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MONTHLY SPA MAINTENANCE CHECKLIST ✔

During weekly maintenance (Weeks 1 to 4), it is recommended to add one product at a time. The order in which the products are added is not important.

TASK	WK 1	WK 2	WK 3	WK 4
*Balance Spa Water (pH, Chlorine or Bromine, Calcium)	✓	✓	✓	✓
Non-Chlorinated Shock Treatment	✓	✓	✓	✓
Clarifier	✓	✓	✓	✓
Scale Control	✓	✓	✓	✓
Clean Filters with Filter Cleaner	✓			

* For required quantities, read the directions for use on the label of each product mentioned in this calendar.

EVERY 3 MONTHS

Drain and Refill Spa Water	✓

RECOMMENDED RANGES FOR BALANCED WATER

Total Alkalinity **80 - 150 ppm**
pH **7.2 - 7.6**
Chlorine **2 - 4 ppm**
Bromine **3 - 5 ppm**
Calcium Hardness **180 - 250 ppm**

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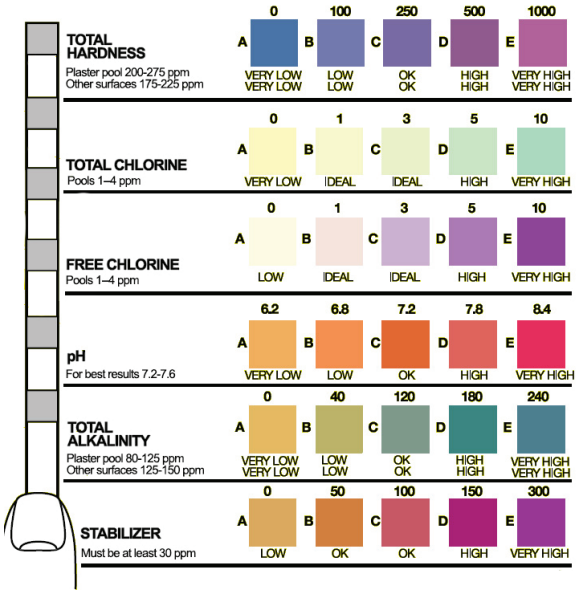
SPA WATER MAINTENANCE GUIDE

TESTING YOUR SPA WATER

How often you test and treat your water will vary depending on how frequently the hot tub is used, but it is generally suggested to do so twice a week. Keeping the chemical levels in check ensures your hot tub will be ready for use whenever you want to relax. Make it a goal to test the water before you get in to ensure properly sanitized and safe water. It is also good to test after use so that you can make any small chemical adjustments necessary due to the contaminants bathers bring into the water.



USING TEST STRIPS

The pads on these thin strips react by changing colors when you dip them in the hot tub water. To avoid faulty test results, use care when removing a testing strip from the packaging. Open the package and shake one strip out into your hand, avoiding contact if possible with the remaining strips. Seal the container immediately so the remaining strips are not exposed to moisture. Dip the test strip into the water and follow the instructions supplied with test strips as instructions may vary. Note the colors on your testing strip and compare these to the key found on the packaging to determine whether elements are neutral, too high or too low.

UNDERSTANDING YOUR WATER CHEMISTRY

In this guide, common chemicals will be covered with explanations of what they do for your water, acceptable ranges allowed, and adjustment tips should they be at either extreme of the testing spectrum. Keep in mind that if you have to add chemicals to compensate for the results of your water test, **you should allow the filter to circulate the water for an hour before you retest the water**. Add any adjustment chemicals needed one at a time, letting the water rest and recirculate before retesting or adding any other chemicals. This way you can see how each chemical influences the chemistry of your water. Pay close attention to the directions on each chemical's packaging, as usage instructions can vary from product to product.

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SPA WATER MAINTENANCE GUIDE

ADDING CHEMICALS

All spa water chemicals, including granulated Chlorine, Bromine, Shock, granulated pH increaser or decreaser, granulated total alkalinity increaser, liquid stain and scale inhibitor, and liquid defoamer **must always be added directly into the filter compartment while the jet pump is running in its high speed mode, and it must run for a minimum of ten minutes.**

Each bottle of hot tub water care products you use will come with its own set of instructions. If you're unsure of how much to add, consult with Backyard Plus Technicians. They will happily talk you through the process.

IDEAL WATER CHEMISTRY LEVELS

PARAMETER	TARGET	MIN - "OK" RANGE - MAX	
pH	7.4	7.2	7.8
ALKALINITY	80 ppm	40 ppm	120 ppm
HARDNESS	100 ppm	50 ppm	150 ppm
HARDNESS (ACE SYSTEM)	50 ppm	25 ppm	100 ppm
CHLORINE	3 ppm	1 ppm	5 ppm

CLEANING YOUR FILTERS STEP-BY-STEP

1. Disconnect the spa from the power supply by tripping both of the GFCI breakers located in the subpanel. Unplug power cord for 115V models.

2. Remove and carefully set aside the filter compartment cover.

3. Remove any floating items from within the filter compartment.

4. Turn the filter retainer handle (located on the top of the filter cartridge) counterclockwise until the retainer can be removed from the filter standpipe.

5. Remove the filter retainer and cartridge.
NOTE: Never remove the filter standpipes when debris is present in the filter compartment. Debris may find its way into the internal plumbing which may result in blockage. **NEVER REMOVE SUCTION FITTINGS.**

6. Always clean standard filter (paper) using a filter degreaser, such as SpaGuard Filter Cleaner, to remove mineral and oil buildup. Simply soak the filter in the degreaser according to the package directions, then place the filter on a clean surface and spray until clean using a garden hose. It may be necessary to rotate the filter while spraying to remove any debris lodged between the filter pleats.

The **Tri-X® filter** can be cleaned in the dishwasher using no soap and no dry cycle. Please contact Backyard Plus for more details.

7. To reinstall the filter cartridge, reverse the order of steps in which it was removed. Do not overtighten!

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OZONATORS, SILVER IONIZERS, AND OTHER ACCESSORIES

ABOUT OZONE GENERATORS

Hot tubs with ozone systems, such as the FreshWater® Ozone System, clean the water constantly, using a combination of ozone and FreshWater AG+. The ozone destroys contaminants.

With ozone systems, owners also need to add a dose of chlorine to the hot tub on a weekly basis. These systems require less chlorine overall than hot tubs that don't use ozone; this reduction in chlorine may also reduce odors and irritation. Ozone systems can be used in combination with in-line chlorine systems but **should not be used in combination with salt water chlorine generators.**

SILVER ION PURIFIER

The FreshWater AG+® continuous silver ion purifier further reduces the need for chlorine by inhibiting bacterial growth. Silver ions are released into the water automatically so there's no chance of under- or over-dosing. Simply replace the cartridge every four months. Silver Ion Purifiers can be used with Salt Water Systems as well as Ozone Generators.

SALT WATER CHLORINE GENERATORS

Salt water chlorine generators, such as the ACE and FreshWater® Salt System, are the ultimate in modern hot tub water care. These systems generate chlorine automatically from low levels of salt in your hot tub's water. With this method, the Salt System can keep the water in your hot tub fresh and clean for up to a year of normal use—far longer than other systems can.

With this reliable and largely automatic system, an owner's time and effort is minimized. Salt systems are not fully automated and will require some type of monthly maintainance or check ups.

NOTE: *If you are using an Ozonator, Salt Water System, or other accessories, you will still need to maintain the normal ideal water chemistry levels.*

MORE INFORMATION & TIPS

For more information and tips on maintainng your spa, visit the Backyard Plus Blog at:
https://www.backyardplus.com/blog/

Need the owners manual for your spa?
Just visit us on the web and use our Parts Finder tool to get your downloadable owners manual as well as a custom list of all the parts that are compatible with your spa.

WATER CARE TERMINOLOGY

The following chemical terms are commonly used in regards to caring for your Spa. Understanding their meaning will help you to better understand the water maintenance process.

Bromamines: Compounds formed when bromine combines with nitrogen from body oils, urine, perspiration, etc. Unlike chloramines, bromamines have no pungent odor, and are effective sanitizers.

Bromine: A halogen sanitizer (in the same chemical family as chlorine). Bromine is commonly used in stick, tablet, or granular form.

Calcium Hardness: The amount of dissolved calcium in the spa water. This should be approximately 50 -150 ppm (ACE: 25 – 75 ppm). High levels of calcium can cause cloudy water and scaling. Low levels can cause harm to the spa equipment.

Chloramines: Compounds formed when chlorine combines with nitrogen from body oils, urine, perspiration, etc. Chloramines can cause eye irritation as well as having a strong odor. Unlike bromamines, chloramines are weaker, slower sanitizers.

Chlorine: An efficient sanitizing chemical for spas. Watkins Manufacturing Corporation recommends the use of sodium dichlor-type granulated chlorine. This type is preferred because it is totally soluble and nearly pH neutral. Chlorine (or Bromine)

Residual: The amount of chlorine or bromine remaining after chlorine or bromine demand has been satisfied. The residual is, therefore, the amount of sanitizer which is chemically available to kill bacteria, viruses and algae.

Corrosion: The gradual wearing away of metal and plastic spa parts, usually caused by chemical action. Generally, corrosion is caused by low pH or by water with levels of TA, CH, pH or sanitizer which are outside the recommended ranges.

Halogen: Any one of these five elements: fluorine, chlorine, bromine, iodine, and astatine.

MPS: Monopersulfate is the non-chlorine oxidizer used with the FRESHWATER AG+ silver ion purification system. Not a sanitizer.

Nitric Acid: The formulation of nitric acid, a highly corrosive chemical, is a byproduct of the ozone generating process. Nitric acid is produced in very small quantities and is readily dissolved in the water stream with ozone.

Oxidizer: The use of an oxidizing chemical is to prevent the buildup of contaminants, maximize sanitizer efficiency, minimize combined chlorine and improve water clarity. See MPS and Ozone.

Ozone: Ozone is a powerful oxidizing agent which is produced in nature and artificially by man. Ozone forms no by-products, oxidizes chloramines, and will not alter the water's pH.

WATER CARE TERMINOLOGY (CONTINUED)

pH: The measure of the spa water's acidity and alkalinity. The recommended pH for the spa water is 7.2 to 7.8. Below 7.0 (considered neutral), the spa water is too acidic and can damage the heating system. Above 7.8, the water is too alkaline and can result in cloudy water, and scale formation on the shell and heater.

ppm: The abbreviation of "parts per million", the standard measurement of chemical concentration in water. Identical to mg/l (milligrams per liter).

Reagent: A chemical material in liquid, powder, or tablet form for use in chemical testing.

Sanitizer: Sanitizers are added and maintained at recommended residuals to protect bathers against pathogenic organisms which can cause disease and infection in spa water.

Scale: Rough calcium-bearing deposits that can coat spa surfaces, heaters, plumbing lines, and clog filters. Generally, scaling is caused by mineral content combined with high pH. Additionally, scale forms more readily at higher water temperatures.

Super-Chlorination: Also known as "shock treatment." SuperChlorination is a process of adding significant doses of a quick dissolving sanitizer ("dichlor" is recommended) to oxidize non-filterable organic waste and to remove chloramines and bromamines.

Total Alkalinity (TA): The amount of bicarbonates, carbonates, and hydroxides present in spa water. Proper total alkalinity is important for pH control. If the TA is too high, the pH is difficult to adjust. If the TA is too low, the pH will be difficult to hold at the proper level. The desired range of TA in spa water is 40 to 120 ppm.