readily reload into your spa's cartridge chamber. This allows thorough cleaning of the dirty cartridge which can be cleaned well with a special cleaning solution in a bucket. Use **Jacuzzi® Filter Cleaner** to produce a blended cleaning agent, designed specifically for this purpose.

## Safety Tips

### GENERAL

- Do not allow water temperatures to exceed 40°C (lower for children)
- Do not leave non swimmers / children unattended
- Do not overload the spa
- Do not use electrical appliances near water
- Use plastic and not glass around the spa
- Do not drink alcoholic beverages before or during use of spa's
- If you are pregnant, have high blood pressure or cardiovascular conditions then consult your doctor before using spa's
- When changing (dirty) filter cartridges, wear gloves

### CHEMICAL HANDLING

- Read instructions thoroughly on each product/box before use
- When pre dissolving chemicals always add chemicals to water and not vice versa
- Never mix different chemicals in concentrated forms including these kit products but also with other products like bleach or weedkillers – a dangerous reaction may occur
- Always pre dissolve chemicals in a clean, plastic container in a well ventilated area
- Avoid spillages but in event of spillage clean up using clean receptacles and dispose in the spa. Flush cleaned spill areas with water
- Never use unlabelled chemicals
- Wash hands after handling spa chemicals

### STORING CHEMICALS

- Store chemicals well away from children and pets
- Store in a secure, cool and dry place

## Spa Volumes

### Working out spa volumes

#### TYPICAL SPA SIZE VOLUMES (g & Ltrs)

2/4 person round or square 1000 litres - 1600 litres (220-352 gallons)

5/8 person square 1700 litres - 2200 litres (374-484 gallons)

## Problem Solving Chart

SYMPTOM	CAUSE	REMEDY
Green/cloudy water	Inadequate sanitiser. Algae may be present	Shock dose with <b>Jacuzzi® Chlorine Shock</b> or use double dose of <b>Jacuzzi® Chlorine Granules</b> or <b>Bromine Granules</b> or consider if time to drain/refill
Too much chlorine	Overdose	Allow time to naturally dissipate or buy a chlorine reducer
pH hard to control	Alkalinity low	Use <b>Jacuzzi® Alkalinity Increaser</b> to raise total alkalinity
Cannot maintain chlorine levels	Chlorine demand of water too high at start up, after holidays or due to excess contamination or neglect	Shock dose with <b>Jacuzzi® Chlorine Shock</b> or use double dose of <b>Jacuzzi® Chlorine Granules</b> or <b>Bromine Granules</b> Repeat after 24 hours if necessary
Foaming water	Oils/detergents present	Use <b>Jacuzzi® No Foam</b>
Cloudy water	Poor chemical controls or Inadequate filtration	Clean cartridges or consider if time to drain and refill. Retest water and add chemicals, if necessary
Rough spa sides/edges	Scale formation	Ensure pH levels are correct and if scale persists use <b>Jacuzzi® No Scale</b> to stop calcium precipitating out of water
No colour change on test strip dip test	Too high chlorine leading to bleaching of indicator pads (over 15ppm chlorine)	Check expiry date on test strips. Wait for chlorine level to drop and re-test
Test results vary	Air bubbles can increase pH and reduce alkalinity temporarily	Test when system turned 'off' for true results



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# Hot Tub Chemical Guide

## Chlorine or Bromine Users



### ESSENTIAL INFORMATION ON...

- Starting up
- Circulation and filtration
- Water testing
- Chemical water treatment
- Draining and refilling
- Working out a spa volume
- Safety and problem solving chart



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