

What You Will Need:

Stain & Scale
 Natural & Clear
 Sodium Dichlor (Chlorine)

Test Strips
 pH/Alk Up
 pH/Alk Down

Activator (Weekly Shock)

Start Up (please make sure all pump unions are tight)

1. Set up your water maintenance

- a. All water comes with certain minerals and impurities. These chemicals help get your water clear and ready to use.
 - i. Add 3 oz of Stain and Scale when there is 4" or more of water in the bottom of the Spa
 - ii. Add 1/2 oz of Natural and Clear when there is 4" or more of water in the bottom of the Spa
- b. Fill Spa to half way mark of the skimmer
- c. Turn on Spa and wait until water is above 80 degrees

2. Balance your water.....

- a. Alkalinity and pH measure the acidity of your water. Step 2 helps you balance your water to prevent skin irritation and corrosion of spa parts.
 - i. Test Alkalinity/pH with the test strips provided in your starter kit
 1. Alkalinity should measure between 80 - 120
 2. pH should measure between 7.2 - 7.8
 - ii. Adjust your Alkalinity first to the proper range
 1. If adjustment is needed add 1 oz of Alkalinity/pH Up or Down to spa water.
 2. Check Alkalinity after 15 minutes and adjust as necessary
 - iii. Check your pH next to balance water Fully
 1. If adjustment is needed add 1 oz of Alkalinity/pH Up or Down to spa water.
 2. Check pH after 15 minutes and adjust as necessary

3. Sanitize your water.....

- a. Sanitization keeps your water free of harmful bacteria, viruses and other organic matter that can cause your water to be cloudy.
 - i. Shock Spa with 1/2 oz of Chlorine

Weekly & On-Going Maintenance

1. Water Maintenance

1. Add 1 oz of Stain and Scale to sequester metals and impurities
2. Add 1/2 oz of Natural and Clear to remove oils

2. Balance your water.....

1. Check pH and Alkalinity and adjust as necessary

3. Sanitize your water.....

1. Check chlorine level twice a week to insure 1 - 3 ppm** of Chlorine. Adjust if necessary.
 - a. If low add 1/2 oz of Sodium Dichlor
2. Shock Spa with 2 oz of Activator

Monthly Maintenance

Do your normal weekly maintenance but add Step 4.

4. Clean your spa

1. Wipe off your acrylic shell - clean off dust, water spots, chemical stains etc.
2. Clean and condition your cover - Remove dust, pollen, dirt or snow - condition it to protect it from the sun and cold
3. Clean your filters - Soak in cleaning solution, Rinse and dry. (You may have to do this every other week if you use your spa a lot.)
4. Check water in Spa Fill Spa to half way mark of skimmer

**NOTE: If you are using ThermoOzone, you may try to reduce your sanitizer level to a once to twice a week application and maintain a .5 ppm Chlorine level. (please read the ThermoOzone notes on the back of this page for more detail)

ThermOzone is a high output ozonator that allows you to significantly reduce the amount of chemicals you use in your hot tub. Customers using Chlorine, we suggest you add the ThermoClear cartridge to increase the effectiveness of ThermOzone.

- For hot tubs with Filtration cycles, you will want to increase Filtration cycles to two, Four hour cycles. Hot tubs with circulation pumps do not need Filtration cycles
- Customers using Chlorine or Bromine should maintain a 0.5 ppm Chlorine level or a 1.0 ppm Bromine Level, as opposed to the normal 3- 5 PPM normally required.
- Depending on your usage, and if your water is clean, you can continue to reduce the amount of chemicals you are using by trying to add sanitizer once or twice weekly and performing the rest of your weekly maintenance(Stain & Scale, Natural & Clear etc.) on a on a Bi-Weekly basis.
- For ThermOzone to work more efficiently, please remember to clean your Filters twice a month. Make sure you go no longer than one month between Filter cleanings.

NOTE: IF WATER BECOMES CLOUDY, PLEASE RESUME ALL CHEMICAL MAINTENANCE ON A WEEKLY BASIS. IF YOUR USAGE INCREASES YOU MAY HAVE TO ADD AN ADDITIONAL SANITIZER TREATMENT IN THE MIDDLE OF THE WEEK.

Typical Water Chemistry Troubleshooting (see owners manual for more solutions)

Problem	Most common cause	Proposed Solution
Cloudy Water	Dirty Filter Unbalanced pH and Alkalinity High Bacteria count High Calcium Level High Total Dissolved Solids Cosmetics or oils	Install clean Filters and deep clean existing Filters with Filter Cleaner Check pH and Alkalinity using Test Strips and pH Alkalinity Up or Down Shock with appropriate Sanitizer - see startup instructions for the sanitizer you are using Drain tub half way and refill with new water Drain Tub and refill Add Natural & Clear also use an oil sponge such as a Scum Bag, Scum Ball or Sun Sorb to take oils out of the water
Brown Water	High Mineral Count	Add Protection Plus
Yellow Water	Low pH	Add pH Up
Green Water	Algae Growth	Shock with sanitizer
Scum line	Cosmetics or oils in hot tub	Clean Shell with Clean Filters, add Natural & Clear; use scum bug if scum line is heavy
Musty Odor	Bacteria/Algae Growth	If odor goes away immediately after opening your hot tub try cleaning the inside of your cover. After use, let spa run 5 - 10 minutes before closing cover. If smell persists, shock your hot tub with sanitizer
Foaming	Soft water Detergents from swim ware High TDS level High contaminant level	Add Liquid Calcium to harden water Add Foam Away, rinse swim ware before entering tub Tub is saturated with chemicals - time to drain and refill with fresh water If Foaming is accompanied by musty odor, shock hot tub with sanitizer

How to Set Filtration Cycles (For additional information please see the Special Operating Instructions for your specific hot tub)

Preset Filter Cycles

On all systems, the pump and the ozone generator** will run during Filtration. At the start of each Filter cycle, the blower will run on highest speed for 30 seconds to clean out the air channels. All pumps will run for 5 minutes. For hot tubs with circulation pumps, Filtration occurs 24 hours per day, 7 days per week. A clean up cycle will stop the circulation pump - specifically needed for changing the Filters - please see Standby Mode to enable this Function.

Our older hot tubs, utilize two Filtration cycles per day. The start/end times of each cycle are programmable. To program, set time (as described below), then press "Mode/Prog" to advance to the next setting (or to exit after the last setting). The default Filter cycles are as follows: The first Filter cycle is automatically activated at 8:00 AM and operates the pump until 10:00 AM. The Filter 1 indicator icon will light when Filter 1 is running. The second Filter cycle is automatically

How to Set Filtration Cycles (continued...)

activated at 8:00 PM and operates the pump until 10:00 PM. The Filter 2 indicator icon will light when Filter 2 is running. If the power to the spa is interrupted, the Filtration cycles will revert to the Factory settings.

Standby Mode

Pressing “Warm” or “Cool” then “Pump 2” will turn off all spa Functions temporarily. This is helpful when changing a Filter. Pressing any button resets the spa.

Time

When time hasn't been programmed, the TIME icon flashes. To set the time, press “Time” then “Mode/Prog.” Use the “Warm” and “Cool” buttons to adjust time. If power is interrupted, the time will have to be reset. See previous page for more detailed instructions.

Standard mode maintains the desired temperature. Note that the last measured spa temperature displayed is current only when the pump has been running for at least 2 minutes. The “STANDARD” icon will display until the mode is changed.

Economy mode (For spas without circulation pump) heats the spa to the set temperature only during Filter cycles. The “ECONOMY” icon will display until mode is changed. Pressing “Jets 1” while in Economy mode puts the spa in Standard-In-Economy mode. This mode operates the same as Standard Mode, then reverts to Economy Mode automatically after 1 hour. During this time, a press of the “Mode/Prog” button will revert to Economy Mode immediately.

Common Diagnostic Messages

Troubleshooting Code	Meaning	Action
OHH	Overheat - The spa has shut. One of the sensors has detected 118° F approximately 47.8° C at the heater.	DO NOT ENTER THE WATER. Remove the spa cover and allow water to cool. Once the heater has cooled, reset by pushing any button. If spa does not reset, shut off the power to the spa and call service or your local dealer.
OH5	Overheat - The spa has shut down. One of the sensors has detected 110° F approximately 43.3° C at the heater.	DO NOT ENTER THE WATER. Remove the spa cover and allow water to cool. Once the spa reaches 107° F (approx. 41.7° C) the spa should automatically reset. If spa does not reset call service or your local dealer.
ICE	Potential Freeze condition exists	No Action required. The pumps and the blower will automatically activate regardless of spa status.
SnA	Spa is shut down. The sensor that is plugged into sensor “A” Jack is not working	If the problem persists, contact service or your local dealer (This may appear temporarily in an overhead situation and disappear when the heater cools.)
SnB	Spa is shut down. The sensor that is plugged into sensor “B” Jack is not working	If the problem persists, contact service or your local dealer (This may appear temporarily in an overhead situation and disappear when the heater cools.)
Sn5	Sensors are out of balance. If this is alternating with the temperature, it may be a temporary condition. If the display shows only this message (periodic blinking) the spa is shut down.	If problem persists, contact service of local dealer.
HFL	A substantial difference between the temperature sensors was detected. This could indicate a flow problem.	Check the water level in spa. Add water if necessary. If the water level is okay, make sure the pumps have been primed. If the problem persists, contact your dealer or service organization.
LF	Persistent low flow problems. (Displays on the fifth occurrence of the “HFL” message within 24 hrs) Heater is shut down, but other spa Functions continue to run normally.	Follow action required HFL message. Heating capacity of the spa will not reset automatically; you may press any button to reset.