

STORM WAVE SB



SMARTOUCH DIGITAL

Home Owner's Manual

**60 HZ United States Series
50 HZ European Series**

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IMPORTANT HOT TUB OWNER INFORMATION

Sunbelt Spas utilizes the latest in technology to provide you with a hot tub of the highest quality that is easy to maintain. It is imperative that you read all of the information provided in your homeowner's manual and maintains your hot tub utilizing the correct chemicals and maintenance schedule. The spa surface is made of Lucite Acrylic and must be protected from direct sunlight by use of the spa cover provided. Exposure of the spa surface and fittings to direct sunlight or ultraviolet rays may cause damage to the spa's surface. Exposure will void warranty to the spa surface and to the fittings. Sunbelt Spas Installation Requirements must be met by the homeowner including slab and electrical requirements. Any deviation from the Installation Requirements will result in void of warranty.

Sunbelt Spas strives to provide the best possible hot tub for your use therefore modifications and enhancements to the hot tub, mechanics, equipment, and structure may be made which effect the specifications, illustrations, and/or instructions within this manual.

Sunbelt Spas Hot Tubs meet all requirements and regulations of ETL laboratories.

Sunbelt Spas ETL listing is 9901934 and conforms to UL STD 1563 of Electric Hot Tubs, Spas and Associated Equipment. Further information may be requested from Sunbelt Spas, 3924 Dunvale Rd. Houston, TX 77063.

IMPORTANT SAFETY INFORMATION

When installing and using this electrical equipment, basic safety precautions should be followed. Including the following:

ALWAYS READ AND FOLLOW ALL DIRECTIONS –

WARNING – To reduce risk of injury, do not permit children to use this product unless they are closely supervised at all times.

DANGER – Risk of accidental drowning. Take extreme caution to prevent unauthorized access to the spa by children. To avoid accidents, ensure that children cannot use the spa unless supervised at all times.

DANGER – Risk of injury. The suction fittings in this spa are sized to match the specific water flow created by the pump. Should the need arise to replace the suction fittings or the pump, be sure that the flow rates are compatible. Never operate the spa if the suction fittings are broken or missing.

DANGER – Risk of electrical shock. Install at least 5 feet (1.5m) from all metal surfaces. As an alternative, a spa may be installed within 5 ft. of a metal surface if each metal surface is permanently connected by a minimum of No. 8 AWG (8.4 mm²) solid copper conductor to the terminal box that is provided for this purpose.

DANGER – Risk of electrical shock. Do not permit any electrical appliance, such as light, telephone, radio, or television, within 5 feet (1.5 m) of a spa.

WARNING – To reduce the risk of injury –

- The water in the spa should never exceed 104 F (40 C). Water temperatures between 100 F (38 C) and 104 F (40 C) are considered safe for a healthy adult.

Lower water temperatures are recommended for younger children and anytime spa use exceeds 10 minutes.

- Since excessive water temperatures have a high potential for causing fetal damage during the early months of pregnancy, pregnant or possible pregnant women should limit spa water temperatures to 100 F (38C).

- Before entering a spa, the user should measure the water temperature with an accurate thermometer since the tolerance of water temperature regulating devices varies.

- The use of alcohol, drugs or medication before or during spa use may lead to unconsciousness with the possibility of drowning.

- Persons suffering from obesity or with a medical history of heart disease, low or high blood pressure, circulatory system problems or diabetes should consult a physician before using a spa.
- Persons using medication should consult a physician before using a spa since some medication may induce drowsiness while other medication may affect heart rate, blood pressure, and circulation.

WARNING – Risk of suffocation. On spas with a gas heater the heater must be placed outside unless proper ventilation can be provided for an indoor installation.

SAVE THESE INSTRUCTIONS!

INSTALLATION REQUIREMENTS

Sunbelt Spas manufacturing process uses high quality components that add significant weight to the spa structure. The combination of the spa weight and the weight of the water filling the spa make a proper foundation necessary. Improper spa foundation can result in shifting of the spa structure or shell. Damages to the spa shell, structure, equipment and/or skirting due to improper foundation will not be covered under warranty.

Proper Spa Foundation – Sunbelt Spas recommendation for proper spa foundation is a structure that uniformly supports the weight of the hot tub and the water filling the hot tubs. The surface of the foundation should be smooth, flat and level. We recommend a poured and steel re-bar reinforced concrete slab, a minimum of 4 inches thick, for all hot tubs sized eight feet by eight feet and under. Wood decking must be a pier and beam style that properly supports the spa's weight.

Sunbelt Spas are produced for use in outdoors. We recommend you do not recess a Sunbelt Spas hot tub in a hole. Recessing the unit into a hole can cause potential problems with access and water retention within the hole itself. Every side of the hot tub is removable and must be accessible for service. Any and all cost of spa removal and replacement, landscaping, decking, fencing, and/or structure removal, alteration and/or replacement or any other costs of providing access to the spa will be the responsibility of the purchaser.

ELECTRICAL REQUIREMENTS

Electrical Requirements 60 HZ United States Series-

Supreme, Ultimate, Storm, & Wave Series Sunbelt Spas must to be wired as 240V hard wire system.

For 240V Wiring

Minimum Wire Size –

Four Wire – Two (2) #6 thhn HOT, One (1) #8 thhn NEUTRAL, One (1) #9 thhn GROUND

Breaker Required –

60 amp Double Pole GFCI Protected Breaker

****This breaker must be dedicated for the spa use ONLY****

For distances over 75' from the breaker to the spa a larger size wire may be required. A licensed electrician must evaluate the wiring. When running the wire, remember to leave 10' of spare wire at the location of the tub in order to be prepared for tub positioning.

IMPORTANT:

The National Electrical Code states that a service disconnect breaker box must be located at least five feet away from the spa and should be conveniently located near the equipment bay. If it is not in plain sight, keep the disconnect padlocked when in the off position.

Effective January 1994 GFCI are required for spa installations.

IN A HURRY? READ THIS!

For those who don't like to read manuals or would like to read the manual later, please read at least the following section.

SmarTouch Digital comes to you with a universal set of default settings. If you choose to keep these settings, then you only need to remember 2 things: how to set the spa temperature and to press the SET key whenever you are done using the spa.

Setting temperature

- Press and hold the TEMP key for 2 seconds. Release all keys
 - The display will flash the current selected temperature.
- Using the TEMP and TIME keys (UP and DOWN arrows)
 - Scroll to the desired temperature.
- Press the SET key to lock in the new selection

The SET Key

After using the spa, press the SET key to tell the microcontroller you are done using the spas. It will then take over the spa's management including the different filtration cycles, heat maintenance, economy modes and protection against freezing.

Upon entering this mode the FILTER light is turned on and a post use filtration cycle is executed – that is when the spa needs filtration the most. The default system setting includes a 3 hour economy mode; the pump will come on at most once every 3 hours to sample water temperature and heat if necessary. The controller remembers when you have used the spa and in anticipation of your next usage will perform a 3 hour Auto Filtration cycle before your next spa use.

SmarTouch Digital Series 1000 and 2000 is a family of intelligent, spa control systems. These systems are rich with features and can be extensively programmed to fit just about any need. The rest of this manual will explain the function of each of the keys on the control panel, how to change programmed settings and what each setting does. It will also explain all the error messages that you may encounter, and their significance and way to correct them.

TIME OF DAY

SmarTouch Digital maintains a 12 hour AM / PM internal real time clock TOD (Time Of Day). The clock based on the line frequency. There is no battery backup and whenever the power is turned off, TOD is no longer correct. It defaults to 12:00 AM whenever the power is turned on.

Setting TOD is only necessary if you are going to program the filtration and silence cycles. If you use the factory default settings then you do not need to set TOD.

If you set TOD then SmarTouch will display time every first 10 seconds of each minute. If TOD has not been set then it will not be displayed.

Setting TOD

1. Press and hold the TIME key for 2 seconds. Current TOD will be displayed with the hour portion flashing.
2. Release the TIME key.
3. Using the TEMP and TIME keys scroll up and down to the desired hour. – Notice the AM / PM Led.
4. When the correct hour and AM / PM are displayed press the SET key to lock in the new hour.
5. The display will now flash the minute portion of current TOD.
6. Using TIME and TEMP scroll to the desired minutes.
7. When the correct minutes are displayed press the set key to lock in the time of day (hours and minutes).

Note: TOD is the only parameter in SmarTouch Digital that is not preserved on power down. On power up it will default to 12:00 AM, all other parameters are restored to their last setting.

Every time the controller is powered up, the microprocessor automatically measures and determines whether the line frequency is 50 or 60 cycles in order to maintain the correct TOD.

THE CONTROL PANEL

The control panel is normally installed on the lip of the spa for easy and convenient access. Within the panel housing is a 4 digit LED display used to communicate to the user spa temperature, TOD, elapsed user time, programming, status – diagnostic and error codes and messages. There are 2 different size panels. They are interchangeable. The 2000 Series panel can have up to 7 keys; the 1000 Series panel will have at most 6 keys. These are membrane type switches which when depressed generate a signal that the microprocessor will interpret and act upon. The switches are labeled and have specific functions. They are divided into 2 groups:

- Device Control Group Pump(s), Air Blower & Spa Light.
- Status Control Group: Up & Down Keys & the Set Key.

Note: If any of the keys are pressed and held closed for longer than 20 seconds, that key will be disabled and becomes non-functional. After releasing the key, it will be re-activated after 20 seconds. This is to prevent a collapsed or defective key from locking up the system.

DEVICE CONTROL KEYS

There are up to 4 device keys, JETS, AIR, AUX & LITE. Your spa will have at least one water pump. Optionally your spa may have an air blower, a second and/or third pump and a spa light. It may also have a mister or a fiber optic light setup. If your spa does not have a specific device please disregard the function of that device.

Primary Water Pump

Each spa should have at least one primary water pump which is usually a dual speed pump. The low speed is used to filter the spa. Also while the spa is being heated or there is an error condition, the low speed circulates the water and you will not be able to turn it off.

The **JETS** key (switch) on the control panel is a 3 position switch:

Low Pump, High Pump, Off. Each time the key is pressed, the next function is executed. If your primary pump is a single speed pump, then only the high pump will be activated. 2 LED indicators, LO & HI inform you which speed is on.

Note: if your spa is equipped with a circulating pump it will be used for filtration and heating instead of the low speed pump.

Air Blower

If your spa is equipped with an air blower (bubbler), it is activated by the **AIR** key. This is an ON/OFF key. An LED will indicate when the air blower is on.

Auxiliary Pump(s)

Your spa may be equipped with 1 or 2 more pumps. If you have a second pump, it could be a single speed or a dual speed.

If you have a third pump, then both the second and third pumps must be single speed. The function of the **AUX** key changes with the number and type of auxiliary pumps used. Please consult with the table on the following page for the proper sequence of activation.

Spa Light

The **LITE** key can also be a multifunction key. In its simplest configuration, the **LITE** key is a simple on / off switch. It turns the spa light and the accessory, if one is attached, on / off switch together at the same time. Alternatively, the **LITE** key may be programmed as a 3 function key. Pressing it once will turn the spa light on. Pressing it a second time will turn on the attached accessory, while the light is still on. Press it a third time and both spa light and accessory will go off.

The table below summarizes all the possible device key combinations. Please note that your spa may not necessarily have all these devices attached.

SUMMARY OF FUNCTIONS FOR EACH DEVICE					
Key	Device	1	2	3	4
	Single speed pump	ON	OFF		
JETS	Dual speed pump	LOW	HIGH	OFF	
	Dual speed with Circ pump	LOW	HIGH	OFF	
	Circ pump is independent				
AIR	Single speed air blower	ON	OFF		
	Two single speed pumps	P1	P1&2	P2	ALL OFF
	Spa light	ON	OFF		
LITE	Spa Light & Accessory	Both	Both		
		ON	OFF		
	Spa Light & Accessory 3 Function	Lite	Both	Both	
		ON	ON	OFF	

Table 1 – Device keys summary of functions

The four device keys, JETS, AIR, AUX and LITE are exclusive, when one is pressed, no other key may be pressed simultaneously. You must release the pressed key before you may press another key. Also these keys do not repeat.

If you press and hold a key for more than 20 seconds that key will be considered defective (collapsed) and will be deactivated and ignored by the system. When released, the key will stay inactive for 20 seconds before it is recognized and activated.

STATUS CONTROL KEYS

The keys in this group are used to communicate to the controller systems settings and option selections(s). There are 3 keys in this group and 3 functions that are combinations of these keys:

Key Press	Function
TEMP (up arrow)	Prog Temp, + or Next
TIME (down arrow)	Prog TOD, - or Previous
SET key	Select or Accept, Enter
SET & TEMP	Invert display
SET & TIME	Parameter programming
TEMP & TIME	System programming

Table 2 – Status Control Keys Summary

The **TEMP** key, which is also the UP ARROW key, is a repeat key if held down. Think of this key as “+ or next”. Use it to:

- ◆ Press and hold for 2 seconds then release it to start desired temperature selection.
- ◆ During temperature setting press TEMP to increase selected temperature.
- ◆ When doing system programming press TEMP to scroll to the next message.
- ◆ After message selection, the system displays the associated value, press TEMP to increase that value.

Note: when the display is inverted, you will be able to read the display from inside the spa; the keys will retain their functions and will not be inverted. The UP ARROW will still function as the UP ARROW even though when you look at it from within the spa it appears to be the DOWN ARROW. The same also applies to the rest of the keys.

The **TIME** key, which is also the DOWN ARROW key, is also a repeat key. Think of it as “-or previous”. Use it to:

- Press and hold for 2 seconds then release it to start setting the real time clock (TOD).
- During time setting press TIME to decrease the hours or minutes value that is being set.
- When doing system programming press TIME to scroll to the previous message.
- After selecting a message, the system displays the associated value, press TIME to decrease that value.

The **SET** key is equivalent to Select of Accept. It functions as an Enter key of a personal computer; it is the proverbial “hit any key to continue”. Press the set key to:

- After using the spa press the SET key to tell the controller to take over the management of the spa.
- During temperature setting press the SET key to lock in a new selected temperature.
- During time of day programming press the SET key to lock in the hour and the minutes.
- When a message is displayed during parameter programming, press SET to select that message.
- When a parameter value is displayed, press SET to accept the displayed value and return to message display.
- During option programming press SET to toggle a parameter ON or OFF.
- When a “**HLoH**” error message is displayed press the SET key to clear the error (if the cause has been corrected). Pressing the SET KEY, the user acknowledges that the cause of the hi limit error has been or will be corrected.

Note: UP is synonymous with TEMP and DOWN is the same key as TIME. These are used interchangeably and mean the same thing. To scroll means pushing either the UP or the DOWN key to go to the next or previous item or value.

GETTING TO KNOW YOUR SPA COMPONENTS

Your Sunbelt Spa is made with the highest quality components in order to provide you with the ultimate hot tub. It is important to know the components and operation procedures for your components. NOTE- Some components are optional and will not be located in your spa.

ACC – Control Pack & Top Side Control



Water Pump –



The water pump pictured here pushes the water from the spa through your jets. Pumps operate through the spa pack () button and have two speeds.

Water Jets –



Bearlingless Massage Sunblaster Jets (5", 4", 3", 2")

The jets pictured above can be found on a Sunbelt Spa. Water comes through the jet when the jet is turned clockwise or into the on position. Water will be blocked by turning the jet off by twisting it counterclockwise. When the jet face needs to be removed the jet can be turned further counterclockwise and the jet face will pop out of the jet body. When replacing a jet face look for the small notch in the groove found on the back of the jet. This notch should be positioned at the identical recess in the jet body when placing the jet. Turning the jet clockwise into the body will then correctly place the jet into the spa.

Shut Off Valve/Slice Valve –



The shut off valve is a slice valve that stops water flow from the pump to the attached pipes. In the up position the slice valve allows for complete water flow and spa operation. In the down position the slice valve closes and the water is stopped from flowing. These slice valves allow a spa technician to remove the pump and replace the pump without having to empty all of the spa water.

Air Pump/Blower–



The blower, air pump, pushes air through the lines and adds air to the air injectors for the “Bubble” effects in your spa. The air blower is operated through the spa pack () button and has one speed.

Air Control Knob –



The air control knob is a valve that allows the passage of air into the jets. This knob operates by turning the knob to the on position, clockwise, and the off position, counterclockwise. The air control knob will affect the strength of the jets and can be changed to personal preference.

Air Injector –



The air injector is where the air blower pushes air into the spa creating the “Bubble” effect throughout the spa. These air injectors can be infused with various aromas if the aromatherapy option is placed on the spa.



Aromatherapy Canister -

The aromatherapy canister holds a sachet of aromatherapy beads. There are multiple scents available for the aromatherapy beads and your dealer can provide them. This canister is in line with the air blower and each time the blower is turned on the aroma is infused into the air injectors.

Skim Filter System –



The skim filter is the most effective filtration system available in a portable spa. The skim filter works by the water flowing over highly efficient filters when the spa control pack operates the filter cycle.



To remove the filters simply slide the filter cover up and off of the filter.

Remove the filter skim basket that is designed to catch larger objects prior to them reaching the filter.

Reach in and remove the filter. Note – Some filters have screw mechanisms and need to be spun counterclockwise to remove the filter. Many filters are stacked to increase the filtration of the spa so check to make sure all filters are removed. When placing the filters back make sure to spin the filters into place then replace the filter skim basket and slide on the filter cover.



Ozonator – The Ozonator, long black tube or white rectangular box pictured above, produces O₃ molecules that are released into the water. These molecules enter the spa water through the ozone injector jet and help to kill bacteria and most unicellular microorganisms. This option helps you maintain your Sunbelt Spa and utilize fewer chemicals. The Ozonator will operate each time the spa filtration functions are in service.

Ozone Injector Jet –

The ozone injection jet is the vessel in which the O₃ molecules are placed into the water and release tiny O₃ bubbles during operation.

Waterfall –



The waterfall option of a Sunbelt Spa creates a visual wall of water while providing auditory enjoyment. A cascading wall of water emits from the horizontal slit in the waterfall. The waterfall function can be operated by the on/off valve while the pump button is in the on position. See picture below.

On /Off Valve/Waterfall Valve -



The on/off valve or waterfall valve, 1" valve above, operates the waterfall option of the Sunbelt Spa. Turning the knob clockwise will activate the waterfall and turning the knob counterclockwise will eliminate the waterfall action. Remember the waterfall valve works throughout the range allowed by the knob so it is possible to operate the waterfall at a custom level of power.



Footdome – The Footdome of Sunbelt Spas is an available option on some Sunbelt Spas. The jets located in the Footdome operate by producing a volcanic effect in the footwell of the spa. The jets can be turned to increase and decrease the flow of water to the Footdome and the surrounding seats by using the Diverter Valve. See picture below.

Diverter Valve –



The diverter valve operates the Footdome and seating areas in some spas. The knob operates by increasing the water flow to the Footdome and decreasing the flow to the seating area or decreasing the flow to the Footdome and increasing the flow to the seating area.

Drain Plug –



The drain plug, pictured above, allow you to drain your hot tub of water. It works by twisting the Drain Plug Water Hose Adapter onto your water hose. Screw the Drain Plug Hose Adapter into the Drain Plug and the water will flow out of the water hose

SPA CARE GUIDE

Regular Schedule Maintenance

The following section is a listing of the regular scheduled maintenance items you should complete to keep your spa working well.

Testing Your Water - Minimum 2-3 Times A Week

Test the spa water by placing a test strip into the water according to manufactures instructions. Read the results and increase and decrease your chemicals according to the findings on your test strip.

Filtration Cleaning - 2 Week Intervals

- Turn off your breaker so the filter cycle will not activate while cleaning. The filter is located inside the skimmer. The skimmer faceplate will slide up and off. The basket inside should be pulled out, any debris removed and rinsed off. The filter cartridge should be removed by turning the filter cartridge in a counter-clockwise direction. It can be pulled out of the skimmer. *Note* Some filters are side by side models and some are stacked on top of one another so make sure you get all the filters out.
- Using a regular garden hose with a spray nozzle, rinse filter until clean. Every few months it may be necessary to soak the filter in a cleaning solution. Make sure it is a filter cleaner designed for hot tub use as soaps often leave residue that creates bubbles and problems with your spa components. After soaking in a filter cleaner spray the filters making sure to remove all the solution before replacing into the filter.
- Replace the filter. Insert the filter into the skimmer and turn clockwise until snug. Slide the basket back into place. Slide the faceplate onto the skimmer and be sure the skimmer door is in place.
- Turn the breaker back on.

Cleaning The Hot Tub Surface - As Needed

The surface of your spa is Lucite Cast Acrylic. This is a hard, non-porous surface that prevents dirt from accumulating and resists stains.

- For normal care – Use a soft cloth or sponge with soap and water making sure that the soap is not introduced into the spa water. Rinse well and dry with a soft, clean cloth. If using a household cleaner make sure it is recommended by the manufacturer.

- For dust and/or dry dirt – Use a soft clean damp cloth and wipe.
- For grease, oil, paint and ink stains – Use isopropyl (rubbing) alcohol. Rinse well with a dry soft clean cloth.
- For small scratches – Buff lightly with a clean cloth and use either an automotive polishing liquid or toothpaste containing a fine polishing ingredient.
- For deep scratches – sand the surface lightly with 600 grit “wet or dry” paper and buff with a fine polishing compound.

Make sure never to allow your spa to come into contact with – abrasive cleaners, nail polish, nail polish remover, wintergreen oil, dry cleaning solutions, lacquer thinners, gasoline, pine oil and similar items.

Maintaining The Hot Tub Cabinet - As Needed

- Regular surface cleaning with a damp cloth will be adequate for most installations and keep the Synthetic cabinet looking its best.
- Stubborn surface stains and accumulation can be removed using a mild soap or detergent with a soft clean cloth. Household stains, food, body oils and airborne contaminants will be removed using the mild soap as well.
- Make sure not to use any kind of solvent on Synthetic Cabinets. Clean any chemical spills immediately including, suntan lotion, bug spray and household chemicals. Do not attempt to clean the surface with abrasive, oil-based cleaners, furniture polish or wax, or any prepared cleaning solution other than soap or detergent and water.
- Synthetic can be scratched but normal scratches from wear and tear will become less noticeable as Synthetic weathers to a matte finish in the first year of outdoor use.
- Minor scratches can be repaired by gently rubbing the affected area with fine steel wool or extremely fine grit (600) sandpaper then buffing with a soft cloth.
- Heavier scratches can be filled using a common furniture scratch repair pencil available at most home building centers. Examples include; Pain Pal Putty Pencil, Minmax Blend and Fil Pencil.

- Severe scratches or abrasions may be treated with a color matched, water based, outdoor wood stain.

Please practice these techniques on a synthetic sample piece before attempting repairs to your finished product!

Chemical Adjustments & Use - As Needed

Easy Spa Care Guide Recommended for Sunbelt Spas-

- Place “Spa Frog” mineral purifier in skimmer tray or inside the inline frog system. (Break off the handle)
- Set filtration system to run a total of 4 hours per day. 2 hours out of every 12 hours.
- Test pH, Alkalinity, Chlorine levels 2 – 3 times per week (regularly) with test strips. Add pH up or down and chlorine granules accordingly.
- Maintain a minimum chlorine level of 0.5 – 1 ppm. A very small “pinch” of Granular Sodium Dichlor after each use works very well.
- Add 8 oz “Metal Gon” on start-up and each time the water is changed.
- Shock after each use or at least once a week (if spa is not used) with nonchlorine shock such as Leisure Time’s “Renew”. **Any spa shock that is at least 30% Potassium Peroxymonosulfate will work fine. READ THE LABEL!
- Add 1 – 2 oz of water clarifier per week
- Remove and pressure wash cartridge filters with your garden hose every 2 weeks.
- Replace “Spa Frog” mineral purifier every 4 months unless all minerals are gone, then replace immediately.
- Drain spa and refill spa 3 – 4 times a year minimum.
- Install and Ozonator if you do not already have one.
- Rubber Duck is optional but the perfect addition to your hot tub.

The following guide is a general outline of spa care and is intended for use with water testing in order to maintain the spa. The following are all chemicals and techniques recommend for use with all Sunbelt Spas.

Test Strips – Use at least two times a week to check your chemical levels. Utilize the instructions on the test strips to perform the test and read results accurately. Do not add chemicals to the spa without testing the spa first. Leaving the strips outside or storing them with other chemicals will impair the functions of the strip. Test kits from a local spa or pool supplier are often easier to understand and interpret than test strips.

Spa Defender/Stain and Scale Control – This product will remove calcium from the water. Calcium can make deposits in the jets, plumbing, and pumps. Use ½ oz per week.

Clarifier – This is usually a viscous blue liquid. This will remove oils, soap, and suntan lotions. Clarifier will stop the spa from foaming without leaving a residue, but it takes several hours to completely clear the water. Use ½ oz per week.

Metal Gon – This product will remover copper and iron from the water. Use one pint with each refill of fresh water and a maintenance schedule of 1 – 2 oz. per week.

Ozone – If the ozone generator is installed in your Sunbelt Spa it will run while the spa is on the filtration cycle. Ozone will greatly reduce the total amount of chemicals you will use over the lifetime of your spa.

PH Minus – Always test the PH first, add PH Minus to the water to lower the levels of PH if needed. Granular PH Minus is usually more effective than the liquid form. Re-test daily until the PH is within normal range. **DO NOT USE MURIATIC ACID!**

Spa Frog Mineral Stick – Works on eliminating bacteria and preventing algae growth while helps to neutralize ph. Unique blend of minerals to make your water softer, safer and sparkling clear. This can be used with bromine, chlorine, and ozone system.

Renew Spa Shock – Chlorine free sanitizing system keeps water clean and healthy. Add renew after use to destroy wastes left behind and eliminate bacterial contaminants.

PH Plus – Always test the PH before adding PH plus. Only add PH Plus when the PH levels are low.

De-foamer – This product contains silicone and alcohol and temporarily prevents the spa water surface from foaming. Use very sparingly and only if absolutely necessary. A few drops at a time is all that is needed. When the alcohol evaporates the accumulated silicone will cause the water to become cloudy.

Spa Fast Gloss – This is an excellent product to use after draining and cleaning your spa. This wax will improve the shine of the acrylic and protect it.

Aromatherapy – If your Sunbelt Spa is fitted with an aromatherapy canister that emits the aromas through the blower system, the beads can be purchased at most spa and pool suppliers. Remember to use only beads that are located inside of mesh netting to ensure they do not get into the spa components. Liquid aromatherapy is another option if you do not have the aromatherapy option on your Sunbelt Spa. Remember to use one ounce of aroma per 300 gallons of water. NEVER USE aromatherapy products intended for bath use, bath salts, bubble baths, or bath oils in your hot tub. This will cause significant problems within your spa components, filters, and water chemistry.

MOST IMPORTANTLY – NEVER USE POOL CHEMICALS FOR YOUR SUNBELT SPA!

Pool chemicals are manufactured for large bodies of water and are highly concentrated. This will damage your acrylic surface, your spa components, and **WILL VOID YOUR WARRANTY.**

Draining Spa & Water Changes - Every 120 Days

It is necessary to drain your spa at least every 120 days. Do not hesitate to drain the spa more if needed or wanted. If water becomes difficult to clean, gritty due to large dirt deposits, clouded with body oils and any other situation that results in hard to maintain water chemistry change the water. Do not fill hot tub with Soft Water.

To empty the spa:

- Turn off the spa at the breaker.
- Remove the plug from the Drain Plug. Plug can be used by turning counter clockwise.
- Attach the Drain Plug Water Hose Adapter to your garden hose. This should be done prior to attaching to the spa as it will drain immediately.
- Attach the Drain Plug Water Hose Adapter to the spa.
- The spa will drain. On some models there will be a small amount of water left in the bottom of the footwell of the spa and/or the bottom of a deep seat. This water can be

removed by hand. This small amount of water will be diffused through the large amount of water during refill.

To fill the spa:

- Disconnect the hose and Drain Plug Water Hose Adapter from the spa. Reattach the plug to the Drain Plug.
- Fill the spa with your garden hose by placing it into the spa. Do not place the hose into the aromatherapy canister; it is not a fill valve. Fill the spa to the fill line located on your spa skimmer faceplate.
- Turn on the breaker. Remember not to turn the spa back on until the water is at the proper level as this could result in dry firing of the pumps and heater and damage to the spa components.
- Check your settings on your topside control to ensure filtration, temperature and readings are to your personal liking.

Winterization

Winterization is the process of emptying your spa of all water and turning the product off during winter/cold months. All Sunbelt Spas are designed for year round use and are intended for use throughout cold weather conditions. The spa controls will automatically start a freeze protection mode if the temperature reaches cold levels.

As it is very difficult to remove all water from tubing and plumbing lines to ensure they do not freeze and crack, Sunbelt Spas does not recommend retail consumers perform winterization of Sunbelt Spas products. Please contact your dealer, a local spa service company or Sunbelt Spas in order to have a professional spa winterization preformed.

It is imperative that you do not just turn your spa off and leave it with water and no power.

Spa Cover Maintenance: Preserve and Protect

Whether you are in the market for a new hot tub cover or just want to get the most out of your existing one, there are a few simple steps to ensure the longevity of your spa cover. It is a good idea to thoroughly clean your cover every 120 days. The easiest way to remember this is to do it at the same time you do your water changes.

Fun Facts:

Spa cover material (Cover Vinyl) is a backed fabric with an outer layer made from polyvinyl chloride (PVC). In the manufacturing process, it is sealed with a special topcoat containing compounds called plasticizers, plus softening agents to keep it supple and attractive. All vinyl, even the special marine grade used in our premium hot tub covers, is a UV- sensitive material which can degrade after long time sunlight exposure or mildew formation.

Basic Tips to Prevent Your Investment from Damage:

- 303 Protectant conditions beautifully and prevents fading & cracking. We recommend only 303 Aerospace Protectant. With regular use, 303 blocks up to 100% of harmful UV to prevent sun damage. When applied to the underside of your cover, it also helps prevent mildew. Using the wrong vinyl treatment product is worse than using nothing at all! The well-known automotive vinyl treatment contains silicone oil which is death to vinyl.
- If a vinyl protectant product label says “flammable” or contains petroleum distillates, keep it AWAY from your spa cover.



Cleaning Your Cover:

- Rinse the cover with cool water using a garden hose.
- Using warm soapy water and a clean soft cloth, wipe the entire cover down.
- **(DO NOT USE** laundry detergent, bleach, alcohols, liquid dishwasher soaps or any other harsh cleaners.)
- Rinse the cover of all soap and allow to fully dry.
- On a warm dry day, stand the cover on end to allow the cover to drain fully of any water.
- **TIP:** Tree sap can be removed by rubbing it with a little vegetable oil or margarine.

After cleaning the cover, spray a light coating of the 303 protectant on top and cover apron. Spread evenly with a damp terry cloth. Repeat procedure on the underside of your cover. Repeat monthly in the summer and every 3-4 months the rest of the year.

Do Not Use products such as Armor All, Turtle Wax, and petroleum-based cleaners, as they will cause the cover to dry dramatically and crack.

Cleaning your spa cover is an important part of routine spa maintenance. Dirt acts as an abrasive to the vinyl topcoat, and can also cause wear to fold, seams and stitching. Mildew which grows on damp, dirty vinyl will begin to actually rot in the fabric, accelerating failure.

Dealing with Mildew: Unzip the jacket and carefully remove the foam cores. Clean the inside of the jacket. Clean the core's plastic vapor barrier. Spray off surfaces with a garden hose and towel-dry all surfaces. Allow for additional air-dry time of the jacket. Sunlight exposure for an hour or two helps rid residual mildew from inside the jacket. Carefully reassemble when dry.

Care Tips: A spa cover manufacturer's warranty covers original defects in materials, but will not apply to damage cause by abuse, accidents, neglect or normal wear-and-tear. We've put together information that you need for proper maintenance to get the most life out of your spa cover.

Tips for Protecting Foam Core: Spa covers have a core which can be broken if abused. Never allow children to play or jump on a cover, this may cause breakage of the core. Grit from shoes or bare feet can also mark the vinyl covering. Avoid placing sharp objects on the cover, which can puncture the core liner, permitting water to enter and be absorbed by the foam core. Animal claw scratches or chewing can have the same result, so if your furry little friend likes to chew try to keep them away. One more thing, try to avoid placing glass or any other sort of object that may create excessive heat from the magnified effects of sunlight. This heat can actually cause the foam core to melt and is not covered by warranty.

Water Intrusion? Although a few water droplets inside the clear plastic liner which protects the foam core are not a major concern, a large accumulation of liquid water needs attention. The cause is normally a vapor barrier puncture or break in the plastic seam around the perimeter, which is easy to fix yourself. If you believe that your cover core liner may contain a lot of liquid water and it has a zipper vinyl jacket open the zipper and carefully remove the foam core for inspection. Look for any puncture or openings that it may have around the perimeter seal. Even a small hole can let in a lot of water over time.

Patching Holes: After you have located the hole and or holes, it is very important to drain as much of the accumulated water out of the clear plastic liner as possible, to prevent it from eventually getting absorbed by the foam core. If you can't get the water out via the entry hole, it can quickly be drained out by very carefully cutting a small slit in the plastic liner near one of the corners. Set the core on edge so that the water flows down and out of the slit. Don't expect to get out every last drop. Just try to get out as much as you can and you'll be in good shape.

You can fix liner holes with a product called Tear-Aid Type A. This is an inexpensive product that provides a permanent sealing solution around water. Make sure the plastic is dry around your repair so that it will adhere. Fixing it yourself is easy, and eliminates the considerable expense of shipping off the large core for repairs.

Tie Down Straps & Broken Latches: Tie down straps are there for one purpose: to secure the cover to the spa. To avoid ripping the straps, never use them to carry or remove the cover. Another common cause of ripped straps is failure to unlatch all of the locks before attempting to lift the cover off of the tub. This type of damage is not covered by any spa warranty.

Snow or Water Accumulation? Cover manufacturer's warranties do not cover snow or other weight-related damage. So if it snows where you live, make sure you help prevent breakage of the spa cover's foam core by carefully removing excess accumulation during winter months.



Sometimes a hot tubs cover which has been weight-stressed will develop water puddles due to sagging. Some cheap covers (as well as older ones) were not designed with a tapered core for proper water runoff, which exacerbates the problem. If you start to get a small puddle on your cover, unzip the vinyl covering and carefully remove the foam core, then flip it over. Flipping it sometimes corrects the issue (at least temporarily) if not too severe.

ERROR MESSAGES

There are 9 error messages that a SmarTouch may generate. Here is a list of these messages and what they indicate:

CoLd Temperature in the spa heater housing is below 40° Fahrenheit. Because spa temperature should never get this low, the status of the heater element is unknown. Therefore, the low speed pump or circulation pump will run continuously until the temperature rises above 45°.

OH OverHeat. The spa is at a temperature that is above 108°F. SmarTouch will not accept temperature settings above 104°F. If for some reason spa temperature rises over the maximum level, SmarTouch will display a flashing 105°F to 108°F. The spa is still operational but hotter than any person should be subjected to. Please **DO NOT** use your spa when the temperature is flashing or the **OH** message is displayed.

In the summer and especially in warm regions, ambient temperature may be high enough to overheat the spa naturally. Spas are usually well insulated and can store a lot of heat in the equipment compartment.

HLer Hi Limit Over Heat. SmarTouch has a backup water temperature sensor called the HiLimit. If the sensor is disconnected or shorted or if the spa temperature should reach above 112°F, the HiLimit protection circuitry will force all spa functions off and will flash the HLER message on the display. It is not possible to use the spa when this error is in effect. When the error has been corrected, you must press the SET key to acknowledge that you, the spa user, are aware of the error condition and should have the proper repairs done.

SEoP Sensor Open or disconnected and SmarTouch cannot determine the spa temperature. The heater is disabled but the spa is operational. The sensor must be replaced or reconnected for this message to go away.

SESH Sensor Short. The sensor is shorted and is no-functional. Temperature cannot be determined, the heater is disabled, but the spa is still operational. Sensor must be replaced to get rid of this message.

PSoC, PsoL, PsoH Pressure Switch Open with Circulating, Low or High pump(s). The pressure switch is a device sensitive to pressure inside the heater manifold. Pressure in the heater manifold is generated by a pump pushing water through the manifold. If one pump is running and the pressure switch does not sense pressure, then there is an indication of no water flow.

To prevent the heater from being turned on when there is no water running through, the heater is turned off and one of these messages will be displayed indicating which pump is supposed to be running.

A pressure switch error may also be indicated if the switch is out of adjustment or there is an air lock in the pump. Adjusting the pressure switch is best left to a trained technician. An air lock may happen whenever the spa is drained and refilled with water, or if the water level in the spa is so low as to permit air to be sucked in by the pump. To bleed an air lock; switch off power, loosen one of the pump fittings a quarter of a turn. You will hear the sound of escaping air, and then water will start dripping. Re-tighten the fitting.

ToE Time-Out Error. It is not likely that you will ever see this error. It indicates that the system's heartbeat is out of control, all devices will be shut down and the spa is unusable. This message will rarely ever occur, if it does, please contact Applied Computer Controls.