



Owners Manual

International



Hot Tubs &
All Weather Pools

**ENGINEERED
FOR THE WORLD'S
HARSHEST CLIMATES**
You Deserve it!



Congratulations!



Your choice of an Arctic Spa indicates that you are devoted to excellence. At Arctic Spas® we believe a good foundation is required to build a superior product, both in design and philosophy. Canadian built with the finest materials and advanced technology to withstand even the harshest of weather conditions, Arctic Spas® are made to perform... wherever you happen to live. To safely and effectively use your spa, we recommend that you take the time to read this manual before you hook-up and operate the spa.

This guide will acquaint you with the operating features, hook-up procedures, and the maintenance and safety procedures, ensuring an enjoyable experience right from the start.

If you require additional information, please call your local Arctic Spas® dealer. A complete list of dealers and international Arctic Spas websites can be found on the internet at ArcticSpas.com.

IMPORTANT!

In most cities and counties, permits will be required for the installation of electrical circuits or the construction of exterior surfaces (decks and gazebos). In addition, some communities have adopted residential barrier codes which may require fencing and/or self-closing gates on the property to prevent unsupervised access to a pool or spa by children under 5 years of age. Your Arctic Spa is equipped with a locking cover that meets the ASTM F1346-91 Standard for Safety Covers and as a result, is usually exempt from most barrier requirements. As a general practice, your local Building Department will inform you of any applicable barrier requirements at the time a permit is obtained for the installation of an electrical circuit. Your Arctic Spas Dealer can provide information on which permits may be required.

IMPORTANT SAFETY INFORMATION

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the appliance.

Cleaning and user maintenance shall not be made by children without supervision.



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For the most up-date Warranty information please go to ***arcticspas.com*** to download the Arctic Spas Manual.







Introduction

All Arctic Spas



Important Safety Instructions:

READ AND FOLLOW ALL INSTRUCTIONS CAREFULLY

When installing and using this electrical equipment, basic safety precautions should always be followed, including:

- 1) WARNING:** To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.
- 2) WARNING:** A grounding wire connector is provided on this unit to connect a minimum No. 8 AWG solid copper conductor (USA) No. 6 AWG stranded (Canada) 8.4mm (Europe) between this unit and any metal equipment, metal enclosures of electrical equipment, metal water pipe, or conduit within 5 feet (1.5 m) of the unit.
- 3) DANGER:** Risk of Accidental Drowning. Extreme caution must be exercised to prevent unauthorized access by children. To avoid accidents, ensure that children cannot use this hot tub unless they are supervised at all times. Use the hot tub straps, cover safety and clip tie downs to secure the cover when not in use. This will help to discourage unsupervised children from entering the hot tub. There is no representation that the cover, clip tie downs, or actual locks will prevent access to the hot tub.
- 4) DANGER:** Risk of Injury. The suction fittings in this hot tub 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 hot tub if the suction fittings are broken or missing. Consult your local dealer for assistance in choosing an appropriate replacement suction fitting.

5) DANGER: Risk of Electric Shock. Install at least 5 feet (1.5 m), from all metal surfaces. As an alternative, a hot tub may be installed within 5 feet (1.5 m) of metal surfaces if each metal surface is permanently connected (bonded) by a minimum No. 8 AWG solid copper conductor (US) No. 6 AWG stranded (Canada) 8.4 mm (Europe) attached to the wire connector on the equipotential bonding bar which is located on the side of the spa control pack.

6) DANGER: Risk of Electric Shock. Do not permit any electrical appliance, such as a light, telephone, radio, television, etc. within 5 feet (1.5 m) of a hot tub. All controls or devices accessible from the spa must be powered by a maximum of 12 vdc. Do not permit any electrical appliances powered by 12 vdc or more within 1.5 m of the hot tub.

7) ELECTRICAL SUPPLY: The electrical supply for this product must include a suitable circuit breaker GFCI (north America) RCD (Europe) to open all ungrounded supply conductors. The disconnect must be readily accessible and visible to the hot tub occupant but installed at least 5 feet (1.5 m), from the hot tub water.

8) WARNING: To Reduce the Risk of Injury:

a) The water in a hot tub 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 young children and when hot tub use exceeds 10 minutes.

b) Since excessive water temperatures have a high potential for causing fetal damage during the early months of pregnancy, pregnant or possibly pregnant women should limit hot tub water temperatures to 100°F (38°C). If pregnant, please consult your physician before using a hot tub.

c) The use of alcohol, drugs, or medication before or during hot tub use may lead to unconsciousness with the possibility of drowning.

IMPORTANT!

This manual was written to ensure the proper use and installation of any Arctic Spa. Any modifications to the procedures outlined may result in your warranty being voided. Please read this manual to avoid any unnecessary damage to your spa and equipment.



d) Persons suffering from obesity or a medical history of heart disease, low or high blood pressure, circulatory system problems, or diabetes should consult a physician before using a hot tub.

e) Persons using medication should consult a physician before using a hot tub since some medication may induce drowsiness, while other medication may affect heart rate, blood pressure, and circulation.

9) WARNING: A bonding lug bar is provided on the side of your spa pack to accommodate grounding of entire spa. To reduce the risk of electric shock, connect the local common bonding grid in the area of the hot tub to these terminals with an insulated or bare copper conductor not smaller than No. 8 AWG solid (US) No. 6 AWG stranded (Canada) 8.4 mm (Europe).

WARNINGS! **SAVE THESE INSTRUCTIONS**

WARNING: Children should not use hot tubs without adult supervision.

AVERTISSEMENT: Ne pas laisser les enfants utiliser une cuve de relaxation sans surveillance.

WARNING: Do not use hot tubs unless all suction guards are installed to prevent body and hair entrapment.

AVERTISSEMENT: Pour éviter que les cheveux ou une partie du corps puissent être aspirés, ne pas utiliser une cuve de relaxation si des grilles de prise d'aspiration ne sont pas toutes en place.

WARNING: People with infectious diseases should not use a hot tub.

AVERTISSEMENT: Les personnes atteintes de maladies infectieuses ne devraient pas utiliser une cuve de relaxation.

WARNING: To avoid injury, exercise care when entering or exiting the hot tub.

AVERTISSEMENT: Pour éviter des blessures, user de prudence en entrant dans une cuve de relaxation et en sortant.

WARNING: Do not use drugs or alcohol before or during the use of a hot tub to avoid unconsciousness and possible drowning.

AVERTISSEMENT: Pour éviter l'évanouissement et la noyade éventuelle, ne prendre ni drogue ni alcool avant d'utiliser une cuve de relaxation ni quand on s'y trouve.

WARNING: Pregnant or possibly pregnant women should consult a physician before using a hot tub.

AVERTISSEMENT: Les femmes enceintes, que leur grossesse soit confirmée ou non, devraient consulter un médecin avant d'utiliser la cuve de relaxation.

WARNING: Water temperature in excess of 100°F (38°C) may be injurious to your health.

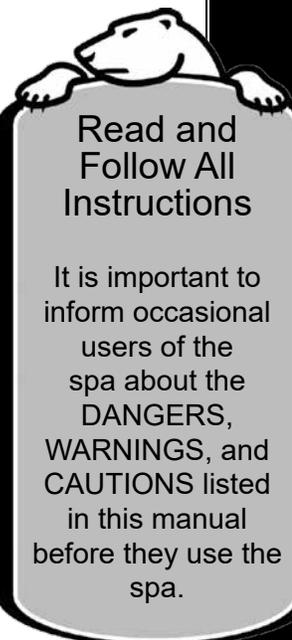
AVERTISSEMENT: Il peut être dangereux pour la santé de se plonger dans de l'eau à plus de 100°F (38°C).

WARNING: Before entering the hot tub, measure the water temperature with an accurate thermometer.

AVERTISSEMENT: Avant d'utiliser une cuve de relaxation mesurer la température de l'eau à l'aide d'un thermomètre précis.

WARNING: Do not use a hot tub immediately following strenuous exercise.

AVERTISSEMENT: Ne pas utiliser une cuve de relaxation immédiatement après un exercice fatigant.



CAUTION! Indicates a situation in which damage to equipment or material may occur.	DANGER! Indicates risk of injury.	WARNING! Indicates information of critical importance.
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WARNING: Prolonged immersion in a hot tub may be injurious to your health.

AVERTISSEMENT: L'utilisation prolongée d'une cuve de relaxation peut être dangereuse pour la santé.

WARNING: Do not permit electric appliances (such as light, telephone, radio, television, etc.) within 5 feet (1.5m) of this hot tub.

AVERTISSEMENT: Ne pas placer d'appareil électrique (luminaire, téléphone, radio, téléviseur, etc.) à moins de 5 feet (1.5m) de cette cuve de relaxation.

CAUTION: Maintain water chemistry in accordance with manufacturer's instructions.

ATTENTION: La teneur de l'eau en matières dissoutes doit être conforme aux directives du fabricant.

WARNING: The use of alcohol or drugs can greatly increase the risk of fatal hyperthermia in hot tubs.

AVERTISSEMENT: La consommation d'alcool ou de drogue augmente considérablement les risques d'hyperthermie mortelle dans une cuve de relaxation.

WARNING: People using medications and / or having an adverse medical history should consult a physician before using a spa or hot tub.

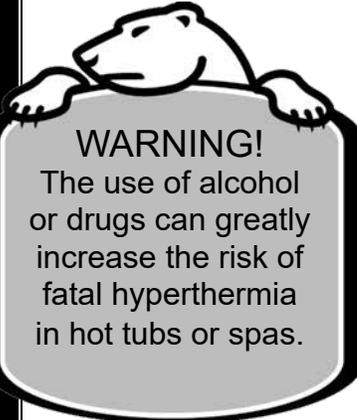
AVERTISSEMENT: Les personnes qui prennent des médicaments ou ont des problèmes de santé devraient consulter un médecin avant d'utiliser une cuve de relaxation.

Hyperthermia

Prolonged immersion in hot water may induce hyperthermia.

Hyperthermia occurs when the internal temperature of the body reaches a level several degrees above the normal body temperature of 99°F (37°C). The symptoms of hyperthermia include drowsiness, lethargy, and an increase in the internal temperature of the body. The effects of hyperthermia include:

- ▶ Unawareness of impending hazard;
- ▶ Failure to perceive heat;
- ▶ Failure to recognize the need to exit hot tub;
- ▶ Physical inability to exit hot tub;
- ▶ Fetal damage in pregnant women; and
- ▶ Unconsciousness and danger of drowning.



WARNING!

The use of alcohol or drugs can greatly increase the risk of fatal hyperthermia in hot tubs or spas.

Installation Instructions

Site Preparation

Please ensure the following:

- Always put your spa on a structurally sound, level surface. A filled spa can weigh a great deal. Make certain that the location you choose can support the weight of your filled spa.
- Locate your equipment compartment, which houses all of electrical components, in a place where you will have easy access for periodic spa care and maintenance.
- Allow adequate access to all other doors for service.

Outdoor Ground Level Installation

No matter where you install your new spa, it's important that you have a solid foundation for support. If you are installing a spa with a wooden pedestal floor outdoors, we recommend you place patio stones underneath spaced out evenly. The stones should be at least two inches thick and twelve inches square (30 cm x 30 cm). Even with stones in place, the spa will possibly settle and become uneven, and may require re-leveling over time. If you are installing a spa with a Forever Floor® outdoors, you may set it on virtually any surface, as long as it is firm and level.

Deck Installation

To be certain your deck can support your spa, you must know the deck's maximum load capacity. Consult a qualified building contractor or structural engineer. To find the weight of your spa, its contents and occupants, refer to the Spa Specification chart. This weight per square foot must not exceed the structure's rated capacity, or serious structural damage could result.

Your Arctic Spas® Dealer can help you with local information such as zoning regulations and building codes.

All Weather Pool Site Prep

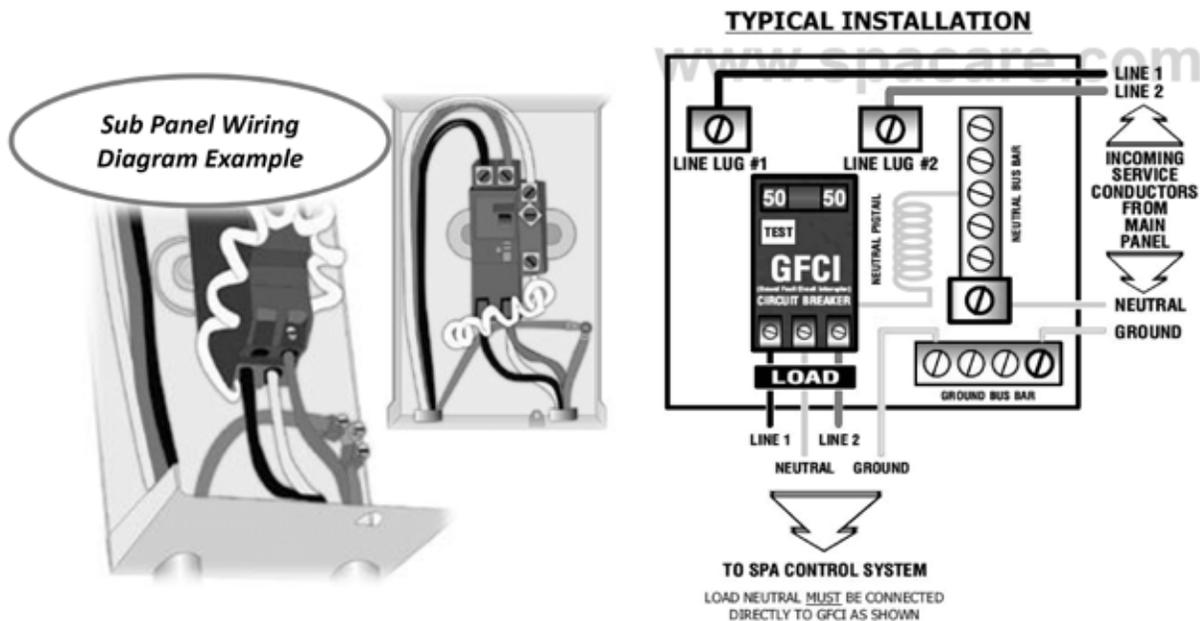
Your new All Weather Pool should be placed on a prepared, uniformly solid and level surface (concrete pad, properly engineered wood deck, etc.). The AWP should not be placed directly on a lawn, bare ground, or gravel pad due to irregularities in the surface that may cause structural failure of the cabinet and shell that could void the warranty.



Balconies, concrete pads, and decks should be constructed to meet all builder codes and should be able to or exceed supporting 146 Lbs per square foot (7kPa).

Your Arctic Spa is equipped with access doors on all four sides. It is the customer's responsibility to provide access and ensure there is a minimum of 24" (600mm) all around the spa for service person access. Consult your sales person or service department on the different ways to achieve this clearance.

Electrical Specifications



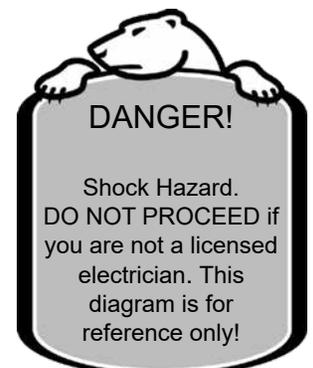
Electrical Installation Instructions

ARCTIC SPAS® MUST BE WIRED IN ACCORDANCE WITH ALL APPLICABLE LOCAL ELECTRICAL CODES. ALL ELECTRICAL WORK SHOULD BE DONE BY AN EXPERIENCED, LICENSED ELECTRICIAN AND APPROVED BY A LOCAL BUILDING/ELECTRICAL INSPECTION AUTHORITY.

The electrical supply must satisfy the requirements of the spa as marked on the certification label which is located adjacent to the spa controller (pack). If the ratings are not legible or cannot be found, please contact the factory for assistance. - DO NOT GUESS!

WARNING: Removing or bypassing any GFCI /RCD breaker will result in an unsafe spa and will void the spa's warranty.

IMPORTANT: Your Arctic Spa has been carefully engineered to provide maximum safety against electric shock. Remember, connecting the spa to an improperly wired circuit will negate many of its safety features.



Startup Procedures

IMPORTANT:

Your Arctic Spa® has been thoroughly tested during the manufacturing process to ensure reliability and long-term customer satisfaction. Before filling the spa, wipe the spa shell clean with a soft rag. Make sure to fill spa through filter bucket.

The following instructions must be read and followed exactly to ensure a successful start-up or refill.

- 1) Ensure the electrical connections have been made in accordance with this manual.
- 2) Ensure all O-Rings have been installed into unions and unions have been tightened sufficiently.
- 3) Ensure all ball valves are open, and the drain has been closed. The spas drain fitting located on the external cabinet.
- 4) Using a garden hose in the filter bucket, fill the spa with pre-filtered water to the bottom of the pillows (or approximately 6", 15 cm above the base of the floating weir).
- 5) Once the spa is filled to the proper level, turn the power to the spa on, by turning on the GFCI /RCD breaker in your panel.
- 6) The jet pump, heating system and all internal plumbing will achieve a partial prime as the spa is filled. To check the operation of the jet system and to remove any remaining air from the plumbing system, follow these steps:
 - a) **All Models:** Push the pump 1 button a second time to turn the pump to high speed. Allow to run for 1 minute.
 - b) **Signature:** Push pump 2 button also. This pump runs at high speed only. Run for one minute.
 - c) **Legend and Legend Select:** Push pump 3 also. This pump runs at high speed only. Run for one minute.
 - d) **SDS Series** push pump 4 button once to turn on and run for one minute. Once the jet system is fully operational (as indicated by strong, non-surging jets), priming of the spa is complete. Push each pump button once to turn the pumps off.

IMPORTANT: Weak or surging jets can be indication of a low water level, or a clogged filter cartridge.

- 7) Adjust the chemicals and balance the water according to your dealer's instructions. A guideline is also included in this manual, under the Water Maintenance Section.
- 8) Set the temperature control to the desired temperature (between 100°F and 104°F (38°C and 40°C), then place the insulated cover on the spa and allow the water temperature to stabilize (approximately 16 hours). Make sure you secure the cover in place using the cover locks. Periodically check the spa water temperature. When the water temperature climbs above 85°F (29°C), proceed to the next step.



- 9) Test and Adjust Sanitizer level (Health Canada mandates 3 - 5 ppm for residential Hot Tubs Spas).
- 10) Rotate diverters to centre position and press "Pump 2" button on topside control panel for 5 seconds to activate the "Boost filtration system". When this system is enabled, "boo" is displayed on the screen. This will give 45 min of circulation and filtration to disperse the chemicals.



CAUTION!

If your spa or AWP is equipped with Spa Boy or ONZEN please consult the: Spa Boy Owners Manual or ONZEN User Guide for further setup requirements.

Spa Care and Maintenance

Your Arctic Spa® is manufactured from the highest quality, most durable materials available. Even so, the spa care and maintenance program you develop will ultimately determine how long your spa and its individual components will last. Regular maintenance following the advice in this section will help you to protect your investment.

IMPORTANT: Before performing any maintenance on your spa, make a visual inspection of the spa to get an understanding of what condition it may be in and if anything looks out of the ordinary. If any part appears to be damaged, loose or missing, do not proceed. Contact your Factory Authorized Dealer immediately.

IMPORTANT: If using traditional chemicals remember to change your water every three to four months. If using SpaBoy you can get 6 months to two years in between water changes.

Custom and Classic Series Draining the Water

Detergent residues and dissolved solids from bathing suits and chemicals will gradually accumulate in your spa's water. Normally, in about three to four months the water will become difficult to balance and should be replaced. Showering without using soap prior to entering the spa or using only the rinse cycle when laundering your bathing suit will help to reduce detergent residue in the spa water. However, foam problems are more likely to be caused by a build up of organic pollutants in the spa, mostly from body oils. If you're using your spa frequently with a high bather load the water will need to be replaced more often. Spa water gradually loses quality because of build-ups of unfilterable pollutants.

To Drain Your Spa:

1. Shut off the GFCI /RCD breaker located in the sub panel or the quick disconnect.
2. Locate the hose adapter and thread on to your garden hose.
3. Remove the drain plug, and thread in the adapter.
4. When the adapter is threaded all the way in the drain will automatically open and begin draining.

Note: All Arctic Spas® models will drain through the floor drain. Equipment such as the pump(s) and heater will drain. All models will leave a small amount of water in the foot well. Any water remaining in the plumbing or equipment after draining will only need to be removed if the spa is being winterized.

1. When empty, inspect the spa shell and clean as required.
2. Close the drain valve.
3. Refill the spa BEFORE restoring power.



Core Series Draining the Water

To Drain Your Core Spa:

1. Shut off the GFCI RCD breaker located in the sub panel or the quick disconnect.
2. Locate and remove the drain plug.
3. Thread your garden hose in the adapter.
4. When the Hose is threaded in, pull the hose and the drain will open and begin draining.



Custom Series Filtration System

Filter Cartridge Removal and Installation For Custom

1. Put the Spa in Standby mode using sds button on the topside control panel.
2. Remove the telescoping filter Insert.
3. Remove Pre-Filter.
4. Grab handle and pull up sharply to remove filter cartridge.
5. Insert new Filter cartridge.



The use of Clarifiers and Foam inhibitors is not recommended with disposable filters!

Arctic Spas® are equipped with balanced filtration, meaning that the filter cartridges are sized to meet the needs of the pump system. As with any water filtering system, the filter cartridge may become clogged, resulting in reduced water flow. It is important to maintain a clean, unobstructed filter system.

Classic and Core Series Filter Cartridge Removal and Installation

1. Put the spa in Standby mode using the on/off button on the topside control panel.
2. Remove the telescoping filter cylinder
3. Unscrew the filter cartridge and either clean the reusable filter or discard the disposable filter.
4. Re-thread the clean or new filter.
5. Slide the telescoping filter cylinder back into the filter bucket.
6. We recommend that your filter cartridge be replaced with an Arctic Pure® disposable filter cartridge every three (3) months.

IMPORTANT: With reusable filters, it is necessary to rinse the filter cartridges weekly. Every month, and each time the spa is drained for cleaning, clean the cartridges in filter cleaner. (With Arctic Spas disposable filters, simply replace the cartridge whenever the spa is drained, or about every three months).

Care of Spa Pillows

The spa pillows used in many of the Arctic Spas® models will provide years of comfort if treated with care. They have been positioned above the water level to minimize the bleaching effects of chlorinated water and other spa water chemicals. To extend their life, whenever the spa shell is being cleaned, the spa pillows should be removed and cleaned. Body oils can be removed with a mild soap and water solution. ALWAYS rinse off the spa pillows thoroughly to remove any soap residue. The pillows can be conditioned with Arctic Pure® Cover and Cabinet Renew after cleaning. If the spa is not going to be used for a long period of time (that is, during a vacation or if the spa is being winterized), or when the spa water is being super-chlorinated, the spa pillows should be removed until the next use of the spa.

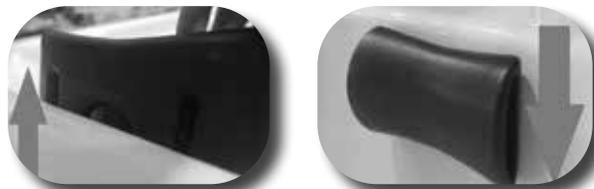
To remove and adjust the Custom spa pillows:

1. Pull the pillow directly upwards until it is fully extended. Next to the acrylic of the shell, there is a button that you press to allow you to pull the pillow upwards and out completely.
2. To reinstall the spa pillow, push the button and carefully insert pillow.



To Adjust the Core Spa Pillows:

1. Pull up on the pillow to extend to its highest level
2. Push down for its lowest level



Care of the Spa Shell

Your Arctic Spa® has a fiberglass reinforced, Aristech® cast acrylic shell. Stains and dirt generally will not adhere to your spa's surface. A soft cloth or sponge should easily remove most dirt. Most household chemicals are harmful to your spa's shell. Sodium bicarbonate (baking soda) or vinegar can also be used for minor surface cleaning. Always thoroughly rinse off any spa shell cleaning agent with fresh water.

Service Notes:

1. Iron and copper in the water can stain the spa shell if allowed to go unchecked. Your Arctic Spas® Dealer stocks Arctic Pure® Best Defence to use if your spa water has a high concentration of dissolved minerals.
2. The use of alcohol or any household cleaners other than those listed to clean the spa shell surface is NOT recommended. DO NOT use any cleaning products containing abrasives or solvents since they may damage the shell surface. Damage to the shell by the use of harsh chemicals is not covered under the warranty.

MANUAL SAFETY COVER

 WARNING	 AVERTISSEMENT
AVOID DROWNING RISK	ÉVITEZ DE NOYER LE RISQUE
<small>KEEP CHILDREN AWAY. CHILDREN OR OBJECTS CANNOT BE SEEN UNDER COVER. REMOVE COVER COMPLETELY BEFORE ENTRY - BATHERS ENTRAPMENT POSSIBLE. NON-SECURED OR IMPROPERLY SECURED COVERS ARE A HAZARD. FAILURE TO FOLLOW ALL INSTRUCTIONS MAY RESULT IN INJURY OR DROWNING.</small>	<small>ENFANTS DE SUBSISTANCE PARTIS. DES ENFANTS OU LES OBJETS NE PEUVENT PAS ÊTRE VUS SOUS LA COUVERTURE. ENLEVEZ LA COUVERTURE COMPLÈTEMENT AVANT L'BAIGNEUR - OCCLUSION D'ENTREE POSSIBLE. LES COUVERTURES NON-FIXÉES OU INCORRECTEMENT FIXÉES SONT UN RISQUE. LE MANQUE DE SUIVRE TOUTES LES INSTRUCTIONS PEUT AVOIR, COMME CONSÉQUENCE LES DOMMAGES OU LA NOYADE.</small>

Care of the Spa Cover

WARNING: The cover is a manual safety cover that meets or exceeds all prevailing requirements of ASTM Standards for spa safety covers when installed and used correctly as of the date of manufacture. Non-secured or improperly secured covers are a hazard. Open the cover to its fully open position before use. Be sure to inspect the cover for premature wear or deterioration. Over time, with use, there is a chance of normal cover wear and deterioration. To properly maintain your cover see directions below.

Vinyl Cover

The vinyl spa cover is an attractive, durable foam insulation product. Monthly cleaning and conditioning is recommended to maintain its beauty.

To clean and condition the vinyl cover:

1. Remove the cover from the spa and gently lean it against a wall or fence.
2. With a garden hose, spray the cover to loosen and rinse away dirt or debris.
3. Using a large sponge and/or a soft bristle brush, and using a very mild soap solution or baking soda, scrub the vinyl top in a circular motion. Do not let the vinyl dry with a soap film on it before it can be rinsed clean.
4. Scrub the cover's perimeter and side flaps. Rinse clean with water.
5. Rinse off the underside of the cover with water only (use no soap), and wipe it clean with a dry rag.
6. To condition the cover after cleaning, apply a thin film of Arctic Pure® Cover and Cabinet Renew to the vinyl surface and buff.

Weather Shield Care and Cleaning

Weather Shield The material used to make covers is a solution dyed polyester fabric designed to be flexible and easy to maintain. Its urethane coating enhances the stability of the weave and allows for greater water resistance, while also minimizing shrinkage and stretching. Weather Shield features a high UV, water, mold and mildew resistance and has excellent tear and abrasion resistance.

1. **Care and Cleaning:** Weather Shield is designed to be easy to maintain. It can be washed, or brushed off and rinsed. Proper care and cleaning is important to maximize the life of all fabrics.
2. **For normal Care and Cleaning:** Add 2 ounces of mild soap such as Woolite or Dawn dishwashing liquid to a gallon of lukewarm water. Clean the fabric with a "soft bristle brush". Rinse thoroughly cold water and air dry.
3. **For Stubborn Stains:** Make a mixture of bleach and water by adding a maximum of 1 cup of bleach to 1 gallon of water. Spray the mixture on lightly to the fabric face (non-coated side). Do not soak the fabric. Prolonged exposure to harsh chemicals can damage the coating. Rinse immediately. Do not leave on for more than 2 minutes. Cleaning with harsh cleaners such as bleach will require a retreatment like 303 High Tech Fabric Guard.

Care of the Spa Cabinet

Cedar Cabinet: When properly cared for, the wood cabinet of your spa will maintain its beauty for many years. Your Arctic Spa cabinet has been specially treated with Olympic Maximum Wood Stain. Use this stain or a similar product on a regular basis to protect the wood of the cabinet and keep your spa looking great for years to come.

The easiest method of maintaining your cedar cabinet and to keep your cedar cabinet looking as good as the day your spa was first delivered, is to apply one coat of oil to your cedar cabinet twice a year. Just before summer and again at the end of summer are the best times. In between oiling your cedar cabinet you can also clean and rejuvenate your cedar cabinet with Arctic Pure Cover and Cabinet Renew.

No Maintenance Cabinet:

Hot soapy water is the best choice for cleaning the NOM cabinets. The NOM cabinets are a hard material with a non-porous surface, therefore it does not readily stain and most spills do not stick. Any water-based household cleaner can be used to clean the surface, including Windex, 409, Pledge, Murphy's Oil Soap, Simple Green and citrus cleaners. Avoid any cleaner that contains solvents or harsh chemicals. If unsure of the cleaner, test on a small area before cleaning. Although not commonly necessary, the NOM cabinets can be pressure-washed.

Winterizing Your Spa

If you plan to leave your spa unused for a long period of time in severely cold weather, you should drain the spa to avoid accidental freezing due to a power or equipment failure. We recommend your local authorized dealer winterize your spa. Freezing can severely damage your spa. Improper winterizing of your spa can void your warranty.



Water Maintenance

It's important to have clean water. Water maintenance is one of the least understood, but very important areas of spa ownership. Your dealer can guide you through the process of achieving and maintaining perfect water in your spa, given your local conditions. Your program will depend on your water's mineral content, how often you use your spa, and how many people use it. Here is our suggested step-by-step program:

General Information

There are three fundamental areas of water maintenance. They are (1) Chemical Balance/pH Control, (2) Water Sanitation, and (3) Water Filtration.

Although your spa's filter system is working several hours a day to remove particles from your water, it does not remove bacteria or viruses. Water sanitation is the responsibility of the spa owner. It can be achieved through the regular and periodic (daily, if necessary) addition of an approved sanitizer. The sanitizer will chemically control the bacteria and viruses present in the spa water. Bacteria and viruses can grow quickly in under sanitized spa water. The water's chemical balance and pH control are also the responsibility of the spa owner. You will have to add chemicals to maintain proper levels of Total Alkalinity (TA), Calcium Hardness (CH) and pH. Proper water balance and pH control will minimize scale buildup and corrosion of metals, extend the life of the spa, and allow the sanitizer to work at maximum efficiency.

For Onzen™ System: Please refer to your Onzen User Guide for direction in water maintenance. (Pg.96)

For Spa Boy® System: Please refer to your Spa Boy Owners manual for directions in water maintenance. (Pg.70)

Methods For Testing The Spa Water

Accurate water testing and analysis are an important part of effectively maintaining your spa water. To follow the Arctic Spas® recommended program, you must have the ability to test for:

- Total Alkalinity (TA)
- Calcium Hardness (CH)
- pH
- Sanitizer

Although reagent liquid test kits provide the highest level of accuracy, Test Strips are the most convenient testing method used by many spa owners. Keep in mind that test strips are susceptible to heat and moisture contamination, and have limited lifespans which can result in inaccurate readings. Very high sanitizer levels will also render test strips unreliable.

IMPORTANT: Always read and carefully follow the directions included with the Test Kit or Test Strips to ensure the accuracy of the test results.



Hints For Successful Water Testing

When using the reagent test kit:

- Always take water samples 30-45 cm (12" - 18") below the water surface.
- Rinse the test cells before and after each use.
- Do not dispose of test samples into the spa water.
- When adding drops of chemicals from the kit (the reagents) into the test block, hold the bottle vertically and add the drops slowly to be sure the correct quantity is used.
- The reagents should be replaced on a yearly basis to maintain the accuracy of the test results.

Basic Chemical Safety

When using chemicals, read the labels carefully and follow directions precisely. Though chemicals protect you and your spa when used correctly, they can be hazardous in concentrated form. Always observe the following guidelines:

- ALWAYS KEEP CHEMICALS OUT OF CHILDREN'S REACH.
- NEVER MIX CONCENTRATED CHEMICALS TOGETHER.
- ALWAYS THOROUGHLY RINSE ANY CONTAINER USED TO MIX CHEMICALS AFTER USE.
- ALWAYS RINSE OUT ANY EMPTY CHEMICAL STORAGE CONTAINER BEFORE DISPOSAL.
- Accurately measure the quantities specified. Do not overdose your spa. Amount required will vary depending on water condition, quantities to be used are only guidelines.
- Store chemicals in a cool, dry, well ventilated place.
- Always keep chemical containers closed when not in use.
- Don't inhale fumes or allow chemicals to come in contact with your eyes, nose, or mouth. Wash your hands immediately after use.
- Follow the emergency advice on the product label in case of accidental contact.
- Never smoke around chemicals. Some fumes can be flammable.
- Don't store any chemicals in the spa equipment compartment.

Adding Chemicals to the Spa

Most chemicals (does not include any slow dissolving chemicals) can be added directly to the spa while the pump(s) is running on high speed, for a minimum of 10 minutes.

IMPORTANT WHEN USING ARCTIC PURE® BOOST OR REFRESH TREATMENT

NOTE: After administering a super chlorination treatment or non-chlorine shock to your spa, leave the cover open for a minimum of 20 minutes to allow the oxidizer gas to vent. A high concentration of trapped oxidizer gas which may exist as a result of the shock treatment (not daily sanitation) may eventually cause discoloration or vinyl degradation to the bottom of the cover. This type of damage is considered chemical abuse and is not covered under warranty.

The Arctic Pure® Water Maintenance Program

Following the Arctic Pure® water maintenance program will save you time and frustration and ensure clear, clean spa water.



Remove Excess Minerals

Most tap water has minerals such as Calcium, Copper, Iron, Manganese and Sodium in it, and the circulation of water can cause the erosion of metals from spa equipment which can present possible scaling and staining problems in your spa. Cases of source water with high minerals (such as some well water):

- 1. We recommend you add 3 1/2 tablespoons (48 grams) of Arctic Pure® Best Defense per 1000 litres (265 gallons) of water while filling your spa.

Balance the Total Alkalinity (TA)

1. The recommended Total Alkalinity (TA) for your spa water is 80-120 ppm.
2. Total Alkalinity is a measure of the total levels of carbonates, bicarbonates, hydroxides, and other alkaline substances in the water. TA is referred to as the water's "pH buffer". In other words, it's a measure of the ability of the water to resist changes in pH level.
3. If the TA is too low, the pH level will fluctuate widely from high to low. Fluctuations in pH can cause corrosion or scaling of the spa components. Low TA can be corrected by adding Arctic Pure™ Perfect Balance.
4. If the Total Alkalinity is too high, the pH level will tend to be high and may be difficult to bring down. The pH can be lowered by using Arctic Pure® Adjust Down.
5. Once the TA is balanced, it normally remains stable, although some sanitizers, and the addition of more water with a high or low alkalinity will raise or lower the TA reading of the water.
6. When the Total Alkalinity is within the recommended range, proceed to the next step.

Balancing the pH

1. We recommended a pH range for your spa water of; 7.2-7.6
2. The pH level is the measure of acidity and alkalinity. Values above 7 are alkaline; those below 7 are acidic. Maintaining the proper pH level is extremely important for:
 - Optimizing the effectiveness of the sanitizer.
 - Maintaining water that is comfortable for the user.
 - Preventing equipment deterioration.
 - Preventing cloudy or odorous water.
3. If the spa water's pH level is too low, the following may result:
 - The sanitizer will dissipate rapidly.
 - The water may become irritating to spa users.
 - The spa's equipment may corrode.

If the pH is too low, it can be increased by adding Arctic Pure® Adjust Up to the spa water.

4. If the pH level is too high, the following may result:
 - The sanitizer is less effective.
 - Scale will form on the spa shell surface and the equipment.
 - The water may become cloudy.

If the pH is too high, it can be decreased by adding Arctic Pure® Adjust Down to the spa water.

5. It is important to check the pH on a regular basis. The pH will be affected by the bather load, the addition of new water, the addition of various chemicals, and the type of sanitizer used.
6. When the pH is within the recommended range, proceed to the final step.



Calcium Hardness (CH)

Most spa manufacturers recommend a Calcium Hardness (CH) level for your spa of 150-200 ppm. However, we do not recommend adding calcium to your spa if your spa water is above 100 ppm, or if your incoming water has a very low level of calcium hardness.

Warning: When calcium falls out of suspension it can collect on the heater and pump, and shorten their life.

Sanitize the Spa

Sanitizer is extremely important for killing algae, bacteria and viruses, and preventing unwanted organisms from growing in the spa. At the same time, you don't want too high a sanitizer level, or it can irritate your skin, lungs and eyes.

1. Always maintain the sanitizer level in your spa at the recommended level for each type of sanitizer.
2. We recommend the following sanitizers:
Chlorine System:
 - Arctic Pure® Chlorine Tablets
 - Arctic Pure® Refresh
 - Arctic Pure® Boost

Important: Sanitizers are acidic and will decrease the Total Alkalinity. Regular testing and balancing of TA is extremely important with these products.

Important: Always remove the floating dispenser while the spa is in use.

Remove dispensers with a plastic bucket (keeping submerged) and store out of reach of children until spa use has ended.

Using Chlorine System

CAUTION: The use of personal protective equipment (rubber/latex/vinyl gloves, eye protection) is recommended while handling the dispenser or the pucks.

Start-up:

1. Add pucks to floating dispenser and open to setting 4.
2. Add 7 tablespoons (100 grams) of Arctic Pure® Refresh per 1500 litres (396 gallons) of water.
3. Add 1 tablespoon (14 grams) of Arctic Pure® Spa Boost per 1000 litres (265 gallons) of water.
4. Test the Chlorine level. Once the chlorine reads within the ideal range (1-3 ppm) turn tablet dispenser down to 1 - 2 (more or less according to bather load).

Weekly:

1. Add pucks to floating dispenser and reset the setting if necessary.
2. Add 7 tablespoons (100 grams) of Arctic Pure® Refresh per 1500 litres (396 gallons) of water.

Important: Arctic Pure® Refresh significantly reduces pH and TA. One hour after adding Arctic Pure® Refresh test and adjust TA and pH as needed.



Common Spa Water Problems~Cause & Remedy

PROBLEM	POSSIBLE CAUSES
CLOUDY WATER	<ul style="list-style-type: none"> A. Poor Filtration B. Suspended particles C. Organic contaminants build up D. pH high E. Total alkalinity high F. Combined chlorine in the water G. High dissolved solids H. Hardness too high
COLOURED WATER	<ul style="list-style-type: none"> A. Dissolved metals from water source B. Low chlorine levels C. Fragrance
FOAMING	<ul style="list-style-type: none"> A. High concentration of oils and organics being agitated by the jets and/or Therapy Air
SCALE DEPOSITS	<ul style="list-style-type: none"> A. High Calcium level, high pH, high alkalinity
ODOR	<ul style="list-style-type: none"> A. High level of organic contaminants, combined with chlorine
EYE/SKIN IRRITATION	<ul style="list-style-type: none"> A. pH too low B. Combined chlorine due to high concentration of organic contaminants C. Allergic reaction to sanitizer D. Bacterial contamination
NO CHLORINE READING	<ul style="list-style-type: none"> A. High concentration of contaminants using up sanitizers B. Test kit reagents ineffective

SOLUTIONS

A. Dirty Filter. If you are using a pleated filter clean with Arctic Pure Filter Restore. If you are using a disposable filter you may need to change the filter for a fresh one. If you believe the filter is ok then try increasing the filtration times via the topside control, app, or via the web portal at myarcticspa.com

B. Add Arctic Pure® Easy Clear (Not with disposable Filter)

C. Shock treatment with Arctic Pure® Refresh

D. Add Arctic Pure® Adjust Down until level reads 7.2-7.6

E. Add Arctic Pure® Adjust Down to adjust TA level to 80-120 ppm

F. Shock treatment with Arctic Pure® Refresh

G. Empty spa and refill

H. Add Arctic Pure® Best Defence until level reads 100-280 ppm

A. Use Arctic Pure® Best Defence and have your dealer check your water balance

B. Add Arctic Pure® Boost treatment to raise chlorine levels and test chlorine levels.

C. Stop the use of fragrance

A. Shock treatment with Arctic Pure® Refresh.

A. Drain partially, add Arctic Pure® Best Defence, correct pH level to 7.2 - 7.6 and alkalinity to 100-130 ppm.

A. Check pH and adjust as required.

B. Shock with Arctic Pure® Refresh, add Boost.

C. Dilution of water will reduce contaminants and odor.

D. Check any ozone system is operational

A. Add Arctic Pure® Adjust Up until level reads 7.2 - 7.6 ppm

B. Add Arctic Pure® Refresh, add Boost.

C. Change from Bromine to Chlorine.

D. Drain and refill spa.

A. Add sanitizers until levels are up to the recommended levels

B. Replace test kits at least once a year

C. Chlorine level very high and is bleaching test reagent, Allow sanitizer levels to recede by opening cover and running jets.



Troubleshooting Spa Problems

1. **Nothing functions:** The GFCI Breaker has tripped or there is a power failure. Test GFCI Breaker. Turn breaker back on and see if spa powers up, if not contact your factory authorized dealer.
2. **Spa does not heat:** Check to see if the heat indicator is on or there are any error messages on the topside control panel. If the heat indicator is on and no error message appears contact your factory authorized dealer.
3. **Poor Jet Pressure:** First check to see that the jet(s) are turned on fully. Check your filter to see if it's clogged or dirty. Next, check to see if the jet(s) are obstructed or if the venturi air dial is turned on. Finally, check to see if the jet(s) are surging. If so, your pump is cavitating (sucking in air). This usually occurs when the water level is too low and can be solved by adding water to the spa. If the problem still persists, contact your factory authorized dealer.
4. **Light is not functioning:** Follow the LED replacement section.
5. **Spa comes on by itself:** This function is normal when heating and filtering. No action required.
6. **Spa doesn't drain completely:** The spa is drained by gravity. It will not always drain fully. It is not necessary to drain the spa in its entirety except when winterizing the spa. If you wish to remove the last little bit of water, we recommend you vacuum it out with a wet/dry vacuum.

Technical Support:

Instructional videos are available to assist you at <http://www.arcticspas.com/support/>



Important

This manual and its contents are subject to change without notice. Although Blue Falls Manufacturing has prepared this manual as accurately and precisely as possible, Blue Falls Manufacturing will not be liable for loss, injury or damages caused by improper servicing or by use of spa (improper or otherwise).

Arctic Spas® are Canadian built with the finest materials and advanced technology to withstand the harshest weather conditions. Performance and Reliability is the Arctic Spas® Customer Guarantee. If your spa cannot be repaired under our extensive warranty, Arctic Spas® will provide a replacement spa equal in value to the original purchase price of the defective spa. Our philosophy Guarantees you Customer Satisfaction. These are words we will stand behind in writing.





Custom Series

Uncompromised Excellence

Unsurpassed Comfort, Construction and Technology
completely custom built to your needs



Specifications

	Outside Dimensions	Height	Heater (watts)	Water Capacity	Dry Weight	Electrical Requirements North America A = actual / B = breaker	Electrical Requirements Europe
Summit XL	117" x 93" 297 x 235 cm	39" 98 cm	NA / Euro 5500 / 2x3600	537 Gallons 2033 Liters	1057 Lbs 479 Kg	240 Volts / 6 Gauge Wire 1 Pump / A32amp / B40amp 2 Pumps / A40amp / B50amp 3 Pumps / A40amp / B50amp 4 Pumps / A48amp / B60amp 115 Volts / 14 Gauge Wire 1 Pump / A12amp / B15amp	1Øx32 Amp 3Øx16 Amp (4 pumps = 1Øx40 Amp / 3Øx-16 Amp / 3Øx20 Amp / 3Øx25 Amp)
Summit	93" x 93" 235 x 235 cm	39" 98 cm	NA / Euro 5500 / 2x3600	360 Gallons 1363 Liters	935 Lbs 424 Kg	240 Volts / 6 Gauge Wire 1 Pump / A32amp / B40amp 2 Pumps / A40amp / B50amp 3 Pumps / A40amp / B50amp 4 Pumps / A48amp / B60amp 115 Volts / 14 Gauge Wire 1 Pump / A12amp / B15amp	1Øx32 Amp 3Øx16 Amp (4 pumps = 1Øx40 Amp / 3Øx-16 Amp / 3Øx20 Amp / 3Øx25 Amp)
Tundra	93" x 93" 235 x 235 cm	39" 98 cm	NA / Euro 5500 / 2x3600	411 Gallons 1556 Liters	951 Lbs 431 Kg	240 Volts / 6 Gauge Wire 1 Pump / A32amp / B40amp 2 Pumps / A40amp / B50amp 3 Pumps / A40amp / B50amp 4 Pumps / A48amp / B60amp 115 Volts / 14 Gauge Wire 1 Pump / A12amp / B15amp	1Øx32 Amp 3Øx16 Amp (4 pumps = 1Øx40 Amp / 3Øx-16 Amp / 3Øx20 Amp / 3Øx25 Amp)
Kodiak	93" x 93" 235 x 235 cm	39" 98 cm	NA / Euro 5500 / 2x3600	342 Gallons 1295 Liters	973 Lbs 441 Kg	240 Volts / 6 Gauge Wire 1 Pump / A32amp / B40amp 2 Pumps / A40amp / B50amp 3 Pumps / A40amp / B50amp 4 Pumps / A48amp / B60amp 115 Volts / 14 Gauge Wire 1 Pump / A12amp / B15amp	1Øx32 Amp 3Øx16 Amp (4 pumps = 1Øx40 Amp / 3Øx-16 Amp / 3Øx20 Amp / 3Øx25 Amp)
Klondiker	93" x 93" 235 x 235 cm	39" 98 cm	NA / Euro 5500 / 2x3600	373 Gallons 1412 Liters	944 Lbs 428 Kg	240 Volts / 6 Gauge Wire 1 Pump / A32amp / B40amp 2 Pumps / A40amp / B50amp 3 Pumps / A40amp / B50amp 4 Pumps / A48amp / B60amp 115 Volts / 14 Gauge Wire 1 Pump / A12amp / B15amp	1Øx32 Amp 3Øx16 Amp (4 pumps = 1Øx40 Amp / 3Øx-16 Amp / 3Øx20 Amp / 3Øx25 Amp)
Frontier	93" x 85" 235 x 217 cm	39" 98 cm	NA / Euro 5500 / 2x3600	335 Gallons 1268 Liters	785 Lbs 356 Kg	240 Volts / 6 Gauge Wire 1 Pump / A32amp / B40amp 2 Pumps / A40amp / B50amp 3 Pumps / A40amp / B50amp 115 Volts / 14 Gauge Wire 1 Pump / A12amp / B15amp	1Øx32 Amp 3Øx16 Amp (3 pumps = 1Øx40 Amp / 3Øx-16 Amp / 3Øx20 Amp / 3Øx25 Amp)
Yukon	85" x 85" 217 x 217 cm	41" 104 cm	NA / Euro 5500 / 2x3600	334 Gallons 1264 Liters	735 Lbs 333 Kg	240 Volts / 6 Gauge Wire 1 Pump / A32amp / B40amp 2 Pumps / A40amp / B50amp 3 Pumps / A40amp / B50amp 115 Volts / 14 Gauge Wire 1 Pump / A12amp / B15amp	1 phase x 32 Amp or 3 phase x 16 Amp 3 pumps
Cub	85" x 85" 217 x 217 cm	41" 104 cm	NA / Euro 5500 / 2x3600	275 Gallons 1041 Liters	741 Lbs 336 Kg	240 Volts / 6 Gauge Wire 1 Pump / A32amp / B40amp 2 Pumps / A40amp / B50amp 3 Pumps / A40amp / B50amp 115 Volts / 14 Gauge Wire 1 Pump / A12amp / B15amp	1 phase x 32 Amp or 3 phase x 16 Amp 3 pumps
Arctic Fox	69" x 85" 174 x 217 cm	39" 98 cm	NA / Euro 5500 / 2x3600	208 Gallons 787 Liters	611 Lbs 277 Kg	240 Volts / 6 Gauge Wire 1 Pump / A32amp / B40amp 2 Pumps / A40amp / B50amp 115 Volts / 14 Gauge Wire 1 Pump / A12amp / B15amp	1 phase x 32 Amp or 3 phase x 16 Amp 2 pumps
Ocean	172" x 93" 436 x 236 cm	51" 129 cm	NA / Euro 5500 / 2x3600	1347 Gallons 5100 Liters	1910 Lbs 866 Kg	240 Volts / 6 Gauge Wire 1 Pump / A32amp / B40amp 2 Pumps / A40amp / B50amp 3 Pumps / A40amp / B50amp 4 Pumps / A48amp / B60amp 115 Volts / 14 Gauge Wire 1 Pump / A12amp / B15amp	1Øx32 Amp 3Øx16 Amp (4 pumps = 1Øx40 Amp / 3Øx-16 Amp / 3Øx20 Amp / 3Øx25 Amp)
Okanagan	172" x 93" 436 x 236 cm	51" 129 cm	NA / Euro 5500 / 2x3600	1347 Gallons 5100 Liters	1910 Lbs 866 Kg	240 Volts / 6 Gauge Wire 1 Pump / A32amp / B40amp 2 Pumps / A40amp / B50amp 3 Pumps / A40amp / B50amp 4 Pumps / A48amp / B60amp 115 Volts / 14 Gauge Wire 1 Pump / A12amp / B15amp	1 phase x 32 Amp or 3 phase x 16 Amp 3 pumps



Spa Overview



A: Topside Control | See Topside Control Overview section in this manual.

B: Waterspouts | Control by an ON/OFF valve.

C: Monsoon Jet

D: Jets | All jets are adjustable and can be turned ON/OFF and can also be locked in the fully ON position, simply by rotating the Jet face.

E: Diverter | If your spa is equipped with a Diverter, its purpose is to distribute water pressure to varying jets or provide water pressure to the Monsoon Jet or both.

F: Venturi | Allows air into jets to boost jet performance when Pump 1 is on. Leave in the “closed” position when spa is not in use.

Jets

Three Inch (3") Jets

The **Single jets** give a wide circular massage. The 3-inch jets are designed for a thorough massage of the muscles in your upper back, shoulders and neck. These jets are adjustable by turning the face of the jet clockwise for a stronger flow and counter-clockwise for a softer flow and eventually off. The Jet can also be locked in the fully ON (open) position by turning the face of the jet clockwise until it does not go any further. Then rotate again to allow the jet to override the lock stop.

Five Inch (5") Jets

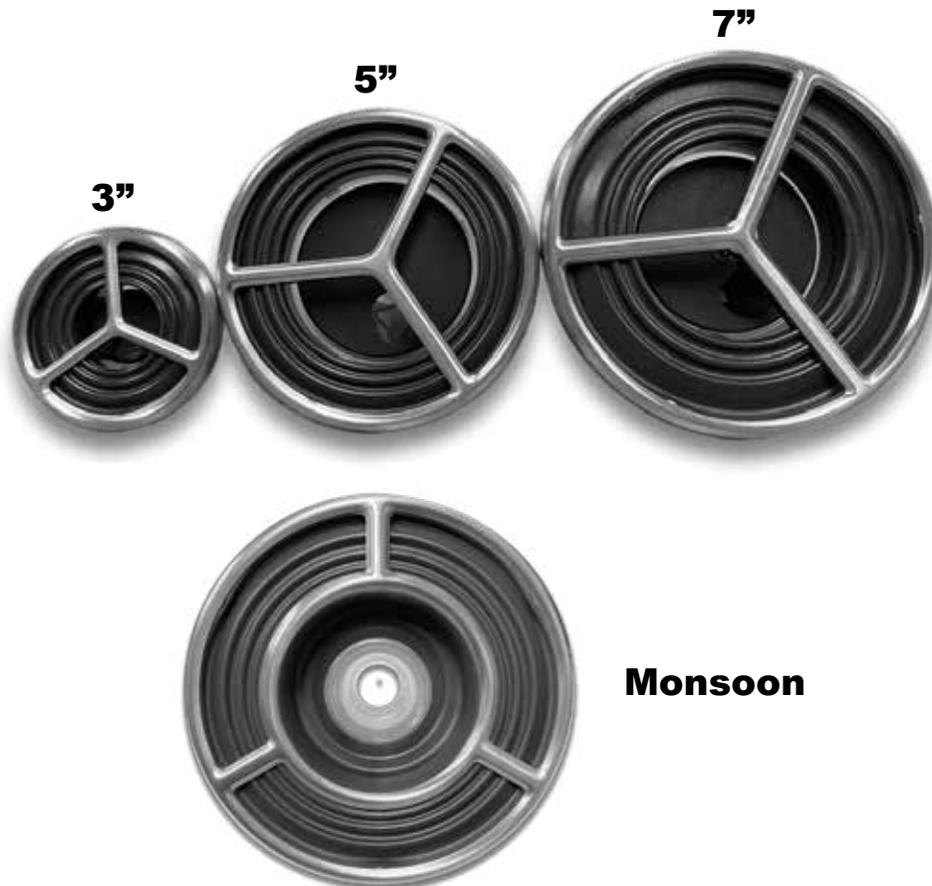
The **five-inch Hydro-massage jets** give a wide circular massage. These jets are adjustable by turning the face of the jet clockwise for a stronger flow and counter-clockwise for a softer flow and eventually off. The Jet can also be locked in the fully ON (open) position by turning the face of the jet clockwise until it does not go any further. Then rotate again to allow the jet to override the lock stop.

SDS (7") Jets

With the **SDS jetting configuration** there are 6 large 7" jets with a dedicated pump driving just those 6 jets. It is the ultimate massage for those that need to dig a little deeper to take away those aches and pains.

Monsoon Jet

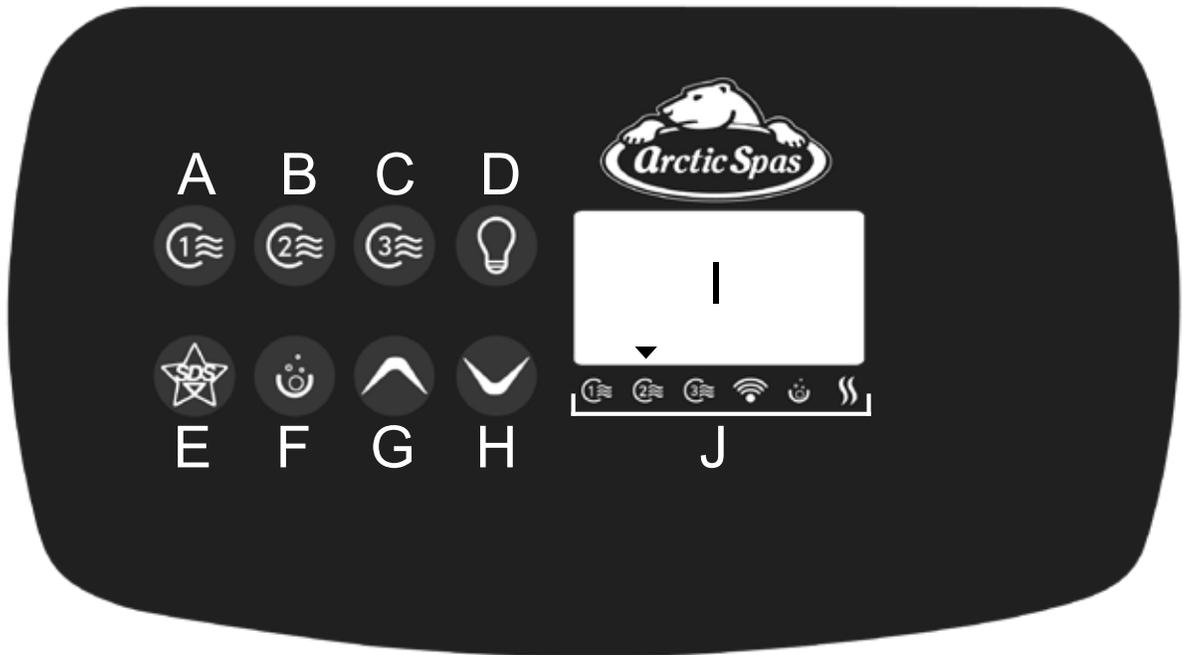
The **Monsoon Jet** is a large hydro-massage jet designed to maximize massaging action on a specific area of the body. It is located in the lower part of the spa to allow easy access for massaging feet, legs, hips and lower back. The intensity of the Monsoon Jet can be altered using the Diverter (the location varies depending on spa model). Consult your local dealer regarding which diverter lever or just jump in and experiment for yourself.



Topside Control Panel

Your spa control has been specifically designed so that by simply connecting the spa to a properly grounded source, and following the start-up procedures in this manual, the spa will automatically heat to the set temperature. Many other functions, such as filtration, safety checks and maintenance reminders have been automated so that your spa experience will be as carefree as possible.

But you're in charge! The topside control (TSC) panel allows you to set the temperature, initiate the filtration cycle, control the lights, and activate or deactivate the pump(s). The TSC display responds to let you know you have pressed a button, and that the selected function has been performed.



A Pump 1

B Pump 2

C Pump 3

D Light Control

E SDS Control

F Setting / YESS

G Up Arrow

H Down Arrow

I Display

J Function Indicator Section
A small inverted triangle over the symbol indicates that the corresponding function is active.

Quick Reference Guide

Starting Pump 1



Press Pump 1 button to turn on at low speed. Press a second time to turn Pump 1 to high speed. A third time turns the Pump 1 off. A built in timer automatically turns Pump 1 off after 20 minutes, unless it has been manually deactivated.



The Pump 1 indicator lights up when Pump 1 is on high speed and flashes when Pump 1 is on Low speed.

Starting Pump 2



Press Pump 2 button to turn on Pump 2. Press a second time turns Pump 2 off. A built in timer automatically turns Pump 2 off after 20 minutes, unless it has been manually deactivated.



The Pump 2 indicator lights up when Pump 2 is on high speed.

Starting Pump 3



Press Pump 3 button to turn on Pump 3. Press a second time turns Pump 3 off. A built in timer automatically turns Pump 3 off after 20 minutes, unless it has been manually deactivated.



The Pump 3 indicator lights up when Pump 3 is on high speed.

Starting SDS



Press SDS button to turn on SDS. Press a second time turns SDS off. A built in timer automatically turns SDS off after 20 minutes, unless it has been manually deactivated SDS.

Setting Water Temperature



Use the Up or Down Arrow button to regulate water temperature. The temperature setting will be displayed for 5 seconds to confirm your new selection.



Water temperature can be adjusted by 1° increments from 59°F to 104°F (15°C to 40°C). The temperature symbol indicates the desired temperature, NOT the current water temperature.

Automatic Water Heater Start



When water temperature is 1°F (0.5°C) lower than the Set Point, the water will automatically turn on & heat until the water temperature reaches 1°F (0.5°C) above the Set Point.



The Heater indicator lights up when the heater is on.

Spa Boy® Boost (if equipped)

Press and hold the Pump 2 key for 10 seconds to initiate Spa Boy® Boost which runs the Spa Boy®electrode for 30 minutes regardless of the ORP setting. When activated "Sbb" will be displayed.

Temperature Unit

Press and hold the light button for 5 seconds to toggle between °F and °C.

Turning The Lights On

If your spa is equipped with an original lighting package, you can toggle through the color options by pressing the Light button on/off. Press Light button to turn on. Press a second time to turn lights off. A built in timer will automatically turn the lights off after 2 hours unless it has been deactivated. The Light indicator is displayed when the lights are on.

Boost Mode

Press and hold Pump 2 button for 10 seconds to enable Boost Mode. In this mode, Pump 1 high speed and the ozonator will run for 45 minutes. When this is enabled, "boo" is displayed on the control Pad. This mode is used to speed up filtration after intensive use of the spa or to help chemicals just added to the spa. Pressing any button will exit Boost Mode.

Fogger Waterfall

The Fogger Waterfall is controlled by pressing and holding the Light Button for 2 seconds. This will activate the Lights, Fogger and the small Pump that operates the system. Pressing the "Light Button once will turn the Fogger/Waterfall off. The system will stay activated for 2 hours unless it has been manually turned off using the Light button. It is advisable on first start up or restart that water is put into the opening of the Fogger/Waterfall to fill up the area to prevent premature damage to the Fogger unit.

Pad lockout:

There are two modes you can choose from: Full or Partial lock. Full lock means that all keypad functions are locked. Partial lock means that only the basic functions will remain accessible (pumps, blower, light).

Locking your digital control pad:

Press and hold SDS button for 5 seconds. The display will show "LocP", with "P" representing partial lock. Release the button and the keypad will be in Partial lock mode. Keep button pressed down for 5 more seconds if you want to be in Full lock mode. The "LocF" message will then be displayed.

When control pad is locked, all automatic functions will run as usual. If a button is pressed down, a "LocP" or "LocF" message will be displayed for 1 second. To unlock the keypad, simply press and hold SDS button again for 5 seconds.



Programming the Filtration Settings

During a filter cycle

- Pump 2, Pump 3 and the blower run for 20 seconds, then
- Pump 1 runs at low speed for the programmed number of hours (see below), and
- The ozonator is turned on.



Press the Filter button to enter into your filtration options. Your display will show "SEtt" and from here you will be able to choose your settings.



Press your Filter button again to display your first option. This is your Ozone Cycle Duration (if equipped).



Use your arrow keys to select your Ozone Cycle Duration. You can select from 1 to 24 hours per day.



Press your Filter button again. Your display will now show the settings for your Onzen (if equipped).



Use your arrow keys to select your Onzen Cycle Duration. You can select from 1 to 24 hours per day.



Press your Filter button again. Your display will now show the settings for your Filter Duration.



Use your arrow keys to select your Filter Duration in hours. You can select from 0 to 6 hours.



Press your Filter button again. Your display will now show the settings for your Filter Cycle Frequency.



Use your arrow keys to select your Filter Cycle Frequency from 1 to 4 times per day.



Filter button



Arrow keys

Please note: You will see the options that are applicable to your spa. If you have neither ozone nor onzen, you will proceed directly into setting your Filter Duration. Also, though an Epic topside is of a different design, the steps are as shown. You can move backwards through the settings by pressing the Pump 3 button (Pump 4 on Epic series spas). The Pump 1 button will allow you to exit without saving any changes. When you get to the end of the options, press the filter key one last time to save changes and begin a filter cycle immediately. If you do not press the filter key again your changes will be saved and the filter cycle will begin when you have programmed it to do so.

45 Minute filter cycle time-out: If you turn a pump, blower or light on during a filter cycle, the cycle will be interrupted and will only resume 45 minutes after you (or the system) have turned the last active output off.

Error Codes



ER01 – Flow Switch



ER03 - Spa Over Temp



ER02 - Heater Over Temp



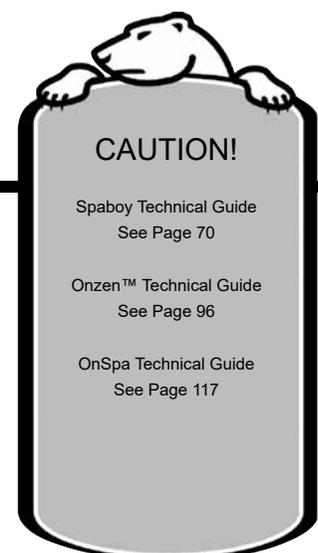
ER04 – SPA Temp probe

Er #	Abbreviation	Abbreviation	Dealer Info Page	Topside	User app/web
ER 00	FLO	No Flow	•		
ER 01	FLC	Flow Switch	•		
ER 02	HL	Heater Over Temp	•	•	•
ER 03	HL(F)	Spa over temp	•	•	•
ER 04	Prr	SPA Temp probe	•	•	•
ER 05	HL	Spa High Limit	•	•	•
ER 06	EE	Eeprom	•		
ER 07	FP	Freeze Protect	•	•	•
ER 08	Ph	pH High	•	•	•
ER 09	Hd	Heater probe disconnected	•	•	•
ER 10	HPt	Heater probe test failed	•	•	•
ER 11	SB-CE	SpaBoy Comms Error	•	•	•
ER 12	H/S cal	Heater spa temperature	•	•	•
ER 13	H-wo-s	Heater way above Spa	•	•	•
ER 14	orp_nr	Orp not responding to production	•	•	•
ER 15	Ph_L	PH low (less than 6.5)	•	•	•
ER 20	P1Lnc	P1L no current	•		
ER 21	P1Hnc	P1H no current	•		
ER 22	P2nc	P2 no current	•		
ER 23	P3nc	P3 no current	•		
ER 24	SDSnc	SDS no current	•		
ER 25	YESSnc	YESS no current	•		
ER 26	Onnc	On no current	•		
ER 27	H1nc	H1 no current	•		
ER 28	H2nc	H2 no current	•		

How to perform a software upgrade on your spa's Eco Pak

There are three ways to update your Arctic Spas® Software

1. Download through the Arctic Spas App
2. Download through the myarcticspas.com website
3. Go to bit.ly/arctic-spas and follow instructions





Warranty

Spa Shell~Lifetime

Arctic Spas® warrants the spa shell to the customer against water loss due to structural failure for as long as the original customer shall own the spa.

Forever Floor®~Lifetime

Arctic Spas® warrants the Forever Floor® against rotting and structural cracking for a lifetime to the original customer from the original date of delivery. Includes parts and on site labour necessary to repair. This warranty only applies if there is a solid level pad.

Cedar Cabinet~10 years

Arctic Spas warrants the cedar cabinet to be free from defects in material and workmanship for 10 Years to the original customer from the original date of delivery. It includes parts and onsite labor to repair. This warranty excludes the surface stain or fading.

Equipment & Plumbing~5 years

Arctic Spas® warrants the spa's electrical equipment components ~ specifically the pump(s) *(please refer to detailed pump warranty on the reverse under "Detailed Pump Warranty". Factory installed Peak I, Skyfall fogger components, YESS, RossExhaust™, Ultimate Lighting controls and LED's, Heater and control system against malfunctions due to defects in materials and workmanship for a period of five years to the original customer from the date of delivery. This warranty includes all parts and on site labour necessary to repair the spa.

Other Components~5 years

Arctic Spas® warrants the fuses, lights (blue LED, northern lights), WIFI, jet inserts**, topside control overlays, weir assemblies, diverter handles and caps, air control handles and caps, plastic cover clips, chrome trim to be free of defects in workmanship and materials for a period of five years to the original customer from the original date of delivery. Includes only parts necessary to repair, not labour. **jet inserts (including Titanium) are not warranted against discoloration, rusting or fading.

Shell Surface Acrylic~5 years

Arctic Spas® warrants the shell surface to the customer against water loss due to material failure including cracks, blisters, peeling and delaminating for a period of five years to the original customer from the original date of delivery. Includes parts and on site labour necessary to repair.

Cover~3 years

Arctic Spas® warrants the Castcore® cover against malfunctions due to defects in materials and workmanship for three years to the original customer from the original date of delivery. Includes parts necessary to repair. (Normal wear and tear is not included in this warranty, when used with a cover lifter seam damage will be considered normal wear and tear)

Weathershield Cover~3 years

Arctic Spa warrants the weathershield cover to be free from manufacturer defects for 3 years to the original customer from the original date of delivery. Includes parts only warranty. Fading of vinyl and thread is not considered a defect and will naturally occur due to normal chemical maintenance, exposure to the elements and aging

Onzen™ System ~ 2 years

Factory-installed Onzen™ systems will have a 2 year warranty on labor and components, with the exception of the electrode. The electrode has a 30 day parts warranty against defects in materials and workmanship. The electrode is a consumable part that needs to be changed periodically by the spa owner. Onzen™ systems that are retro-fitted (installed after manufacture of the spa) by authorized Arctic Spa technicians will have two year parts warranty and it will not include a labor component. Not to exceed the spa warranty whichever comes first. Note, in order to process a warranty claim the Arctic Spas factory warranty department may need to contact the spa owner directly via email or phone. It is the responsibility of the Arctic Spa dealer to provide this contact information to the warranty department. This warranty may be void if the spa is operated with water salt concentrations outside the recommended level of 2000 to 2500 parts per million (ppm). Damage to other spa components unrelated to the Onzen™ system as a result of leaking pump seals are specifically not covered by this warranty. For example, heaters, heater barrels, jets, grab rails, pump seals, and pump motors are not covered in this case. Spa water quality and any damage caused by water chemistry imbalance are not covered by this warranty. Warranty work must be completed by an authorized Arctic Spa dealer. The Onzen™ system is not a fully automatic water treatment system. It is designed to minimize water maintenance under typical user loads and may therefore require supplemental chlorination and water chemistry balancing. (Arctic Pure brand spa chlorine is called Boost). The spa owner is responsible for ensuring safe water chemistry and conditions.

The Onzen™ system must be used with Arctic Pure brand salt blend, which has been developed to protect the spa components. The use of alternative brands of salt may damage the spa components, can be detected by spa technicians, and will void this warranty.

Spa Boy~ 5 years

Arctic Spas warrants the Spa Boy system against malfunctions due to defects in materials and workmanship for 5 years from the original date of delivery to the original customer on factory installed systems, except the user replaceable Spa Boy Electrode which has a 30 day warranty, needs to be replaced annually. This warranty includes parts and on site labour necessary for the repair. Spa water quality and other damages resulting from water imbalance are specifically not covered by this warranty. Warranty work must be completed by authorized Arctic Spas retailers only. Spa Boy retro fitted kits (installed after manufacturer of the spa) will have a 5 part only warranty. Not to exceed the spa warranty, whichever comes first.

No labour warranty is provided by Arctic Spas for retrofitted Spa Boy systems.

Disclaimer: This is not an automatic water care system. The system is set up for typical spa use. The spa user is ultimately responsible for maintaining proper sanitary water conditions. Use of salt other than Arctic Pure Sea Salt. Blend will damage the Spa Boy components and void the warranty. The Arctic Pure Sea Salt blend has been developed to protect Spa Boy components from damage and the use of alternative salt blends will be easily detected by technicians. This warranty may be void if the spa is operated with water salt concentrations outside the recommended level of 2000 to 2500 parts per million (ppm). Damage to other spa components unrelated to the Spa Boy system as a result of leaking pump seals are specifically not covered by this warranty. For example, heaters, heater barrels, jets, grab rails, pump seals, and pump motors are not covered in this case.

Aquatremor® ~ 3 years

Arctic Spas® warrants the factory installed Aquatremor® Bluetooth sound system against malfunctions due to defects in materials and workmanship for three years to the original customer from the original date of delivery. Includes parts and on site labour necessary to repair. iPod® and waterproof case are manufacturer direct warranties. Aquatremor retro fitted kits (installed after manufacturer of the spa) will have a 3 part only warranty. Not to exceed the spa warranty, whichever comes first.

DETAILED PUMP WARRANTY

Pump(s) are warranted against material and component failure. The pump shaft seal is covered under warranty. Damage resulting from a neglected leaking shaft seal is not covered under warranty. This includes but is not limited to bearing seizure, end bell failure, start switch failure, impeller failure and capacitor failure. It is the responsibility of the customer to report shaft seal failure before further damage can occur. Any pump component failure determined to be the result of defective material will be replaced under warranty. Arctic Spas® reserves the right to replace pump components, rather than the complete pump assembly. Vibration noise associated with normal pump operation is excluded from this warranty.

PERFORMANCE

To obtain service in the event of a defect or malfunction covered by this Limited Warranty, notify your Arctic Spa dealer as soon as possible and use all reasonable means to protect the spa from further damage. Upon proof of purchase, Arctic Spas® agent or its designated service representative will correct the defect subject to the terms and conditions continued in this Limited Warranty. Pre-Approved claims must be executed within 60 days of Pre-approval. All existing claims expire upon expiration of warranty. *Please note that union connection leaks are considered to be user serviceable and are expressly excluded from the Limited Warranty. Damage resulting from union connection leaks are expressly excluded from the Limited Warranty. There will be no charge for parts and on site labour to the customer for a period of five years from the date of original delivery or six years from manufacturer's ship date, whichever comes first. Specifically equipment, plumbing and shell surfaces against malfunctions due to any defect in the material and workmanship within the Limited Warranty. Travel costs are the responsibility of the customer. Your limited warranty will cover a maximum of \$60 towards on site labor per each approved warranty claim. Service and/or travel costs are covered within the first 30 days of ownership to a maximum distance of 100KM from dealership or designated service outlet. If Arctic Spas® determines that repair of the covered defect is not feasible we reserve the right to instead provide a replacement spa equal in value to the original purchase price of the defective spa. Spa replacement is done only at the discretion of Arctic Spas®. Reasonable costs for the removal of the defective spa, and delivery and installation will be the responsibility of the spa customer. Freight will be paid to the nearest Arctic Spas® distribution centre while in the warranty period.



CONDITIONS OF WARRANTIES

All warranties provided hereunder extend only to the original customer of the spa if purchased by an authorized Arctic spas dealer and originally installed within the boundaries of the country where it was originally purchased. All warranties hereunder terminate upon transfer of ownership of a spa from the original customer or product leaving the country that it was purchased in. This warranty only applies within the service area where the spa was originally installed. Your limited warranty does not include repair travel mileage or for shipping cost assessed by your Factory Authorized Dealer or service agents. All events covered by this Limited Warranty hereunder must be repaired by a Factory Authorized Dealer of Arctic Spas®. The warranties will not include any costs of repair incurred by a non-factory authorized agent. To obtain service, the customer must contact the Factory Authorized Dealer in his area. In the event that a spa or component thereof must be returned to Arctic Spas® distribution centre, all freight costs are the responsibility of the spa customer. In all cases Arctic Spas® has sole responsibility for determining the cause and nature of failure of the spa and Arctic Spas® determination with regard thereto shall be final.

EXCLUSIONS

All warranties hereunder are void if the spa has been subject to alterations (including after-market accessories), misuse or abuse or any repair of the spa has been attempted by anyone other than a Factory Authorized Dealer of Arctic Spas®. Alterations include but not limited to, any change to the components, replacement of components or addition of components without the written authorization from Arctic Spas®. Misuse includes careless handling of the spa, damages caused by improper and/or non-certified electrical hook-ups, failure to operate the spa in accordance with the instructions contained in the owner's manual provided with the spa, including incorrect start-up procedures or dry firing of the spa, any use of the spa or any of its components in an application for which it was not designed, and damage caused by improper chemical balance (including any damage to spa components caused by scale build up to due to poor water chemistry), ice in the spa, overheating the spa or spa water, damage to the spa surface by allowing undissolved sanitizing chemicals to lie on the surface or if our spa has been used for commercial purposes. Spa covers are not warranted against chemical burn or discoloration. Spa covers are not warranted against water absorption or any damage resulting from water absorption.. Any damage resulting from the mishandling of the spa cover in any way is not covered under warranty. Any damage caused by moving of the spa or improper installation (including insufficiently prepared or uneven ground) is considered abuse and any damage to the material or workmanship of the spa cabinetry and floor in shipping or handling are expressly excluded from the Limited Warranty. All Weather Pool must be placed on concrete pad or properly engineered deck.

Arctic Spas will not be responsible for power company issues or improper electrical installations, Damage and/or lack of performance resulting from high or low voltages outside operating parameters. Arctic Spas will not be responsible for software and product upgrades throughout the life of the spa.

Arctic Spas® expressly excludes warranty coverage on any of the following: Acts of nature including but not limited to damage resulting from lightning, storm, flooding, freezing, fire and any other acts of nature. Any spa installed in a commercial application. Any failure caused by improper cover use or or damage to the spa surface by leaving the spa outdoors without the hot tub cover in place. The heat created by leaving the spa in direct UV light without a cover may cause surface issues with the acrylic and may also cause plastic parts to warp, some fittings will leak or cease working as a result. These occurrences are not covered under warranty. The hot tub cover must be kept on the hot tub when not being used.

Scratches or micro-crazing in the spa shell reported after the day of installation are not covered under warranty. Micro-crazing is defined as an area of tiny shiny lines visible in areas on the surface of some thermoplastic sheets. This phenomena, although rare, is known to occur in many types of plastic sheet materials. The surfaces of thermoformed acrylic hot tubs are not immune to this possibility.

Damaged caused by unapproved sanitizers such as tri-chlor, acids, calcium hypochlorite, sodium hypochlorite, peroxides, any sanitizing chemical that may remain undissolved on the spa surface. Any and all sanitation systems or chemicals used in your spa must be factory approved by Arctic Spas or your warranty is void. You can check for a list of approved systems and chemicals at arcticspas.com. Installation of not factory approved salt systems will void the warranty related to pump seals, metal part, jets, etc. Damage caused by any item(s) attached to or installed onto the spa, including but not limited to gazebos, cover lifters and cedar accessories. Any options or additional components that are not factory installed are not covered under warranty. Any damage or failure due to improper preparation for winter storage is not covered under warranty. Damage to pillows reported beyond the day of delivery will not be covered under warranty. Pillows are to be removed from the spa when not in use. Onzen and Spa Boy are the only factory approved salt system. Any damage resulting from the use of cover removing mechanisms is not covered under warranty. The Onzen and Spa Boy cell are considered a user serviceable component, replacement will be the responsibility of the customer.

DISCLAIMERS

Arctic Spas® will not be liable for loss of use of the spa or other incidental or consequential costs, expenses or damages that may include but not limited to, the removal of a permanent sun deck, sunroom, gazebo, or other custom fixture, any crane costs associated with the removal of the spa for service or replacement. Arctic Spas® shall not be liable for costs arising from water, filter cartridges and chemical loss. Under no circumstances shall Arctic Spas® or any of its representatives be liable for any injury to any person or damage to any property, howsoever arising from the spa. Arctic Spas® warranties are limited to a maximum amount of moneys received by Arctic Spas® with respect to the sale of the spa.

ALL WARRANTIES

The warranties contained herein are all of the warranties provided by Arctic Spas® to the customer, and to the extent permitted by law. Warranty registration (within 30 days of delivery) is the responsibility of the customer and is a condition of warranty coverage. This Warranty is offered as an extra benefit and does not affect your statutory rights. All warranties herein require that any claim must be submitted to Arctic Spas® within ten days of the time the defect is discovered, and must be accompanied by the original customer's receipt confirming purchase of the spa, which shows the date of purchase. All warranty claims must be submitted within the warranty period. Failure to provide such notice and information invalidates all warranties provided hereunder. Arctic Spas® reserves the right to repair or replace components or materials at its option. In certain cases, photographs may be required for proper evaluation before warranty coverage is determined. In the event a customer is unable to either obtain parts or satisfactory service from a Factory Authorized Dealer of Arctic Spas®, notice should be given immediately to the service department of the agent where the spa was purchased and to Arctic Spas®.

Arctic Spas® expressly excludes warranty coverage on splitting, fading or warping of the cedar or no maintenance cabinet beyond the date of delivery. Any damage resulting from handling of the cedar or no maintenance cabinet is excluded from this warranty. This warranty will not cover any labour for WIFI/Bluetooth connection assistance/issues, onSpa® App initialization & connection assistance/issues from a smartphone, or assistance with actually connecting any of these devices.





Classic Series

Classic Arctic Engineering

25 years of Engineering Excellence
built into every Classic Series





Specifications

	Outside Dimensions	Height	Heater (watts)	Water Capacity	Dry Weight	Electrical Requirements North America <small>A = actual / B = breaker</small>	Electrical Requirements Europe
Mustang	93" x 93" 235 x 235 cm	39" 98 cm	NA / Euro 4000 W	370 Gallons 1400 Liters	973 Lbs 441 Kg	240 Volts / 6 Gauge Wire 1 Pump / A32amp / B40amp 2 Pumps / A40amp / B50amp Upgraded Classic 240 Volts / 6 Gauge Wire 1 Pump / A40amp / B50amp 2 Pumps / A40amp / B50amp 115 Volts / 14 Gauge Wire 1 Pump / A12amp / B15amp	1 phase x 32 Amp or 3 phase x 16 Amp
McKinley	93" x 93" 235 x 235 cm	39" 98 cm	NA / Euro 4000 W	449 Gallons 1700 Liters	951 Lbs 431 Kg	240 Volts / 6 Gauge Wire 1 Pump / A32amp / B40amp 2 Pumps / A40amp / B50amp Upgraded Classic 240 Volts / 6 Gauge Wire 1 Pump / A40amp / B50amp 2 Pumps / A40amp / B50amp 115 Volts / 14 Gauge Wire 1 Pump / A12amp / B15amp	1Øx32 Amp 3Øx16 Amp
Totem	85" x 85" 217 x 217 cm	41" 104 cm	NA / Euro 4000 W	360 Gallons 1360 Liters	735 Lbs 333 Kg	240 Volts / 6 Gauge Wire 1 Pump / A32amp / B40amp 2 Pumps / A40amp / B50amp Upgraded Classic 240 Volts / 6 Gauge Wire 1 Pump / A40amp / B50amp 2 Pumps / A40amp / B50amp 115 Volts / 14 Gauge Wire 1 Pump / A12amp / B15amp	1 phase x 32 Amp or 3 phase x 16 Amp
Eagle	85" x 85" 217 x 217 cm	41" 104 cm	NA / Euro 4000 W	313 Gallons 1885 Liters	741 Lbs 336 Kg	240 Volts / 6 Gauge Wire 1 Pump / A32amp / B40amp 2 Pumps / A40amp / B50amp Upgraded Classic 240 Volts / 6 Gauge Wire 1 Pump / A40amp / B50amp 2 Pumps / A40amp / B50amp 115 Volts / 14 Gauge Wire 1 Pump / A12amp / B15amp	1 phase x 32 Amp or 3 phase x 16 Amp
Timberwolf	69" x 85" 174 x 217 cm	39" 98 cm	NA / Euro 4000 W	234 Gallons 884 Liters	611 Lbs 277 Kg	240 Volts / 6 Gauge Wire 1 Pump / A32amp / B40amp 2 Pumps / A40amp / B50amp Upgraded Classic 240 Volts / 6 Gauge Wire 1 Pump / A40amp / B50amp 2 Pumps / A40amp / B50amp 115 Volts / 14 Gauge Wire 1 Pump / A12amp / B15amp	1 phase x 32 Amp or 3 phase x 16 Amp
Athabaskan	172" x 93" 436 x 236 cm	51" 129 cm	NA / Euro 5500 / 2x3600	1347 Gal- lons 5100 Liters	1910 Lbs 866 Kg	240 Volts / 6 Gauge Wire 1 Pump / A32amp / B40amp 2 Pumps / A40amp / B50amp Upgraded Classic 240 Volts / 6 Gauge Wire 1 Pump / A40amp / B50amp 2 Pumps / A40amp / B50amp 115 Volts / 14 Gauge Wire 1 Pump / A12amp / B15amp	1 phase x 32 Amp or 3 phase x 16 Amp
Hudson	172" x 93" 436 x 236 cm	51" 129 cm	NA / Euro 5500 / 2x3600	1347 Gal- lons 5100 Liters	1910 Lbs 866 Kg	240 Volts / 6 Gauge Wire 1 Pump / A32amp / B40amp 2 Pumps / A40amp / B50amp Upgraded Classic 240 Volts / 6 Gauge Wire 1 Pump / A40amp / B50amp 2 Pumps / A40amp / B50amp 115 Volts / 14 Gauge Wire 1 Pump / A12amp / B15amp	1 phase x 32 Amp or 3 phase x 16 Amp
Kingfisher	172" x 93" 436 x 236 cm	51" 129 cm	NA / Euro 5500 / 2x3600	1347 Gal- lons 5100 Liters	1910 Lbs 866 Kg	240 Volts / 6 Gauge Wire 2 Pumps / A48amp / B60amp Upgraded Classic 240 Volts / 6 Gauge Wire 1 Pump / A40amp / B50amp 2 Pumps / A40amp / B50amp 115 Volts / 14 Gauge Wire 1 Pump / A12amp / B15amp	1Øx32 Amp 3Øx16 Amp
Wolverine	172" x 93" 436 x 236 cm	51" 129 cm	NA / Euro 5500 / 2x3600	1347 Gal- lons 5100 Liters	1910 Lbs 866 Kg	240 Volts / 6 Gauge Wire 3 Pumps / A48amp / B60amp Upgraded Classic 240 Volts / 6 Gauge Wire 1 Pump / A40amp / B50amp 2 Pumps / A40amp / B50amp 115 Volts / 14 Gauge Wire 1 Pump / A12amp / B15amp	1Øx32 Amp 3Øx16 Amp

Spa Overview



A: Topside Control | See Topside Control Overview section in this manual.

B: Waterspouts | Control by an ON/OFF valve.

C: Monsoon Jet

D: Jets | All jets are adjustable and can be turned ON/OFF and can also be locked in the fully ON position, simply by rotating the Jet face.

E: Diverter | If your spa is equipped with a Diverter, its purpose is to distribute water pressure to varying jets or provide water pressure to the Monsoon Jet or both.

F: Venturi | Allows air into jets to boost jet performance when Pump 1 is on. Leave in the “closed” position when spa is not in use.

Jets

Three Inch (3") Jets

The Turbo Single jets give a wide circular massage. The 3-inch jets are designed for a thorough massage of the muscles in your upper back, shoulders and neck. These jets are adjustable by turning the face of the jet clockwise for a stronger flow and counter-clockwise for a softer flow and eventually off. The Jet can also be locked in the fully ON (open) position by turning the face of the jet clockwise until it does not go any further. Then rotate again to allow the jet to override the lock stop.

Five Inch (5") Jets

The five-inch Hydro-massage jets give a wide circular massage. These jets are adjustable by turning the face of the jet clockwise for a stronger flow and counter-clockwise for a softer flow and eventually off. The Jet can also be locked in the fully ON (open) position by turning the face of the jet clockwise until it does not go any further. Then rotate again to allow the jet to override the lock stop.

Monsoon Jet

The Monsoon Jet is a large hydro-massage jet designed to maximize massaging action on a specific area of the body. It is located in the lower part of the spa to allow easy access for massaging feet, legs, hips and lower back. The intensity of the Monsoon Jet can be altered using the Diverter (the location varies depending on spa model). Consult your local dealer regarding which diverter lever or just jump in and experiment for yourself.



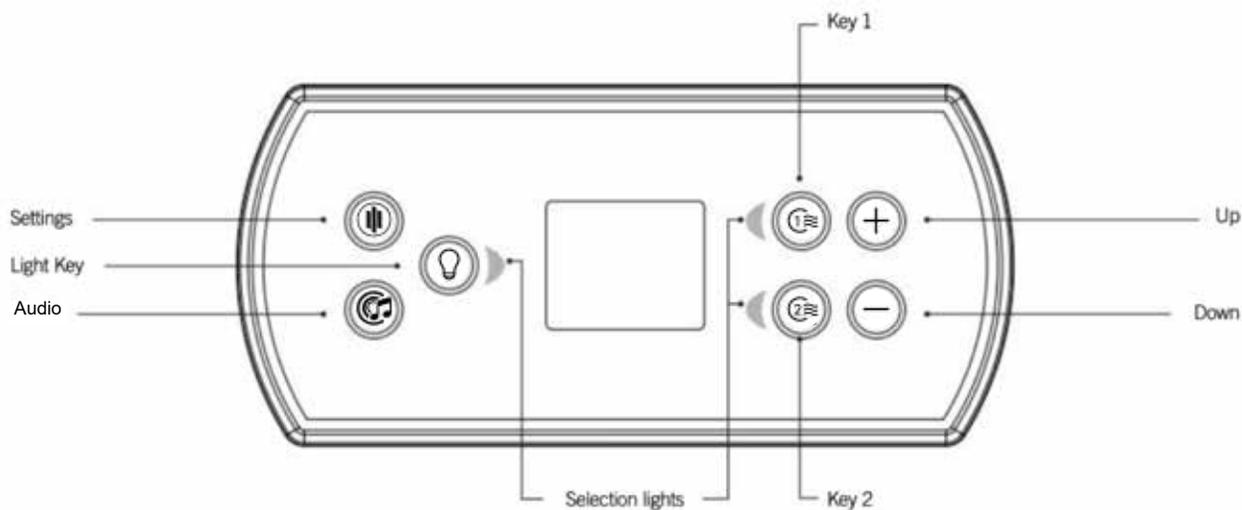
Jets



Monsoon



Topside Control Panel



**Functions for keys 1 and 2 will depend on your system's low level configuration.*

Topside functions



Power Up

The in.k500 topside does not store the time and date. When the in.k500 starts up after a power loss a message will prompt the user to reprogram the date and time.

NOTE: With the in.k500 equipped with a real time clock (RTC): If the power was lost for a few hours, this message will not appear.

Setting Key

One press gives you access to a menu to manage the setting of your spa. Refer to the setting section for details about the settings menu.

Audio Key (controls stereo)

The in.k500 can be used with the in.tune, in.stream or in.stream 2 audio systems. The Audio section in the Settings menu of an in.stream gives you the option to disconnect or unpair your Bluetooth enabled device when using the in.stream. With version 7.00 and higher, it is also possible to select Source to use a device connected by auxiliary cable or Bluetooth wireless connection. The in.stream 2 Settings menu gives you a Source selector, a Bluetooth disconnect option, an On/Off switch and an audio control on fader, balance and subwoofer. For more information on audio functions, see the in.tune, in.stream or in.stream 2 operation section. The Audio option will only appear in the menu for keypads that are set up for an in.stream connection. The in.stream 2 is automatically detected at power-up.

Power

Press any button to turn on the keypad. After 30 minutes without activity it will shut off.

Main Screen

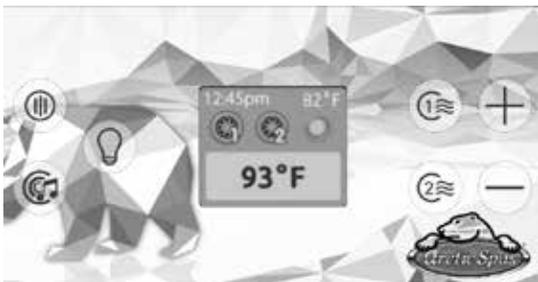
The main screen gives you access to your accessories and water temperature. At the bottom of the screen, you will see any error or maintain messages that are present.

Start or Stop Accessories

To start or stop an accessory, press the associated button. Icons will be animated when their accessory is turned on, and inanimate when turned off. Icons on the screen will reflect the speed or state of the devices running on your spa. When an accessory has more than two states, press the button until it reaches the desired state.

Water Temperature

The temperature shown at the top of the screen is the current water temperature. Use the UP and DOWN buttons to set the desired temperature. The set point will appear in blue at the bottom. After 3 seconds without any change to the set temperature value, the keypad will resume the normal display of messages. When the set value is lower than the current temperature Cooling to xx.x will appear. When the set value is higher than the current temperature. Heating to xx.x will be indicated. Normally there is a short delay before the heating starts, during which Heating Suspended is indicated.



Topside functions



Settings

From the home page you can access the settings where you will find:

- Water Care
- Audio (if installed)
- Maintenance
- Wi-Fi
- Restore
- Standby
- Date & Time
- Configuration
- About

Use the arrow buttons to move UP and Down in the list. To select an option, press the light beside it. At any point, you can press the settings button to return to the home screen.



Water Care

The water care section will help you set up your idea filtration and heating settings. Choose a mode depending on your need. Use the Light button to choose your setting. A checkmark will appear on the selected icon to confirm. In Economy Mode, the set point will be reduced by 20F which means that the heating system not be engaged unless the temperature falls to 20F below the spas set temperature.

Water Care Modes



Away

In this mode the Spa will always be in economy; the set point will be reduced by 20° F.



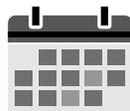
Standard

The Spa will never be in economy mode and will be filtering according to the pack's low level configuration.



Energy Savings

The Spa will be in economy mode during the peak hours of the day and resume norma; moede on the weekend.



Weekender

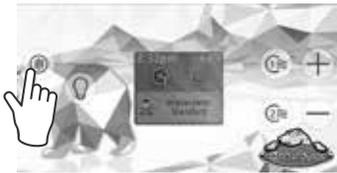
The Spa will be in economy mode from Monday to Friday, and will run normally on the weekend.

Topside functions

Filtration Settings

To access the filtration settings from your topside control panel select the settings button . Using the light button , select water care. Use the  button to scroll down to standard, press the light button to select then the Pump 1  button to enter you filtration settings. From here you can adjust your “Day Settings” from everyday, weekday, weekends or specific days only. Once you have adjusted your Day Setting you can move to the start time setting using the light key. Choose the start time for your filtration to begin. Once desired start time is selected, use the light key to the duration category where you can choose how long your spa will filter for. Use the  and  buttons to choose how long your filtration cycles will last. After all three parameters are set, press the light button, then the  button to go to the filtration 2 settings. Adjust the Day, start and duration settings as desired and save your settings pressing the pump 1 button.

Onzen Settings with k500 topside



Press the Settings button to enter the settings menu.



Use the Up / Down arrows to navigate to Onzen™ tab.



Press the light key to enter the Onzen™ menu.
Use the light key (to go forward), Pump 1 key (to go back), and the up/Down keys to change the desired setting.

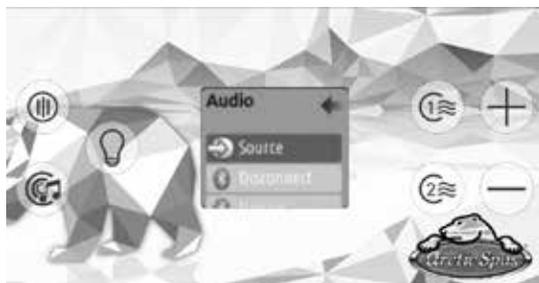


Set desired Start time, Duration, and Frequency of Onzen™ cycles.



Press the Pump 1 key to exit out of the Onzen™ menu.

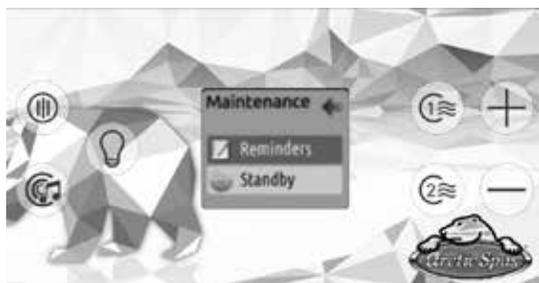
Topside functions



Audio

The Audio section in the settings menu of in.stream gives you the option to disconnect or un-pair your Bluetooth enabled device when using the in.stream.

The in.stream 2 settings menu gives you a source selector, a Bluetooth disconnect option, an On/Off switch and an audio control on fader, balance and subwoofer.



Maintenance

From the settings page you can access the Maintenance menu, which gives you the following options:

- Maintenance Reminders
- Standby

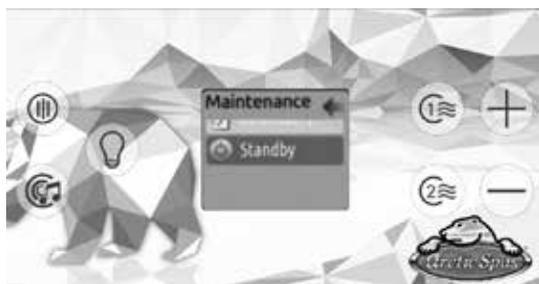
Use the Up and Down buttons to make a selection, and the Light button to confirm.



Maintenance Reminders

The In.k500 keypad will remind you of maintenance required on your spa, like rinsing or cleaning the filter. Each task has its own duration, based on normal use.

The maintenance reminders menu allows you to verify the time left before maintenance is required, as well as to reset the time once a task is completed. Use the Up and Down button to move through the list. To reset a task select it by pressing the Light button, then confirm when prompted. Once you have confirmed the task will be reset.



Standby

The standby mode allows you to service your spa. Pumps will stop for 30 minutes, and automatically restart after this time.

Once Standby Mode has been activated a screen will appear to show that pumps are stopped. The normal spa page will return at the end of Maintenance.

Press Button 1 to leave standby mode and restart the spa.

Topside functions

WiFi (in.touch only)

For the WiFi menu to appear in the Settings menu your in.touch module must be equipped with software version 11.00 or higher. This menu allows you to connect your in.touch module to a WiFi network or to change its network.



For more details about other in.touch connection methods please see the in.touch techbook. To connect your in.touch module to a wireless network, use the Up/Down keys to go to the WiFi option in the Settings menu and Light key to select it.

After a few seconds the available networks will appear on the screen, as well as their signal strength.

Use the Up/Down keys to move through the list. Select your network by pressing on Light key.



If the WiFi network is password protected enter it when prompted.

- Use the arrow keys to choose your letters and change the type of character (uppercase, lowercase, number, symbol).
- Use Key 2 to move the cursor forward
- Use Key 1 to backspace
- Use Light key to confirm

If no password is required the in.touch will connect automatically.



Once the in.touch module is connected to a WiFi network a check mark in a green circle will appear in the WiFi menu, and the network logo will change to green in Settings menu.

Note:

WiFi logo color in Settings menu corresponds to the in.touch connection state.

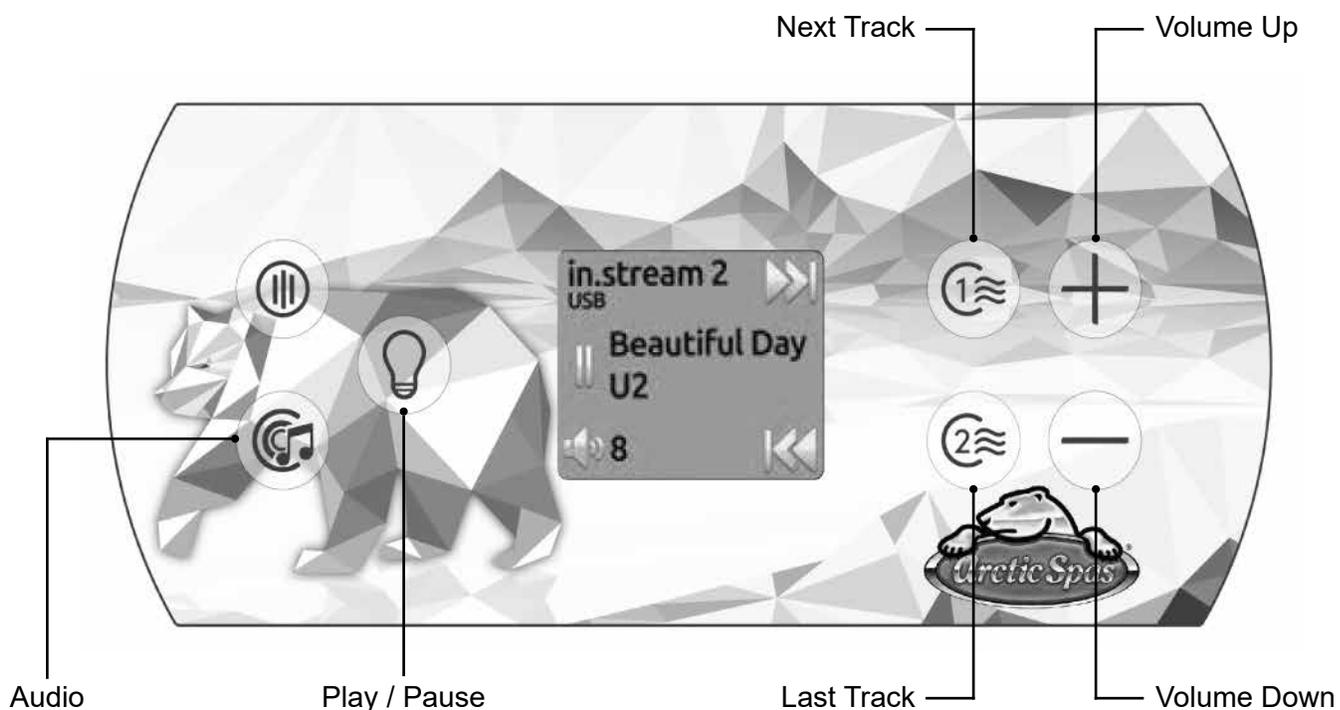
Yellow = not connected

Green = connected to a network

Yellow with wait icon = connection attempt to a network

Red with wait icon = in.touch no longer detected (in.touch must be reset before next connection attempt)

Topside functions



Press the Audio key to access your in.stream 2.

If you are using a device with Bluetooth technology, it must be connected for functions to work.

Play / Pause audio

Press the Play/Pause button to start or pause the audio. This button is available for Bluetooth and USB only.

Changing tracks

Use the Last Track and Next Track keys to change tracks or FM stations. This is not available with Aux source.

Adjusting the volume

Press the Up or the Down key to increase or decrease the volume.

Disconnect

This option can be found under the Audio section in the Settings menu.

Turn power On / Off

This option can be found under the Audio section in the Settings menu.

Fader, Balance and Subwoofer

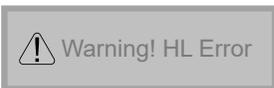
These options can be found under the Audio section in the Settings menu.

IN.K500 Error Codes

The following is a list of references at your disposal



Upon connecting the in.k500 topside to the spa pack you may see one of these messages. Please follow the instructions in the message or contact your dealer for more information.



Warning! HL Error

HL

Warning! HL error



No Flow Condition

FLO

No flow condition or no flow for more than 2 hours



Danger! Relay Stuck

HR

Danger! Relay stuck



Warning! Spa Temp. High

OH

Spa temperature is too high



Internal Pack Temp. High

AOH

Elevated internal temperature



Flow Switch Closed

FLC

Flow switch is closed



Input Voltage Issue

SP in

Input voltage issue



Comm. Error in.xm2-in.therm

RH NC

Comm. error between in.xm2 and in.therm



Heat Pump Error

HP1-99

Heat Pump error 1-99



Warning! Temp. Probes Defective

Pr

Warning! Temperature probes defective



in.xm2-in.therm Incompatible

RH ID

in.xm2 and in.therm incompatible

Classic Warranty

Spa Shell ~ 10 years

Arctic Spas® warrants the spa shell to the customer against water loss due to structural failure for a period of 10 years.

Forever Floor ~ 3 years

Arctic Spas® warrants the Forever Floor against rotting and structure cracking for a period of 3 years to the original customer from the original date of delivery. Includes parts and onsite labor necessary to repair.

Arctic Spas® extends this limited warranty solely to the original customer of any Arctic self-contained spa installed by an approved Arctic Spas Dealer, for 3 years of delivery date or 4 years from manufacture ship original purchaser of the spa.

Equipment & Plumbing ~ 3 years parts and 3 year labor

Arctic Spas® warrants the spa's electrical equipment components ~ specifically the pump(s) *(please refer to detailed pump warranty below), factory installed ozone system, heater (including the Tru-Guard™ Heater) and control system against malfunctions due to defects in materials and workmanship for a period of 3 years to the original purchaser from the original date of delivery. Includes parts and labor necessary to repair.

Other Components ~ 3 years

Arctic Spas® warrants the fuses, lights, jet inserts, topside control overlays, cabinet material, filter baskets and weir assemblies, diverter handles and caps, air control handles and caps, plastic cover clips, chrome trim, Intouch 2 and all other unmentioned components to be free of defects in workmanship and materials for a period of 3 years to the original purchaser from the original date of delivery. Includes only parts necessary to repair, not labor.

Shell Surface Acrylic ~ 4 years

Arctic Spas® warrants the shell surface to the customer against water loss due to material failure including cracks, blisters, peeling and delaminating for a period of four years to the original customer from the original date of delivery. Includes parts and on site labour necessary to repair.

Mylovac Cover ~ 3 years

Arctic Spas® warrants the upgraded MYLOVAC™ cover against malfunctions due to defects in materials and workmanship for three years to the original owner from the original date of delivery. Includes parts necessary to repair. (Normal wear and tear is not included in this warranty, when used with a cover lifter seam damage will be considered normal wear and tear.

Onzen™ ~ 2 years

Arctic Spas® warrants the factory installed Onzen system against malfunction due to defects in materials and workmanship for 2 year labor to the original customer from original delivery date.

WetTunes™ ~ 1 years

Arctic Spas® warrants the factory installed WetTunes system against malfunction due to defects in materials and workmanship for 1 year labor to the original customer from original delivery date.

DETAILED PUMP WARRANTY

Pump(s) are warranted against material and component failure. The pump shaft seal is covered under warranty. Damage resulting from a neglected leaking shaft seal is not covered under warranty. This includes but is not limited to bearing seizure, end bell failure, start switch failure, impeller failure and capacitor failure. It is the responsibility of the customer to report shaft seal failure before further damage can occur. Any pump component failure determined to be the result of defective material will be replaced under warranty. Arctic Spas® reserves the right to replace pump components, rather than the complete pump assembly. Vibration noise associated with normal pump operation is excluded under this warranty.

PERFORMANCE

To obtain service in the event of a defect or malfunction covered by this Limited Warranty, notify your Arctic Spa dealer as soon as possible and use all reasonable means to protect the spa from further damage. Upon proof of purchase, Arctic Spas® agent or its designated service representative will correct the defect subject to the terms and conditions continued in this Limited Warranty. Preapproved claims must be executed within 60 days of Pre-approval. All existing claims expire upon expiration of warranty. *Please note that union connection leaks are considered to be user serviceable and are expressly excluded from the Limited Warranty. Damage resulting from union connection leaks are expressly excluded from the Limited Warranty. There will be no charge for on-site labor to the customer for a period of one year from the date of original delivery or 2 years from manufacturer's ship date, whichever comes first. Specifically equipment, plumbing and shell surfaces against malfunctions due to any defect in the material and workmanship within the Limited Warranty. Travel costs are the responsibility of the customer. Your limited warranty will cover a maximum of \$60 towards on-site labor per each approved warranty claim. Service and/or travel costs are covered within the first 30 days of ownership to a maximum distance of 100KM from dealership or designated service outlet. If Arctic Spas® determines that repair of the covered defect is not feasible we reserve the right to instead provide a replacement spa equal in value to the original purchase price of the defective spa. Spa replacement is done only at the discretion of Arctic Spas®.

Reasonable costs for the removal of the defective spa, and delivery and installation will be the responsibility of the spa customer. Freight will be paid to the nearest Arctic Spas® distribution center.

CONDITIONS OF WARRANTIES

All warranties provided hereunder extend only to the original customer of the spa if purchased by an authorized Arctic spas dealer and originally installed within the boundaries of the country where it was originally purchased. All warranties hereunder terminate upon transfer of ownership of a spa from the original customer. This warranty only applies within the service area where the spa was originally installed. Your limited warranty does not include repair travel mileage or for shipping cost assessed by your Factory Authorized Dealer or service agents. All events covered by this Limited Warranty hereunder must be repaired by a Factory Authorized.

Dealer of Arctic Spas®. The warranties will not include any costs of repair incurred by a non-factory authorized agent. To obtain service, the customer must contact the Factory Authorized Dealer in his area. In the event that a spa or component thereof must be returned to Arctic Spas® distribution center, all freight costs are the responsibility of the spa customer. In all cases Arctic Spas® has sole responsibility for determining the cause and nature of failure of the spa and Arctic Spas® determination with regard thereto shall be final.



Classic Warranty

EXCLUSIONS

All warranties hereunder are void if the spa has been subject to alterations (including aftermarket accessories), misuse or abuse or any repair of the spa has been attempted by anyone other than a Factory Authorized Dealer of Arctic Spas®. Alterations include but not limited to, any change to the components, replacement of components or addition of components without the written authorization from Arctic Spas®. Misuse includes careless handling of the spa, damages caused by improper and/or non-certified electrical hook-ups, failure to operate the spa in accordance with the instructions contained in the owner's manual provided with the spa, including incorrect start-up procedures or dry firing of the spa, any use of the spa or any of its components in an application for which it was not designed, and damage caused by improper chemical balance (including any damage to spa components caused by scale build up to due to poor water chemistry), ice in the spa, overheating the spa or spa water, damage to the spa surface by allowing undissolved sanitizing chemicals to lie on the surface or if our spa has been used for commercial purposes. Spa covers are not warranted against chemical burn or discoloration. Spa covers are not warranted against water absorption or any damage resulting from water absorption. Any damage resulting from the mishandling of the spa cover in any way is not covered under warranty. Any damage caused by moving of the spa or improper installation (including insufficiently prepared or uneven ground) is considered abuse and any damage to the material or workmanship of the spa cabinetry and floor in shipping or handling are expressly excluded from the Limited Warranty.

Arctic Spas will not be responsible for power company issues or improper electrical installations, damage and/or lack of performance resulting from high or low voltages outside operating parameters. Arctic Spas will not be responsible for software and product upgrades throughout the life of the spa.

Arctic Spas® expressly excludes warranty coverage on any of the following: Acts of nature including but not limited to damage resulting from lightning, storm, flooding, freezing, fire and any other acts of nature. Any spa installed in a commercial application. Any failure caused by improper cover use or damage to the spa surface by leaving the spa outdoors without the hot tub cover in place. The heat created by leaving the spa in direct UV light without a cover may cause surface issues with the acrylic and may also cause plastic parts to warp, some fittings will leak or cease working as a result. These occurrences are not covered under warranty. The hot tub cover must be kept on the hot tub when not being used.

Scratches or micro-crazing in the spa shell reported after the day of installation are not covered under warranty. Micro-crazing is defined as an area of tiny shiny lines visible in areas on the surface of some thermoplastic sheets. This phenomena, although rare, is known to occur in many types of plastic sheet materials. The surfaces of thermoformed acrylic hot tubs are not immune to this possibility.

Damaged caused by unapproved sanitizers such as tri-chlor, acids, calcium hypochlorite, sodium hypochlorite, peroxides, any sanitizing chemical that may remain undissolved on the spa surface. Any and all sanitation systems or chemicals used in your spa must be factory approved by Arctic Spas or your warranty is void. You can check for a list of approved systems and chemicals at arcticspas.com. Installation of not factory approved salt systems will void the warranty related to pump seals, metal part, jets, etc. Damage caused by any item(s) attached to or installed onto the spa, including but not limited to gazebos, cover lifters and cedar accessories. Any options or additional components that are not factory installed are not covered under warranty. Any damage or failure due to improper preparation for winter storage is not covered under warranty.

Any damage resulting from the use of cover removing mechanisms is not covered under warranty. Damage to pillows reported beyond the day of delivery will not be covered under warranty. Pillows are to be removed from the spa when not in use.

DISCLAIMERS

Arctic Spas® will not be liable for loss of use of the spa or other incidental or consequential costs, expenses or damages that may include but not limited to, the removal of a permanent sun deck, sunroom, gazebo, or other custom fixture, any crane costs associated with the removal of the spa for service or replacement. Arctic Spas® shall not be liable for costs arising from water, filter cartridges and chemical loss. Under no circumstances shall Arctic Spas® or any of its representatives be liable for any injury to any person or damage to any property, howsoever arising from the spa. Arctic Spas® warranties are limited to a maximum amount of moneys received by Arctic Spas® with respect to the sale of the spa.

ALL WARRANTIES

The warranties contained herein are all of the warranties provided by Arctic Spas® to the customer, and to the extent permitted by law. Warranty registration (within 30 days of delivery) is the responsibility of the customer and is a condition of warranty coverage. This Warranty is offered as an extra benefit and does not affect your statutory rights. All warranties herein require that any claim must be submitted to Arctic Spas® within ten days of the time the defect is discovered, and must be accompanied by the original customer's receipt confirming purchase of the spa, which shows the date of purchase. All warranty claims must be submitted within the warranty period. Failure to provide such notice and information invalidates all warranties provided hereunder. Arctic Spas® reserves the right to repair or replace components or materials at its option. In certain cases, photographs may be required for proper evaluation before warranty coverage is determined. In the event a customer is unable to either obtain parts or satisfactory service from a Factory Authorized Dealer of Arctic Spas®, notice should be given immediately to the service department of the agent where the spa was purchased and to Arctic Spas®.

Arctic Spas® expressly excludes warranty coverage on splitting, fading or warping of the cedar cabinet beyond the date of delivery. Any damage resulting from handling of the cedar cabinet is excluded from this warranty. This warranty will not cover any labor for Bluetooth connection assistance/issues, InTouch Internet Control initialization & connection assistance/issues from a smartphone, or assistance with actually connecting any of these devices.





Core Series

Our Core Values

The foundation of our construction techniques
built into every spa to fit nearly any budget





Specifications

	Outside Dimensions	Height	Heater (watts)	Water Capacity	Dry Weight	Electrical Requirements North America <small>A = actual / B = breaker</small>	Electrical Requirements Europe
Grizzly	91" x 91" 231 x 231 cm	39" 99 cm	NA / Euro 4000 W	375 Gallons 1420 Liters	1001 Lbs 454 Kg	240 Volts / 6 Gauge Wire 2 Pumps / A40amp / B50amp 115 Volts / 14 Gauge Wire 1 Pump / A12amp / B15amp	1 phase x 32 Amp or 3 phase x 16 Amp
Orca	91" x 91" 231 x 231 cm	39" 99 cm	NA / Euro 4000 W	400 Gallons 1514 Liters	1001 Lbs 454 Kg	240 Volts / 6 Gauge Wire 2 Pumps / A40amp / B50amp 115 Volts / 14 Gauge Wire 1 Pump / A12amp / B15amp	1 phase x 32 Amp or 3 phase x 16 Amp
Aurora	81" x 80" 206 x 204 cm	39" 99 cm	NA / Euro 4000 W	315 Gallons 1193 Liters	702 Lbs 318 Kg	240 Volts / 6 Gauge Wire 1 Pump / A40amp / B50amp 115 Volts / 14 Gauge Wire 1 Pump / A12amp / B15amp	1 phase x 32 Amp or 3 phase x 16 Amp
Husky	84" x 73" 206 x 204 cm	39" 99 cm	NA / Euro 4000 W	272 Gallons 1030 Liters	631 Lbs 286 Kg	240 Volts / 6 Gauge Wire 1 Pump / A40amp / B50amp 115 Volts / 14 Gauge Wire 1 Pump / A12amp / B15amp	1 phase x 32 Amp or 3 phase x 16 Amp
Ellesmere	86" x 62" 218 x 157 cm	39" 99 cm	NA / Euro 4000 W	230 Gallons 871 Liters	560 Lbs 254 Kg	240 Volts / 6 Gauge Wire 1 Pump / A40amp / B50amp 115 Volts / 14 Gauge Wire 1 Pump / A12amp / B15amp	1 phase x 32 Amp or 3 phase x 16 Amp
Otter	86" x 46" 218 x 117 cm	30" 75 cm	NA / Euro 4000 W	150 Gallons 568 Liters	400 Lbs 181 Kg	115 Volts / 14 Gauge Wire 1 Pump / A12amp / B15amp	1 phase x 32 Amp or 3 phase x 16 Amp

Spa Overview



A: Topside Control | See Topside Control Overview section in this manual.

B: Waterspouts | Control by an ON/OFF valve.

C: Jets | All jets are adjustable and can be turned ON/OFF and can also be locked in the fully ON position, simply by rotating the Jet face.

D: Venturi | Allows air into jets to boost jet performance when Pump 1 is on. Leave in the “closed” position when spa is not in use.

Jets

Two and a half Inch (2.5") Jets

The **Turbo Single jets** give a wide circular massage. The 2.5 inch jets are designed for a thorough massage of the muscles in your upper back, shoulders and neck. These jets are adjustable by turning the face of the jet clockwise for a stronger flow and counter-clockwise for a softer flow and eventually off. The Jet can also be locked in the fully ON (open) position by turning the face of the jet clockwise until it does not go any further. Then rotate again to allow the jet to override the lock stop.

Four Inch (4") Jets

The **four-inch Hydro-massage jets** give a wide circular massage. These jets are adjustable by turning the face of the jet clockwise for a stronger flow and counter-clockwise for a softer flow and eventually off. The Jet can also be locked in the fully ON (open) position by turning the face of the jet clockwise until it does not go any further. Then rotate again to allow the jet to override the lock stop.

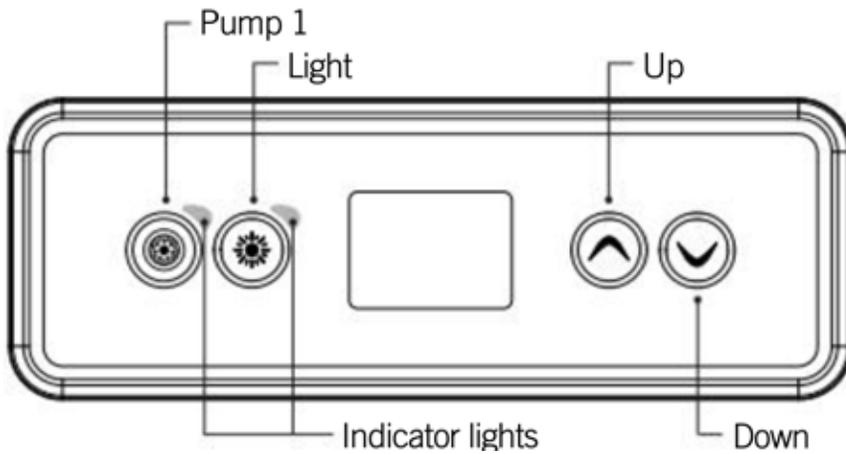




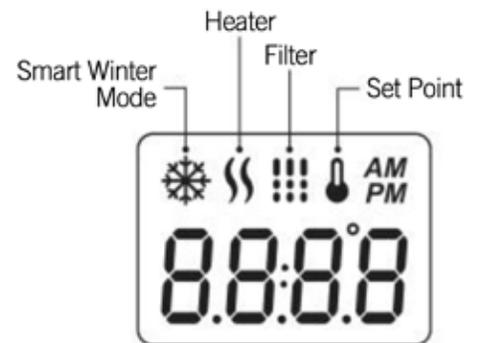
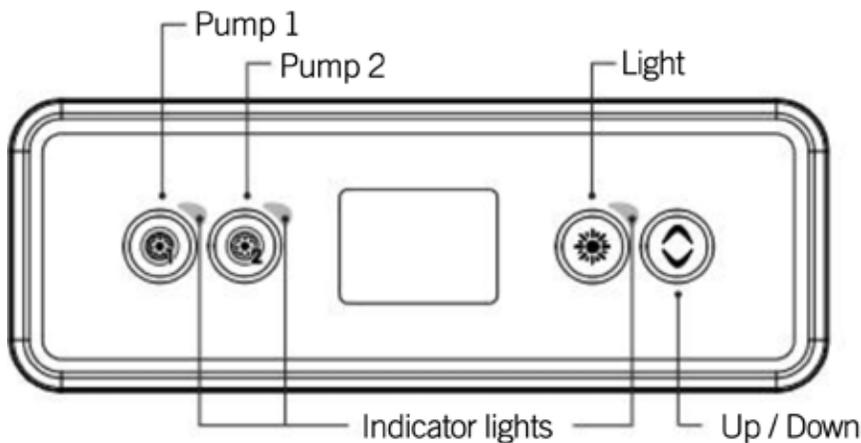
Topside Control Panel



1 Pump Model



2 Pump Model



Spa Functions



Off Mode

Pressing Pump 1 for 5 seconds will enable the Off Mode. This mode allows you to stop all outouts including automatic functions such as filter cycle, heat request and smart winter mode for 30 minutes to perform quick spa maintance. When Off Mode is active, the display will toggle between the "OFF" message, the clock and the water temperature. The spa light will flash for a few seconds before the end of the 30 minutes to warn you that the system is about to resume its normal operation.

Press Pump 1 or Pump 2 (if available) to restart the system before the expiration of the 30 minutes delay. When the system resume its normal operation, the display shows "ON" for 3 seconds.



Pump 1

Press Pump 1 key to turn Pump 1 on at low speed. Press second time to turn pump to high speed. A third time turns pump off. A built-in timer automatically turns pump off after 20 minutes, unless pump has been manually deactivated first.

The "Pump 1" indicator lights up when Pump 1 in on. The indicator will flash when pump 1 is on at low speed.



Pump 2 (Not available on all models)

Press Pump 2 key to turn Pump 2 on at high speed. Press a second time turns pump off. A built-in timer automatically turns pump off after 20 minutes, unless pump has been manually deactivated first.

The "Pump 2" indicator lights up when Pump 2 in on.

Startup Programming

Water Temperature Regulation

In a regulation cycle, the system first generates water flow through the heater housing and the plumbing, in order to ensure accurate water temperature readings as well as avoiding heater activation in dry conditions.

After verifying pump activation and taking a water temperature reading if required, the system automatically turns the heater on to reach and maintain water temperature at Set Point.

 The "Heater" indicator lights up when the heater is on. It flashes when there is a request for more heat but the heater has not yet started.

Smart Winter Mode

Our Smart Winter Mode protects your system from the cold by turning pumps on several times a day to prevent water from freezing in pipes.



The "Smart Winter Mode" indicator lights up when the Smart Winter Mode is on.

Cooldown

While performing this task, the heater is not allowed to turn on and its icon flashes.



Light Key

Press Light Key to turn lights on. A second press turns lights off. A built-in timer automatically turns light off after 2 hours, unless it has been manually deactivated first.

The "Light" indicator lights up when light is on



Up / Down Keys

Use Up or Down key to set desired water temperature. The temperature setting will be displayed for 2 seconds to confirm your new selection.

2 pump spas have a combined Up/Down Key. Hold the button to increase the parameter and release the button to stop. Hold the button again to decrease the parameter.



The "Set Point" icon indicates that the display shows the desired temperature, NOT the current water temperature!



Program Menu

Press Light Key to turn lights on. A second press turns lights off. The program menu is accessible by holding down the Light key for 5 seconds. In the program menu the following parameters can be set: clock, filter or purge cycles, economy mode and temperature units. While in the program menu, use the Up or Down key to adjust the parameters and use the Light key to jump to the next parameter. The changes will be saved after the confirmation of the last parameter only. If there is no action taken for 10 seconds, the system will exit the program menu without saving any changes.

Startup Programming



Setting the Clock

Enter the program menu by holding down the Light key for 5 seconds. The display will show the current clock setting with the hour flashing.

Depending on factory settings your system may be set to 24-hour time or 12-hour time.

Setting the hour: Use the arrow keys to adjust the hour. Press the Light key to jump to the next parameter, the minutes. Setting the minutes: Use the arrow keys to adjust the minutes. Press the Light key to jump to the next parameter, the filter or purge start time (FS).

Programming the filter

The filter cycle menu consists of the following parameters: the start time (FS), the duration (Fd) and the frequency (FF). A filter cycle consists of starting all the pumps in high speed for 1 minute (purge step) then, the pump associated with the filter will run in low speed for the remaining duration of the filter cycle (clean step).



Filtration Settings



Setting Filter Cycle Start Time

The display will show FSxx, "xx" representing the starting hour of the cycle. Use the arrow keys to adjust the hours. Use the Light key to jump to the next parameter, filter duration (Fd).



Setting Filter Cycle Duration

The display will show Fdxx, "xx" representing the duration in hours of the filter cycle. Use the arrow keys to adjust the duration. Use the Light key to jump to the next parameter, filter or purge frequency (FF).

- 0 = no filtration (It is not recommended to set this to "0")
- 24 = continuous filtration



Setting Filter Cycle Frequency

The display will show FFxx, "xx" representing the number of cycles per day. Use the arrow keys to adjust the frequency. Use the Light key to jump to the next parameter, Onzen Cycles (OC).

- The "Filter" indicator lights up when filter is on and flashes when suspended.

Filtration Settings



Setting Onzen Cycle Start Time

The display will show oSxx, "xx" representing the starting hour of the cycle. Use the arrow keys to adjust the hours. Use the Light key to jump to the next parameter, filter duration (Fd).



Setting Onzen Cycle Duration

The display will show odxx, "xx" representing the duration in hours of the filter cycle. Use the arrow keys to adjust the duration. Use the Light key to jump to the next parameter, filter or purge frequency (FF).

- 0 = no filtration (It is not recommended to set this to "0")
- 24 = continuous filtration



Setting Onzen Cycle Frequency

The display will show oFxx, "xx" representing the number of cycles per day. Use the arrow keys to adjust the frequency. Use the Light key to jump to the next parameter, economy mode (EP).



Setting Economy Mode*

This mode allows you to lower the temperature set point of the spa by 20 °F (11 °C) during a certain period of the day. The display will show EPx, "x" representing the state of the programmed economy (0 = disabled, 1 = enabled). Use the arrow keys to enable or disable economy mode. Use the Light key to jump to the next parameter, economy start time (ES). When the Economy mode is ON, the display will toggle between the "Eco" message, the time, and the water temperature.

Setting Economy Mode



Setting Economy Start Time*

The display will show ESxx, "xx" representing the hour at which the economy mode will become active. Use the arrow keys to adjust the hour. Use the Light key to jump to the next parameter, economy duration (Ed).

** Note that the parameters for the economy mode settings are associated to specific low level configuration of the system that are not present in all software revisions.*



Setting Economy Duration*

The display will show Edxx, "xx" representing the duration in hours of the economy mode. Use the arrow keys to adjust the hour. Use the Light key to jump to the next parameter, temperature unit.

- 24 = continuous economy



Setting Temperature Unit

Water temperature can be displayed in either Fahrenheit (°F) or Celsius (°C). The display will show °F or °C. Use the arrow keys to change the setting. Use the Program or Light key to save all the parameters.



Error Codes

**Hr**

An international error has been detected in in.xe. Contact dealer or service supplier.

**HL**

The system has shut the heater down because the temperature at the heater has reached 119°F (48°C). Do not enter the water! Remove the spa cover and allow the water to cool down, then the shut power off and power your spa up again to reset the system.

**AOH**

The temperature inside the spa skirt is too high, causing the internal temperature in the in.xe to increase above the normal limits. Open skirt and wait until error clears.

**FLO**

The system does not detect any water flow while the primary pump is running. Check and open water valves. Check for water level. Clean filter. If the problem persists, call your dealer or service supplier.

**Prr**

A problem is detected with the temperature probe. Call your dealer or service supplier.

**OH**

The water temperature in the spa has reached 108°F (42°C). Do not enter the water! Remove the spa cover and allow the water to cool down to a lower temperature. Call your dealer or service supplier if the problem persists.



Core Warranty

Spa Shell ~ 7 years

Arctic Spas® warrants the Core Series shell to the customer against water loss due to structural failure for a period of 7 years.

Arctic Spas® extends this limited warranty solely to the original customer of any Arctic self-contained spa installed by an approved Arctic Spas Dealer, for 3 years of delivery date or 4 years from manufacture ship date whichever comes first to the original purchaser of the spa.

Equipment & Plumbing ~ 3 years parts and 1 year labor

Arctic Spas® warrants the Core Series electrical equipment components ~ specifically the pump(s) *(please refer to detailed pump warranty below), factory installed aquanova ozone system, heater (including the Tru-Guard™ Heater) and control system against malfunctions due to defects in materials and workmanship for a period of 3 years to the original purchaser from the original date of delivery. Includes parts necessary to repair. Labor is included for a period of 1 year.

Other Components ~ 3 years

Arctic Spas® warrants the Core Series fuses, lights, jet inserts, topside control overlays, filter baskets and weir assemblies, diverter handles, in.touch 2 internet control and caps, air control handles and caps, plastic cover clips, chrome trim and all other unmentioned components to be free of defects in workmanship and materials for a period of 3 years to the original purchaser from the original date of delivery. Includes only parts necessary to repair, not labor.

Aqua Nova ~ 1 year

AquaNova limited warranty one (1) year on sanitizer, check valve assembly & UV-C.

Shell Surface ~ 3 years

Arctic Spas® warrants the Core Series interior surface to the customer against water loss due to material failure including cracks, blisters, peeling and delaminating for a period of 3 years to the original purchaser from the original date of delivery. Includes parts and labor necessary to repair.

Cover (4" - 2") ~ 1 years

Arctic spas® warrants the standard Core Series cover against malfunctions due to defects in materials and workmanship for one year to the original owner from the original date of delivery. Includes parts necessary to repair.

Upgraded Cover (5"-4") ~ 3 years

Arctic Spas® warrants the upgraded VACSEAL™ cover against malfunctions due to defects in materials and workmanship for three years to the original owner from the original date of delivery. Includes parts necessary to repair. (Normal wear and tear is not included in this warranty, when used with a cover lifter seam damage will be considered normal wear and tear.

Core Sound ~ 1 year

Arctic Spas® warrants the factory installed Core sound stereo system against malfunction due to defects in materials and workmanship for one year to the original customer from original delivery date. Includes parts and onsite labor and parts necessary to repair.

Everlast Floor ~ 3 years

Arctic Spas® warrants the Everlast Floor against structure cracking for a period of 3 years to the original customer from the original date of delivery. Includes parts necessary to repair.

DETAILED PUMP WARRANTY

Pump(s) are warranted against material and component failure. The pump shaft seal is covered under warranty. Damage resulting from a neglected leaking shaft seal is not covered under warranty. This includes but is not limited to bearing seizure, end bell failure, start switch failure, impeller failure and capacitor failure. It is the responsibility of the customer to report shaft seal failure before further damage can occur. Any pump component failure determined to be the result of defective material will be replaced under warranty. Arctic Spas® reserves the right to replace pump components, rather than the complete pump assembly. Vibration noise associated with normal pump operation is excluded under this warranty.

PERFORMANCE

To obtain service in the event of a defect or malfunction covered by this Limited Warranty, notify your Arctic Spa dealer as soon as possible and use all reasonable means to protect the spa from further damage. Upon proof of purchase, Arctic Spas® agent or its designated service representative will correct the defect subject to the terms and conditions continued in this Limited Warranty. Preapproved claims must be executed within 60 days of Pre-approval, All existing claims expire upon expiration of warranty. *Please note that union connection leaks are considered to be user serviceable and are expressly excluded from the Limited Warranty. Damage resulting from union connection leaks are expressly excluded from the Limited.



Core Warranty

Warranty. There will be no charge for onsite labor to the customer for a period of one year from the date of original delivery or 2 years from manufacturer's ship date, whichever comes first. Specifically equipment, plumbing and shell surfaces against malfunctions due to any defect in the material and workmanship within the Limited Warranty. Travel costs are the responsibility of the customer. Your limited warranty will cover a maximum of \$60 towards onsite labor per each approved warranty claim. Service and/or travel costs are covered within the first 30 days of ownership to a maximum distance of 100KM from dealership or designated service outlet. If Arctic Spas® determines that repair of the covered defect is not feasible we reserve the right to instead provide a replacement spa equal in value to the original purchase price of the defective spa. Spa replacement is done only at the discretion of Arctic Spas®.

Reasonable costs for the removal of the defective spa, and delivery and installation will be the responsibility of the spa customer. Freight will be paid to the nearest Arctic Spas® distribution center.

CONDITIONS OF WARRANTIES

All warranties provided hereunder extend only to the original customer of the spa if purchased by an authorized Arctic Spas dealer and originally installed within the boundaries of the country where it was originally purchased. All warranties hereunder terminate upon transfer of ownership of a spa from the original customer. This warranty only applies within the service area where the spa was originally installed. Your limited warranty does not include repair travel mileage or for shipping cost assessed by your Factory Authorized Dealer or service agents. All events covered by this Limited Warranty hereunder must be repaired by a Factory Authorized Dealer of Arctic Spas®. The warranties will not include any costs of repair incurred by a non-factory authorized agent. To obtain service, the customer must contact the Factory Authorized Dealer in his area. In the event that a spa or component thereof must be returned to Arctic Spas® distribution center, all freight costs are the responsibility of the spa customer. After 30 days from delivery, a deductible or "excess" fee will be applied to all warranty costs. This fee will be a maximum of \$75 CAD or equivalent local currency, and may be applied to the parts or labor component costs associated with each separate job covered by the warranty. Charges not covered by the warranty or after the warranty period expires are not affected by this condition. To obtain this Limited Warranty hereunder the spa must be purchased from a Factory Authorized Dealer of Arctic Spas®.

EXCLUSIONS

All warranties hereunder are void if the spa has been subject to alterations (including after-market accessories), misuse or abuse or any repair of the spa has been attempted by anyone other than a Factory Authorized Dealer of Arctic Spas®. Alterations include but not limited to, any change to the components, replacement of components or addition of components without the written authorization from Arctic Spas®. Misuse includes careless handling of the spa, damages caused by improper and/or non-certified electrical hook-ups, failure to operate the spa in accordance with the instructions contained in the owner's manual provided with the spa, including incorrect start-up procedures or dry firing of the spa, any use of the spa or any of its components in an application for which it was not designed, and damage caused by improper chemical balance (including any damage to spa components caused by scale build up due to poor water chemistry), ice in the spa, overheating the spa or spa water, damage to the spa surface by allowing undissolved sanitizing chemicals to lie on the surface or if our spa has been used for commercial purposes. Spa covers are not warranted against chemical burn or discoloration. Spa covers are not warranted against water absorption or any damage resulting from water absorption. Any damage resulting from the mishandling of the spa cover in any way is not covered under warranty. Any damage caused by moving of the spa or improper installation (including insufficiently prepared or uneven ground) is considered abuse and any damage to the material or workmanship of the spa cabinetry and floor in shipping or handling are expressly excluded from the Limited Warranty. Arctic Spas will not be responsible for power company issues or improper electrical installations, damage and/or lack of performance resulting from high or low voltages outside operating parameters. Arctic Spas will not be responsible for software and product upgrades throughout the life of the spa. Arctic Spas® expressly excludes warranty coverage on any of the following: Acts of nature including but not limited to damage resulting from lightning, storm, flooding, freezing, fire and any other acts of nature. Any spa installed in a commercial application. Any failure caused by improper cover use or damage to the spa surface by leaving the spa outdoors without the hot tub cover in place. The heat created by leaving the spa in direct UV light without a cover may cause surface issues with the acrylic and may also cause plastic parts to warp, some fittings will leak or cease working as a result. These occurrences are not covered under warranty. The hot tub cover must be kept on the hot tub when not being used. Scratches or micro-crazing in the spa shell reported after the day of installation are not covered under warranty. Micro-crazing is defined as an area of tiny shiny lines visible in areas on the surface of some thermoplastic sheets. This phenomena, although rare, is known to occur in many types of plastic sheet materials. The surfaces of thermoformed acrylic hot tubs are not immune to this possibility.

Damaged caused by unapproved sanitizers such as tri-chlor, acids, calcium hypochlorite, sodium hypochlorite, peroxides, any sanitizing chemical that may remain undissolved on the spa surface. Any and all sanitation systems or chemicals used in your spa must be factory approved by Arctic Spas or your warranty is void.

Core Spas expressly excludes warranty coverage on splitting, fading or warping of the cabinet beyond the date of delivery. Any damage resulting from handling of the cabinet is excluded from this warranty.





Spa Boy®

Our automated water care system, **Spa Boy®** represents the most important advancement to hot tubs in many years. Rather than solely relying on inconvenient and imprecise manual testing and addition of sanitizer to your spa, **Spa Boy®** monitors, and helps maintain ideal spa water conditions. **Spa Boy®** simply, accurately and effortlessly helps to maintain perfect clear and safe spa water for you. This incredible technology uses medical-grade sensors to constantly analyze key water cleanliness parameters and from this data, the **Spa Boy®** system precisely controls the output of our integrated salt water system, ensuring that sanitizer levels are kept in the absolute optimum range. Should your spa's pH value come slightly out of balance, **Spa Boy®** alerts the spa owner (via the topside control panel, the app and the myarcticspa.com portal) to correct this condition.

Spa Boy®, has also completely changed the bathing experience. Relax in a soft and silky high sodium low saline bath that feels absolutely amazing on your skin with no chemical smell. Enjoy your Arctic Spa to its fullest potential, and leave water maintenance to your own, personal **Spa Boy®**!



Understanding Spa Boy®

1.1 Obtaining Technical Data For Your Spa

To ensure you have the current appropriate technical data for your spa it is recommended that you obtain such data from your authorised retailer or from the Arctic Spas Web Site <http://arcticspas.com>.

1.2 What is Spa Boy?

Spa Boy is an advanced salt water maintenance system designed to data log pH and ORP readings and self manage the ORP level within the specified range.

1.3 What Does Spa Boy Do?

- Data log spa water pH and ORP readings.
- Maintains ORP within the specified range by automatically producing sanitizer (Chlorine) agents.
- Displays current ORP and pH levels of your spa water.
- Softens water.
- Clarifies water.

1.4 What Are The Benefits of Spa Boy?

- Automatically maintains sanitizer (Chlorine) within the specified ORP range.
- Displays current ORP and pH levels of your spa water.
- Takes the guess work out of calculating how much Arctic Pure, Salt Water Balance is required to add to your spa water to lower the pH level within the required range.
- Makes skin feel soft and smooth.
- Makes water look sparkling clean.
- Reduces contact with harsh chemicals.
- Dramatically reduces time and money needed to maintain spa water.
- Reduces impact to the environment:
 1. Fewer trips to the spa store for supplies and having your water tested.
 2. Less packaging wasted on chemical containers.
 3. Less industrial waste produced making spa chemicals.



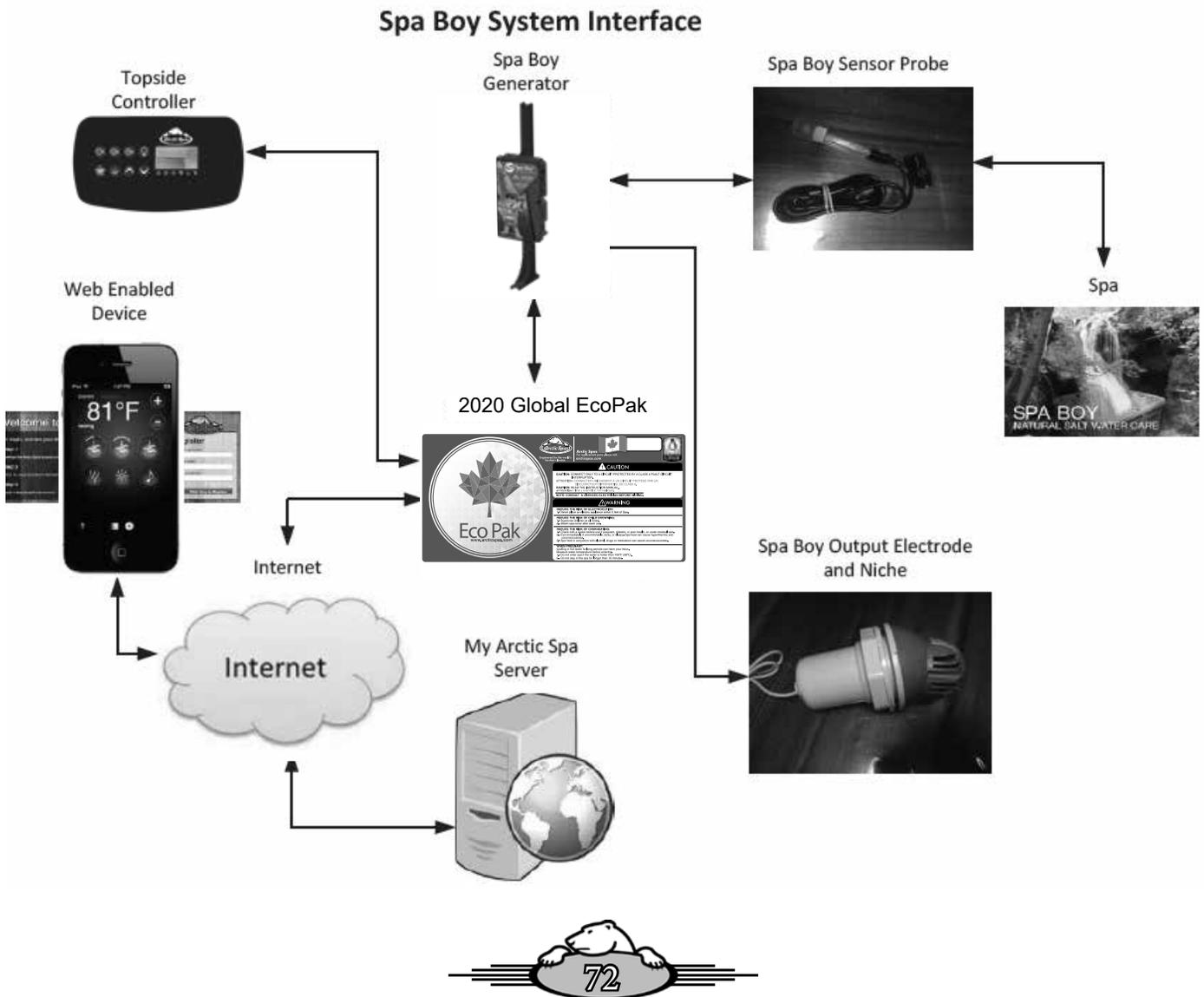
Understanding Spa Boy®

1.5 How Does Spa Boy Work?

- Consumer registers their spa on the My Arctic Spa web based after sales support system.
- Arctic Pure Natural Mineral Sea Salt Blend is added to the spas water when the spa has been filled with water and water balanced.
- An ORP/pH probe is fixed into the foot well area of your spa, which sends a signal to the Spa Boy Generator and through the Spa Boy Communication Cable connects to the Global Eco PAK. The Global Eco PAK can then establish a two-way communication channel between the Global Eco PAK and myarcticspa.com.
- Spa Boy data logs the spa water pH and ORP levels for the Technician to view.
 - Spa Boy automatically produces and maintains sanitizer (Chlorine) within the specified ORP range (545-550mV).
 - Spa Boy displays current ORP and pH levels of your spa water within My Arctic Spa.
 - As required the consumer adds the required amount of Arctic Pure Salt Water Balance to keep the pH within the required range.

1.5.1 Spa Boy System Interface

The following diagram reflects the Spa Boy System interface:



Understanding Spa Boy®

1.5.2 Spa Boy Main Components

The following table depicts the Spa Boy components referenced in this manual.

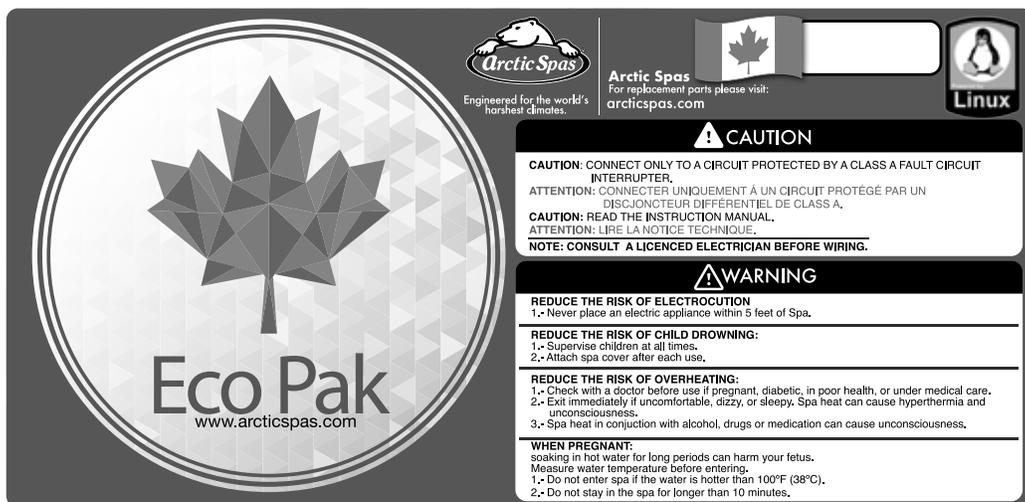
Term	Picture
2020 Global Eco PAK	
Spa Boy Generator with datacommunication cable	
Spa Boy Output Electrode	
Spa Boy Sensor	
Spa Boy Niche (Two piece the front section unscrews from the body section)	
Spa Boy Sensor Housing (Also known as Lippert Wallfitting Threaded)	
Spa Boy Housing Grate (Also known as Lippert Grate Threaded)	
Spa Boy Housing Plug	
Spa Boy Communication Cable	

Understanding Spa Boy®

1.6 Spa Boy Version Summary Spa Boy Version 1 Revision 1 (R1)

When Arctic Spas first released their Onzen system back in 2009 the Arctic Spas vision was to provide the consumer with a spa that can self-manage water balance and sanitizer levels.

With the release of Spa Boy Version 1 R1, Arctic Spas have achieved their next milestone in realizing their vision. Spa Boy Version 1 R1 can be easily upgraded (retrofitted) into a spa that currently does not have Spa Boy installed, providing the spa is equipped with a Global Eco PAK. The Global Eco PAK was released in 2011. Spas built prior to 2011 that are not equipped with the Global Eco PAK can also be upgraded with Spa Boy by replacing your Spa PAK with the 2011 Global Eco PAK. For upgrade details, consult with your Arctic Spas Dealer.



1.7 How to Determine Spa Production Date

The Spa production date can be determined from the Spa Serial Number recorded on the Spa Identification Plate mounted on the cabinet usually under the topside controller.

Example : Spa Serial No. A10H131112

- The two digits following the first letter represent the year that the Spa was built 10 = 2010.
- The letter following the first two digits represent the month that the Spa was built H = August.

*The 6 digit number represents the Spas Serial Number. 131112 = Serial Number.

Understanding Spa Boy®

1.8 Definitions of Terms

TERM	DEFINITION
Spa Boy	Spa Boy is an advanced salt water maintenance system designed to data log pH and ORP readings and self manage the ORP level within the specified range (545-550mV).
Spa Boy Output Electrode	Five plate platinum-iridium Titanium electrode - equipped salt cell converts the salt-water solution to sanitizer, and as this solution reverts back to its natural form (salt) after sanitizing. Unless large volumes of water are added to the spa you never have to add more salt. The five plate electrode plastic outer casing is grey in color. Note: When the Spa Boy System has activated the Output Electrode to generate sanitizer, the electrode gives off smoke effect.
Spa Boy Output Electrode Version	Modification status of the electrode fitted to the spa.
Spa Boy Sensor	pH and ORP sensor (probe) used to measure pH and chlorine (ORP) readings along with many other reading and transfer the readings to the My Arctic Spa web site. The Sensor is connected to the Spa Boy Generator and the Spa Boy Communication Cable from the generator is connected to the Global Eco PAK.
Spa Boy Communication Cable	Cable that connects the Spa Boy Generator to the Global Eco PAK. The communication cable is used to establish continuous two-way communication between the Spa Boy System and myarcticspa.com.
Arctic Pure	Arctic Spas range of products developed especially for maintaining your spas water.
My Arctic Spa	My Arctic Spa is a Web based after sales support system designed and built by Arctic Spas especially for Arctic Spas owners that have Spa Boy installed in their spa. My Arctic Spa has been designed to receive data from your spa over the internet through the spas Wi-Fi system. The data is logged and saved by My Arctic Spa on a continual basis.
Calcium Hardness (CH)	Calcium Hardness is a measure of the total amount of dissolved calcium salts in the water. CH helps determine how scaling or corrosive the water is. It is believed that calcium helps control the corrosive nature of water. Calcium has two major problems in Hot Water Chemistry: <ol style="list-style-type: none"> 1. CH has a tendency to precipitate (fall out of suspension in high temperatures, where pH is above 7.8ppm) 2. High pH will cause calcium to precipitate. The problem with calcium falling out of suspension is that it collects on the heater and pump, and shortens their life. High pH also reduces the life of the Spa Boy Output Electrode. Any natural corrosiveness in the water can be combated by maintaining a slightly higher Total Alkalinity Level.



Understanding Spa Boy®

1.8 Definitions of Terms

TERM	DEFINITION
Alkalinity Total Alkalinity (TA)	<p>A measure of how stable the pH is (a measure of the total levels of carbonates, bicarbonates, hydroxides, and other alkaline substances in the water). TA is referred to as the water's "pH buffer". In other words, it's a measure of the ability of the water to resist changes in pH level.</p> <p>If the TA is too low, the pH level will fluctuate widely from high to low. Fluctuations in pH can cause corrosion or scaling of the spa components.</p> <p>Low TA can be corrected by adding Arctic Pure, Perfect Balance to the spa water.</p> <p>If the Total Alkalinity is too high, the water will be more susceptible to scale and high pH. High pH may be difficult to bring down.</p> <p>Note: Salt systems naturally drive pH levels to increase.</p> <p>High TA can be lowered by adding Arctic Pure, Adjust Down to the spa water.</p> <p>Once the TA is Balanced, it normally remains stable, although some sanitizers, and the addition of more water with a high or low alkalinity will raise or lower the TA reading of the water.</p>
Potential Hydrogen (pH)	<p>The pH level is the measure of alkalinity.</p> <p>pH is measured between 0 and 14 denoting various degrees of acidity or alkalinity.</p> <p>Neutral water has a pH of 7.0 Water below 7.0 is acidic and becomes more acidic as it approaches zero.</p> <p>Water above 7.0 is alkaline and alkalinity increases as it approaches 14.</p> <p>When the pH of water is 7.0 or below, chlorine will act primarily as a sanitizer. At this level, it is very effective at killing bacteria.</p> <p>At 7.4, chlorine will act equally as a sanitizer and oxidizer.</p> <p>Above 7.8, chlorine will act principally as an oxidizer.</p> <p>The pH of chlorine is 11.7.</p> <p>Spa water is considered balanced if the pH level is within the target range, between 7.2pH to 7.6pH.</p> <p>Adding chlorine either automatically through a salt system or manually, into spa water with high pH, above 7.6pH, will further increase the pH level and dramatically reduce the effectiveness of the chlorine as a sanitizer. This must be avoided by first reducing the pH level into the target range 7.2pH - 7.6pH.</p> <p>The chart below reflects the loss of sanitizer effectiveness/sanitizer effectiveness based on the spas water pH level:</p>

pH Level	Sanitizer (Chlorine) Loss of Effectiveness based on pH Level	Sanitizer (Chlorine) Effectiveness based on pH Level
6.0 pH	4%	96%
6.5 pH	10%	90%



Understanding Spa Boy®

1.8 Definitions of Terms

TERM	DEFINITION																		
Potential Hydrogen (pH) (continued)	<table border="1" data-bbox="570 422 1367 684"> <thead> <tr> <th data-bbox="570 422 824 527">pH Level</th> <th data-bbox="824 422 1089 527">Sanitizer (Chlorine) Loss of Effectiveness based on pH Level</th> <th data-bbox="1089 422 1367 527">Sanitizer (Chlorine) Effectiveness based on pH Level</th> </tr> </thead> <tbody> <tr> <td data-bbox="570 527 824 562">7.0 pH</td> <td data-bbox="824 527 1089 562">27%</td> <td data-bbox="1089 527 1367 562">73%</td> </tr> <tr> <td data-bbox="570 562 824 598">7.2 pH</td> <td data-bbox="824 562 1089 598">38%</td> <td data-bbox="1089 562 1367 598">62%</td> </tr> <tr> <td data-bbox="570 598 824 634">7.5 pH</td> <td data-bbox="824 598 1089 634">50%</td> <td data-bbox="1089 598 1367 634">50%</td> </tr> <tr> <td data-bbox="570 634 824 669">8.0 pH</td> <td data-bbox="824 634 1089 669">78%</td> <td data-bbox="1089 634 1367 669">21%</td> </tr> <tr> <td data-bbox="570 669 824 684">8.5 pH</td> <td data-bbox="824 669 1089 684">90%</td> <td data-bbox="1089 669 1367 684">10%</td> </tr> </tbody> </table> <p data-bbox="570 695 1299 747">Maintaining a Balanced pH level between 7.2pH and 7.6pH is extremely important for:</p> <ul data-bbox="591 753 1357 909" style="list-style-type: none"> • Optimizing the effectiveness of the sanitizer. • Maintaining water that is comfortable for the user. • Preventing equipment deterioration. • Note: Salt systems naturally drive pH levels to increase, strive to achieve a balanced pH level. <p data-bbox="570 915 1187 945">If the spa water's pH level is too low, the following may result:</p> <ul data-bbox="591 951 1203 1050" style="list-style-type: none"> • The sanitizer will dissipate rapidly. • The water may become irritation to spa users. • The spa's equipment may corrode reducing life expectancy. <p data-bbox="570 1056 1295 1085">Low pH can be raised by adding Arctic Pure, Adjust Up to the spa water.</p> <p data-bbox="570 1092 1073 1121">If the pH level is too high, the following may result:</p> <ul data-bbox="591 1127 1252 1255" style="list-style-type: none"> • The sanitizer is less effective. • Scale will form on the spa shell surface and the equipment. • High pH will cause calcium to precipitate (fall out of suspension). • The water may become cloudy. <p data-bbox="570 1262 1349 1314">High pH can be lowered by adding Arctic Pure, Salt Water Balance to the spa water.</p> <p data-bbox="570 1320 1336 1419">It is important to check the pH on a regular basis. The pH will be affected by the bather load, the addition of new water, the addition of various chemicals, and the type of sanitizer used.</p>	pH Level	Sanitizer (Chlorine) Loss of Effectiveness based on pH Level	Sanitizer (Chlorine) Effectiveness based on pH Level	7.0 pH	27%	73%	7.2 pH	38%	62%	7.5 pH	50%	50%	8.0 pH	78%	21%	8.5 pH	90%	10%
pH Level	Sanitizer (Chlorine) Loss of Effectiveness based on pH Level	Sanitizer (Chlorine) Effectiveness based on pH Level																	
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7.5 pH	50%	50%																	
8.0 pH	78%	21%																	
8.5 pH	90%	10%																	
ORP	Oxidation–Reduction Potential. This is simply a measurement of the water's ability to cleanse itself. ORP is measured in millivolts (mV). Also refer FCL																		
Free Chlorine (FCL)	FCL is the active form of chlorine that actually kills bacteria and algae (It is a Sanitizer). Sanitizer is extremely important for killing algae, bacteria and viruses, and preventing unwanted organisms for growing in the spa. At the same time, you don't want too high a sanitizer level, or it can irritate your skin, lungs and eyes. Always maintain the sanitizer level in your spa within the recommended range. Also refer ORP																		
Chlorine Residual	The actual level of chlorine in the water after the chlorine demand has been satisfied.																		



Understanding Spa Boy®

1.8 Definitions of Terms

TERM	DEFINITION
Sanitizer	<p>Chemical used to kill bacteria.</p> <p>Generic names: Chlorine, Bromine and Biguanide.</p> <p>Arctic Pure, Boost</p> <p>Adding Arctic Pure BOOST should be avoided unless the ORP level is very low.</p> <p>Also Refer Section 1.15 Caring for your Spa Boy System, Question 3 If the Spa Boy System is not working, what should I do if I need to add Arctic Pure BOOST or other sanitizer to the spas water?</p> <p>Note; resetting the spas breaker could speed up sensor recovery.</p>
Refresh	<p>Oxidiser that is pH Neutral</p> <p>An oxidizer that “burns off” the organic wastes which cause cloudiness and algae. It is a generic term for a chemical used to oxidize organic wastes.</p> <p>If your spa is equipped with an Arctic Spas OZONE System such as Peak 1 or Peak 2 in most cases there should be a reduced need to add Arctic Pure, Refresh to your spas water. This is dependent on bather load and OZONE run time. But weekly maintenance is required.</p>
Parts Per Million (ppm)	<p>ppm: parts per million, a standard measure of chemical or mineral concentration.</p>
Organic waste	<p>Debris such as microorganisms, perspiration, urine, etc. which needs to be burned up or “oxidized” regularly to prevent haze, algae, chloramines, etc.</p>
Shock	<p>An oxidizer that “burns off” the organic wastes which cause cloudiness and algae. It is a generic term for a chemical used to oxidize organic wastes.</p> <p>Arctic Pure, Boost.</p> <p>Warning Adding a Chlorine agent such as Boost to the spas water should be avoided as this will affect the Spa Boy Sensor Probe which will cause inaccurate ORP and pH readings to be sent to My Arctic Spa and registered with My Arctic Spa. If chlorine is added to the spas water it will take at least three days for the Spa Boy Sensor Probe to cleanse itself and start sending accurate readings to My Arctic Spa.</p> <p>Also Refer Section 1.15 Caring for your Spa Boy System, Question 3 If the Spa Boy System is not working, what should I do if I need to add Arctic Pure BOOST or other sanitizer to the spas water?</p> <p>Note; resetting the spas breaker could speed up sensor recovery.</p>
Salt Water Balance	<p>Arctic pure product specially formulated by Arctic Spas to lower pH without causing any damage to the Spa Boy Output Electrode.</p>
Drop Test Kit	<p>Test kit for testing spa water sample using additives instead of test strips. This type of test method is more effective at measuring the 0.5ppm residual amount of chlorine generated through Spa Boy. 0.5ppm Chlorine reading = approximately 550mV</p>



Understanding Spa Boy®

1.8 Water Chemistry Abbreviations / Acronyms & Ranges

ABBREVIATION/ACRONYMS	DEFINITION	CORRECT CHEMICAL LEVELS
CH	Calcium Hardness	50 - 150 ppm
TA	Total Alkalinity	80-100 ppm
pH	Potential Hydrogen	7.2 – 7.6 ppm
ORP	Oxidation–Reduction Potential	<p>545 – 550 mV Spa Boy Optimum Range. (Optimum Range is the default factory setting, the user may adjust higher if preferred by contacting their dealer to have it adjusted.)</p> <p>Depending on the water chemistry which will be effected by bather load and spa usage, at times the ORP value will overshoot or undershoot the Optimum Range.</p> <p>Note: Using a Drop Test Kit, a 0.5ppm Chlorine reading = approximately 550mV</p>

1.9 Spa Boy Warranty

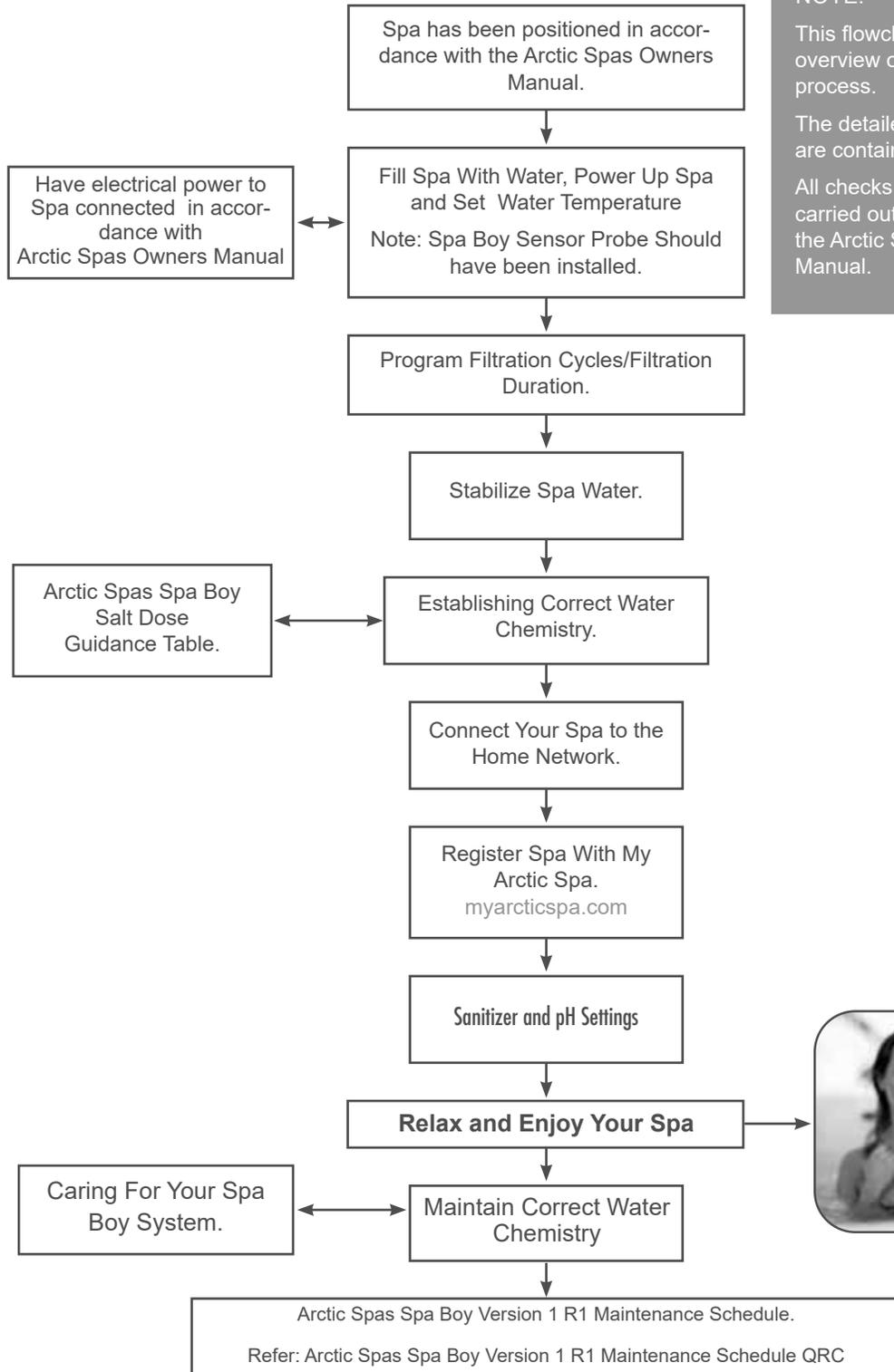
Refer to your Arctic Spas Owners Manual for the Spa Boy warranty details.



Understanding Spa Boy®

1.10 Spa Boy® SP Guide

1.10.1 Spa Boy® SP Overview Flowchart



NOTE:
This flowchart provides an overview of the Spa Boy start-up process.
The detailed support procedures are contained in this document.
All checks and test should be carried out in accordance with the Arctic Spas Spa Boy Owners Manual.

Understanding Spa Boy®

1.10.2 Fill Spa With Water Power Up Spa and Set Water Temperature

The following steps provide guidance to help establish correct chemically balanced water. To help ensure chemicals dissolve appropriately it is good practice to first mix/dissolve the chemical in an uncontaminated container of hot water before carefully adding to the spa water.

Note: The following steps take into account that the Spa Technician has filled your spa with water to above the Spa Boy Sensor Housing, removed the Spa Boy Sensor Plug, installed the Spa Boy Sensor Housing Grate and installed the Spa Boy Sensor.

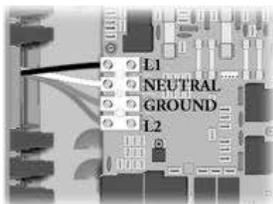
Warning: Do not proceed until the Spa Technician has filled your spa with water to above the Spa Boy Sensor Housing, removed the Spa Boy Housing Plug, installed the Spa Boy Sensor Housing Grate and installed the Spa Boy Sensor or you have obtained further direction from your Dealer.

Steps to Fill Spa With Water Power Up Spa and Set Water Temperature



Step 1. Fill Spa

Fill your spa through the filter intake as shown to the appropriate level (just under the head rests). If you have sediment or high mineral content a “carbon filled pre-filter”, as pictured, can help. (This is optional and will prolong the fill time).



Step 2. Connect/Turn On Electrical Power To The Spa

Once the spa is filled to the proper level, connect power to the spa in accordance with the Arctic Spas Owners Manual, and turn the power on to the spa on.



Step 3. Set Water Temperature

Set the water temperature control on the Topside Controller to the desired temperature (between 100°F and 104°F or 38°C and 40°C).

Understanding Spa Boy®

1.10.3 Program Filtration Cycles/Filtration Duration

The factory default filtration settings will automatically perform 4 x two-hour filtration cycles per day, 6 hours apart. Depending of bather load and spa usage it is suggested filtration settings can be changed to automatically perform 4 one- hour filtration cycles per day, 6 hours apart.

The system factory filtration settings can be adjusted by the consumer through:

- OnSpa® power management using your device such as smart phone or tablet that has been connected to your spa through WiFi. Refer OnSpa® user Guide. (Pg.117)

1.10.4 Stabilize Spa Water

Before balancing the spa water, it is recommended that the water temperature reach a minimum of 85 °F (29 °C).

Note: Do not be tempted to use your spa at this time.

Step to Stabilize Spa Water

Once the spa has been filled with water, powered up and filtration requirements set, place the insulated cover on the spa and allow the water temperature to stabilize (approximately 16 hours). Make sure you secure the cover in place using the cover locks. Periodically check the spa water temperature. When the water temperature climbs above 85°F, (29°C) proceed to the next step.

Note: As heat impacts both Calcium and Total Alkalinity a little, it is highly recommended to heat the water above 29°C (85°F) before advancing to Establishing Correct Water Chemistry.

1.10.5 Establishing Correct Water Chemistry

The following steps provide guidance to help establish correct chemically balanced water. To help ensure chemicals dissolve appropriately it is good practice to first mix/dissolve the chemical in an uncontaminated container of hot water before adding to the spa water.

Steps to Establish Chemically Balanced Water With Spa Boy

Step 1. Test and Adjust Total Alkalinity (Use drop Test Kit)

Test Total Alkalinity. It should be 80 – 100 ppm (100 max). If high, lower Total Alkalinity with Arctic Pure, Salt Water Balance. Do not raise Total Alkalinity!

WARNING: Skipping this step on Start-up can cause scaling problems and cloudy water that may not be covered under warranty.

NOTE: Use all products according to directions on the bottle.



Understanding Spa Boy®

Step 2. Test and Adjust pH (Use drop Test Kit)

Test pH. Levels should be between 7.2 – 7.6. If pH is high, (over 7.6) add Arctic Pure, Salt Water Balance.

NOTE: Salt systems naturally drive pH levels to increase, strive to achieve a balanced pH level.

NOTE: High pH will cause calcium to precipitate (fall out of suspension). The problem with calcium falling out of suspension is that it collects on the heater and pump, and shortens their life.

Step 3. Mix Salt Crystals

Dissolve 1/3 of the required recommended salt dosage in a 5 Gallon (20 litre) pail of hot water.

Refer Arctic Spas – Spa Boy Salt Dosage Chart contained in this guide.

WARNING: Salt causes pH to rise, to help ensure pH can be managed within the target range, it is most important not to add the entire salt dose in one step. If all the salt is added in one dose it may increase the pH level to an unmanageable level that requires the spas water to be drained.

Step 4. Add Salt to Spa Water & Re-Test TA / pH

(a) Slowly pour the dissolved salt from the pail into the spa water.

(b) Run pumps for 5 minutes to help mix salt blend through.

(c) Wait 1 hour.

(d) Then re-test and adjust pH level accordingly.

Refer: Steps 2 for correct pH levels.

Step 5. Repeat Steps 3 & 4

Repeat steps 3 and 4, ensuring all sub steps are carried out accordingly.

Step 6. Repeat Steps 3 & 4

Repeat steps 3 and 4, ensuring all sub steps are carried out accordingly.

Step 7. Test Sodium Chloride Level

(Aquacheck Salt Test Strips are suggested) Also refer Sub Steps to Help Ensure Sodium Chloride Test Strips are Used Correctly. You will now need to test sodium chloride levels. This can be carried out using a salt tests strip. If sodium chloride levels are low, dissolve 1/2 lb (225 Grams) of salt (using cup provided) into hot water. Pour the dissolved salt into the spa water. Test sodium chloride level. Repeat until required sodium chloride level is reached:



Spa Boy Version	Minimum	Maximum
Version 1 R1	2000ppm	2500ppm

NOTE: For start up it is recommended to strive for the minimum salt dosage. Once a Sodium Chloride reading has been taken and the minimum salt dosage achieved, it can be increased slightly to accommodate spa usage and bather load.

NOTE: The Arctic Spa Boy Salt Chart in this guide provides the estimated impact of adding ½ lb (225Grams) of salt to your spa.



Understanding Spa Boy®

Sub Steps to Help Ensure Sodium Chloride Test Strips are Used Correctly



Step 1. Take Water Sample

Take a sample of water from the spa in a small cup (about 25mm / 1" full).

NOTE: Always take water samples 25-30cm (12"-18") below the water surface.



Step 2. Place Test Strip in Water Sample

Place the lower end of the strip into the water.

IMPORTANT Keep top half of strip COMPLETELY dry to get an accurate reading.



Step 3. Test Duration Period

Leave strip in water for 3 – 5 minutes until yellow band at top of strip turns dark.



Step 4. Obtain Readings

Obtain your reading: where top of white peak falls on the number scale.

Read top of peak to the nearest 0.2 division.



Step 5. Correspond Test Result Reading

Correspond the test result reading number with the numbers on the bottle.

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1.10.6 Arctic Spas Spa Boy Salt Dose Guidance Table

The following table identifies the dosage of Arctic Pure Sea Salt Blend that is required for each Arctic Spa model and estimated impact of adding 225g of salt. Use this table for Spa Boy Version 1 R1.

Operating at the desired salt concentration will reduce potential corrosion and increase the life of the Spa Boy Output Electrode.

Arctic Spas - Spa Boy Version 1 R1 Custom Salt Dosage Chart (1). Custom Salt Dosage Chart (2).

Water Volume Metered Fill Point <i>(Approximately Bottom of Head Rest)</i>	Required Salt Dosage to Achieve 2200ppm <i>(Salinity Range for Spa Boy Version 1 R1 must be between 2000 ppm - 2500 ppm)</i>	Added Salt 225 Grams (1/2 Lb)
---	---	-------------------------------

Custom Spa Model	Litres	US Gal	Kg	Lb	PPM
Summit XL	2033	537	4.5	9.9	111
Summit	1363	360	3.0	6.6	165
Tundra	1556	411	3.4	7.6	145
Kodiak	1295	342	2.8	6.3	174
Klondiker	1412	373	3.1	6.9	159
Frontier	1268	335	2.8	6.2	177
Yukon	1264	334	2.8	6.1	178
Cub	1041	275	2.3	5.1	216
Arctic Fox	787	208	1.7	3.8	286
All Weather Pools	5100	1347	11.2	24.8	44

Water Volume Metered Fill Point <i>(Approximately Bottom of Head Rest)</i>	Required Salt Dosage to Achieve 2200ppm <i>(Salinity Range for Spa Boy Version 1 R1 must be between 2000 ppm - 2500 ppm)</i>	Added Salt 225 Grams (1/2 Lb)
---	---	-------------------------------

Classic Spa Model	Litres	US Gal	Kg	Lb	PPM
Mustang	1400	370	3.1	6.8	161
McKinley	1700	449	3.7	8.3	132
Totem	1360	360	3.0	6.6	165
Eagle	1185	313	2.6	5.8	190
Timberwolf	916	242	2.0	4.4	246
All Weather Pools	5100	1347	11.2	24.8	44

NOTE: The above table provides a guideline to achieve a salinity level of 2200 ppm. Due to differing levels of compounds and chemicals in water in different suburbs and countries, please ensure you confirm salinity level is in the desired salinity range using Aquacheck Salt Test Strips



Understanding Spa Boy®

1.10.7 Sanitizer and pH Readings

The following provides guidance on the establishment and maintenance of sanitizer and pH readings.

Sanitizer Readings: You should have ORP sanitizer (Chlorine) readings within 24 hours. 24 hours post adding the salt to the spas water, My Arctic Spa will be able to provide accurate readings regarding the ORP sanitizer (chlorine) reading, and pH reading.

Important: Always check the pH and ORP (sanitizer) levels before each spa use. If the pH reading is out of range (to high), adjust accordingly with Arctic Pure, Salt Water Balance to correct it. High pH will cause premature failure of the Spa Boy Output Electrode, cloudy water, and decreased effectiveness of the sanitizer.

* Expect the pH to increase slowly over each week and when the pH gets too high use Arctic Pure, Salt Water Balance to correct it. High pH will cause premature failure of the Spa Boy Output Electrode, cloudy water, and decreased effectiveness of the sanitizer.

1.11 Caring for your Spa Boy System

Spa Boy Maintenance

Question 1 How do I Replace the Spa Boy Output Electrode? The Spa Boy Output Electrode should be replaced every 12 - 18 months. Doing this ensures Sanitizer will be produced and sanitizer remains in the required range. The App also shows a “ BATTERY” displaying the amount of life left in the Spa Boy Salt Cell. Accuracy of the display is dependent on the salt dosage being within the required range 2000ppm – 2500ppm. The Spa Boy Output Electrode can be replaced without draining the spas water providing these steps are followed.

Steps:

- Turn the breaker off to isolate power to your Spa.
- Unscrew the Spa Boy Niche out of its housing.
- Raise the Niche completely out of the spas water and dry off any water on the Niche and Electrode.
- To help prevent galvanic corrosion, it is critical to ensure that spa water does not come into contact with the Spa Boy Electrode Electrical Pin or female matting connection located on the Spa Boy Niche when disconnecting the Niche from the Spa Boy Electrode.

* Keep them high and keep them dry, when replacing the Spa Boy Output Electrode!

- With a small Phillips screwdriver unscrew the set screw that secures the Spa Boy Output Electrode to the Niche.
- Remove the Spa Boy Output Electrode from the Niche by Unscrewing the Electrode anticlockwise and ensure the small O-ring has not dislodged from the Electrode and remained behind inside the Niche.



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- Ensure the new Electrode has the small O-ring correctly seated into the groove that is positioned around the electrical pin.
- Inspect the male electrical connection plug in the Niche to ensure it is not corroded. If corroded the dealer will need to be contacted as the Spa Boy Niche Assembly will require replacement.
- Apply Dielectric Grease to the electrical pin on the new Spa Boy Electrode.
- Insert the Spa Boy Electrode back into the Niche and turning clockwise screw the Electrode into the Niche until tight and the locating hole has aligned (approximately 4 revolutions).
- Insert the set screw into the Electrode and using a Phillips screwdriver tighten the set screw.
- Tuck the wiring loom back into the Housing.
- Screw the Niche back into its Housing ensuring the Electrode points upwards when tight. This ensures maximum output from the Electrode.
- Turn the breaker back on to repower your spa.

Question 2 How do I Care for the Spa Boy Sensor? The Spa Boy Sensor must never be permitted to freeze and must always remain in contact with water. If the Sensor freezes or is not left in contact with water at all times the sensor will fail and will require replacement!

Question 3 How do I Care for the Spa Boy Sensor when Draining the Spas Water? As the Spa Boy Sensor must always remain in contact with water, when the spas water is being drained the Spa Boy Sensor Housing must be sealed before the water is drained. The Spa Boy Sensor Housing is usually located in the foot well or other area of the spa that is not in the way of bathers or impacted by water turbulence from jets. The Spa Boy Housing has a Grate screwed into the front of the Housing. Steps for caring for your Spa Boy Sensor when draining the spas water:

- Find your 2" (50mm) Spa Boy Housing Plug that was installed in the Spa Boy Sensor Housing when your spa was first delivered.
- Check to ensure the Spa Boy Housing Plug has an O-ring in place, which is used to generate a seal between the plug and housing when the plug is screwed into the housing.
- Turn the breaker off to isolate power to your Spa.
- Turning counter clockwise, unscrew the Grate located on the front of the Spa Boy Sensor Housing.



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- Screw the Spa Boy Housing Plug provided with your spa into the front of the Spa Boy Sensor Housing. This will seal the water that is in the Housing and prevent the water in the Housing from draining when you drain your spas water.

Warning: The Spa Boy Sensor must never be permitted to freeze and must always remain in contact with water. If the Sensor freezes or is not left in contact with water at all times the sensor will fail and will require replacement! Such failures are not covered by warranty.

What do we do when winterizing a Spa?

- You can now drain your spas water.
- Clean the Spa shell with a mixture of water and white vinegar. Rinse the shell down with fresh water and then polish the shell with Arctic Pure, Reflection.
- When refilling your spa with water, leave the Spa Boy Sensor Plug secured in place until the water line is higher than the Spa Boy Housing.
- The Spa Boy Housing Plug can now be unscrewed from the Housing and the Housing Grate can be screwed back into the Housing.
- Once the water level has been reached the bottom of the pillow line you can turn the breaker back on to re-power your spa.

Question 4 Does adding salt to the spas water impact pH? Yes adding salt to the spas water will increase the pH level. The chlorine that is produced by a salt chlorinator plays a role in the water chemistry of a salt spa. Salt is sodium chloride. When an electric charge is passed through salt water, the sodium chloride is turned into sodium hypochlorite. This is the same kind of chlorine that is sold by the gallon as liquid chlorine. The most important feature of sodium hypochlorite is a high pH. When the salt chlorinator produces chlorine, it raises the pH of the spas water. Strive to achieve a Low pH level 7.2. pH must not exceed 7.6.

Question 5 What do I do if my ORP Reading is below the Optimum Range? If Spa Boy reflects that the ORP is below the Optimum Range of 545 – 550 mV you must first consider that water chemistry may have been affected by recent bather load and spa usage, at times the ORP value will overshoot or undershoot the Optimum Range. If the Spa Boy Dashboard on My Arctic Spa reflects that the ORP is below 545 mV do the following:

- Check Spa Boy Dashboard through My Arctic Spa to see if the Dashboard reflects sanitizing YES, if yes Spa Boy is currently producing sanitizer. Re-check ORP in a few hours to confirm ORP is increasing.
- If Dashboard reflects Sanitizing NO: Trip the spas breaker to isolate the power to the spa and then turn the breaker back on to repower the spa. Check Spa Boy Dashboard through My Arctic Spa to see if the Dashboard reflects sanitizing YES, if yes Spa Boy is currently producing sanitizer. Re-check ORP in a few hours to confirm ORP is increasing.
- If Dashboard reflects Sanitizing NO: First, try pressing the Spa Boy BOOST button on the Arctic Spas App or myarcticspa.com dashboard under “Settings/Spa Boy Status” to manually activate the Spa Boy system for 30 minutes.



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If the dashboard still reflects Sanitizing contact your Arctic Spas Dealer who will request a Master Technician to log onto your spa to determine the possible cause, such as depleted Spa Boy Output Electrode, Spa Boy Sensor issue or corroded Spa Boy Output Electrode electrical connections.

Question 6 If the Spa Boy System is not working, can I add Arctic Pure BOOST or other sanitizer to the spas water? Yes you can add Arctic Pure BOOST if needed. Arctic Pure BOOST or other chlorine sanitizer shouldn't need to be added regularly to keep up with regular bather load. Adding Arctic Pure BOOST or other chlorine sanitizers will raise sanitizer levels above the Spa Boy Systems maintained chlorine/ORP optimum range (545mV-550mV) causing the Spa Boy System to shut down until the chlorine/ORP reading is below the optimum range, 545mV/ORP.

- Adding BOOST can temporarily "poison" the SpaBoy sensor for 24-48 hours. Do not trust the ORP reading until water has stabilized.

Question 7 Is it permitted to add Arctic Pure Refresh directly to the spas water? If your spa is not equipped with Arctic Spa Ozone such as Peak 1 or Peak 2 it is a good idea to add 1 cap full per week.

Question 8 How do I help prevent impedance increase at the Spa Boy Electrode? Maintain the pH level within the target range 7.2 pH – 7.6 pH. As salt systems naturally drive pH levels upwards, it is most critical to the performance/life of the salt system to maintain the pH within the target range. High pH reduces the effectiveness of chlorine.

- pH level of 7 makes chlorine 70% effective (30% loss of effectiveness).
- pH level of 8 makes chlorine 21% effective (79% loss of effectiveness).

Therefore, high pH causes your Spa Boy system to produce more chlorine unnecessarily thus increasing pH even higher and reducing the effectiveness of chlorine even further. Strive to achieve a Low pH level 7.2. pH must not exceed 7.6.

Question 9 Why is my water bright yellow, or bright green, or a rusty color suddenly? This can happen if the pH gets too high. Maintain the pH level within the target range 7.2 pH – 7.8 ph. Lower the pH using 'Salt Water Balance'. If the color of the water does not normalize you may need to replace the water. If pH readings are 8.2ppm or above, a pH error will be displayed on the Top Side Controller every five seconds until the pH is corrected.

* Keep an eye on the pH and adjust it weekly to avoid this problem in the future.



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Question 10 What happens if my water becomes cloudy?

1. Check you pH level to ensure it is in the target range. If high, lower the pH using Arctic Pure Salt Water Balance.
2. Check/Test the water with a drop test kit for chlorine content. If the level is below 0.5ppm or there is no reading the Spa Boy Output Electrode may be exhausted and require replacement. Check Cell Life Monitor on Arctic Spas App or myarcticspa.com dashboard under "Settings/Spa Boy Status", remaining Cell life is displayed as a green colored battery. The green band on the battery will reduce in height as the Cell becomes depleted.
3. Check that the Salinity reading is within the desired range, 2000ppm and 2500ppm. If salinity reading is below the range it can cause the Cell Life Monitor to display as Red, which implies the Spa Boy Salt Cell is exhausted when it may not be.
4. Check your filters as they may require replacement.

Question 11 Should I use Best Defense or another scale remover? It is recommended that calcium be removed from the water in advance, during the fill process with the aid of a pre-filter and when establishing initial correct water chemistry, rather than adding a scale remover after the fact. Calcium readings below 150ppm should be maintained.

Question 12 What is the impact of phosphates on the Spa Boy system? High levels of phosphates (above 250 ppb) may reduce the effectiveness of sanitizer output.

Question 13 Can I use softened water with my Spa Boy system? Yes, you probably have a water softener because your water is quite hard. Your water softener removes calcium from your water and helps you achieve water with calcium content near the target range, between 50 - 150 ppm.

Question 14 Prior to draining spa water for refill purposes, should a system flush be carried out? Yes you can, Arctic Pure 'Fresh Start'. Use in accordance with the instructions on the container. Flushing the system components and hoses is helpful when you get biofilm and calcium build-up. It is good practice to do this at least once a year.

Question 15 If I am going to have a very heavy bather load, is there a way to manually active the Spa Boy System to generate additional sanitizer (Increase ORP Level)? Yes you can. Pressing the Boost Button through the App or dashboard in myarcticspas.com will manually activate the Spa Boy System for 30 minutes. Boost button can be activated in such cases when you know you are going to have a heavy bather load.

CAUTION: Only press the Boost Button once.

When the Boost Button is pressed:

- The Lightning Bolt on the Boost Button will illuminate and then,
- The Spa Boy Generator will turn On and Off TWICE along with the Lightning Bolt, and then,
- The Boost function commences its 30-minute cycle. During this cycle the Lightning Bolt remains illuminated.

Pressing the Boost button more than once will cause the Boost function not to activate.



Understanding Spa Boy®

1.12 Arctic Spas Spa Boy Maintenance Schedule

The following table (pages 91 - 92) outlines the typical water maintenance program required for an Arctic Spa fitted with Spa Boy Version 1 R1.

To help ensure chemicals dissolve appropriately it is good practice to first mix/dissolve the chemical in an uncontaminated container of hot water before carefully adding to the spa water. There are two methods to check the target range:

- My Arctic Spa Application, if your spa has Wi-Fi and access to the internet through your home network or portable device such as iPad or smart phone, you can log onto My Arctic Spa and open the Settings Page and go to Spa Boy Status page to review the readings (To access My Arctic Spa you must first register your details on the My Arctic Spa web site: www.myarcticspa.com).
- Drop Test Kit or by taking a water sample to your local spa dealer.



Understanding Spa Boy®

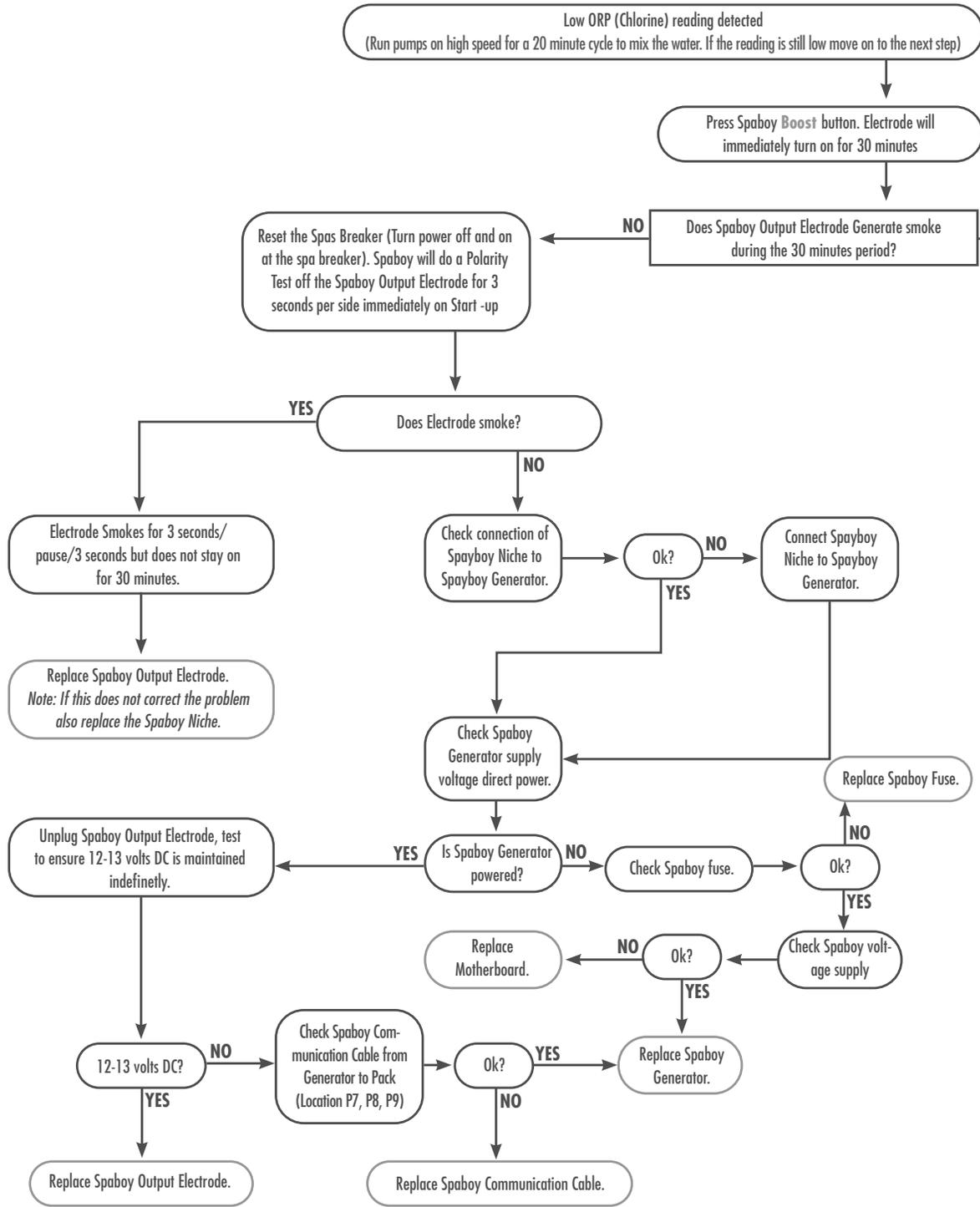
pH	Weekly	<p>Check the Potential Hydrogen (pH) to ensure it is in the target range.</p> <p>Always first check to ensure the pH is within the target range. If the pH is out of the target range pH must be adjusted before making any adjustments to chlorine levels</p>	7.2 – 7.6 pH	
ORP	Weekly (& before each use)	<p>Check the Free Chlorine Level to ensure it is in the target range.</p>	<p>545–550 mV /ORP</p> <p>Using a Drop Test Kit, 0.5ppm Chlorine reading = approximately 550mV</p>	
Sodium Chloride	Monthly	<p>Check the Sodium Chloride Level to ensure it is in the target range.</p>	<p>Version 1 R1 2000 – 25000 ppm</p>	
Shock	Weekly	<p>Shock the spas water with Arctic Pure, Refresh</p>	N/A	
Filter	6 Monthly	<p>Change the filter(s)</p>	N/A	
Water	6 Monthly	<p>Change the water</p>	N/A	

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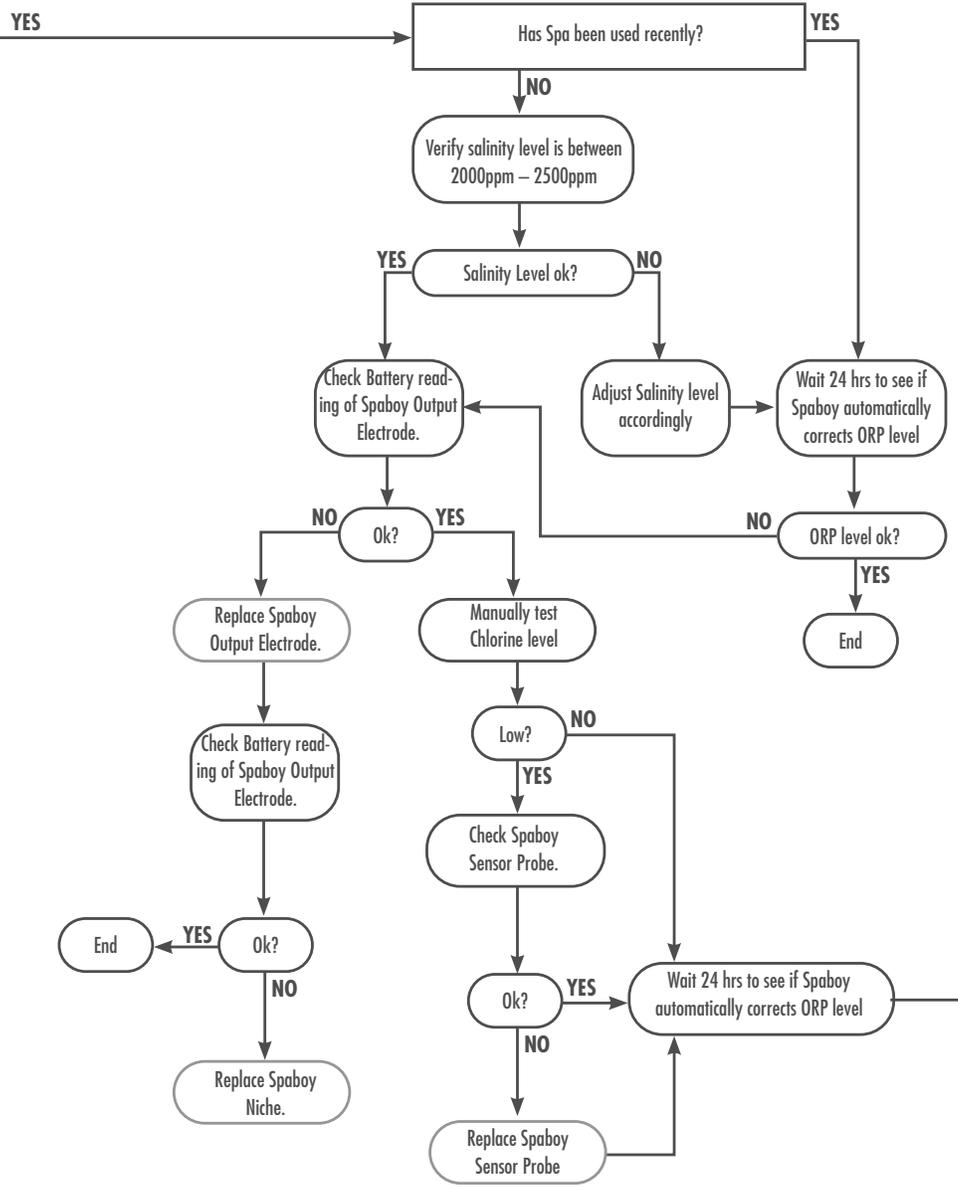
Maintenance Action to Adjust/Correct	
	<p>As Salt systems naturally drive pH levels upwards, it is most critical to the performance/life of the salt system to maintain the pH within the target range.</p> <p>High pH reduces the effectiveness of chlorine.</p> <ul style="list-style-type: none"> • pH level of 7.2 makes chlorine 62% effective (38% loss of effectiveness). • pH level of 7.5 makes chlorine 50% effective (50% loss of effectiveness). • pH level of 8 makes chlorine 21% effective (79% loss of effectiveness). <p>Therefore, high pH causes your Spa Boy system to produce more chlorine thus increasing pH even higher and reducing the effectiveness of chlorine even further.</p> <p>Strive to achieve a Low pH level 7.2. pH must not exceed 7.6. If pH is slightly below 7.0ppm do not adjust.</p> <p>Low pH - Can be raised by adding. Adjust Up to the spa water.</p> <p>High pH - Can be lowered by adding Arctic Pure Salt Water Balance, Adjust Down to spa water.</p>
	<p>545-550 mV is the Optimum Range factory default setting.</p> <p>The user may adjust higher if preferred by contacting their dealer to have it adjusted. Spa Boy will strive to maintain ORP within the Optimum Range.</p> <p>Depending on the water chemistry which will be affected by bather load and spa usage, at times the ORP value will overshoot or undershoot the Optimum Range.</p>
	<p>Once Sodium Chloride reading is in the target range salt concentration will only change if water is splashed or drained out. Do not add salt unless this test confirms the level is below the chemical acceptable range.</p> <p>High Sodium Chloride - add water above 2500ppm</p> <p>Low Sodium Chloride - add salt below 2000ppm</p>
	<p>At a minimum 1 capful per week should be added for a spa and 2 caps full for an AWP. This amount can be reduced if your spa is equipment with an Arctic Spas OZONE System.</p>
	<p>Change the filter(s) in accordance with Owners Manual instructions. (Pg.16)</p>
	<p>Change the water in accordance with Owners Manual instructions. (Pg.21)</p>

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1.13 Spa Boy® Start-Up Guide / Low ORP Troubleshooting Flow Chart

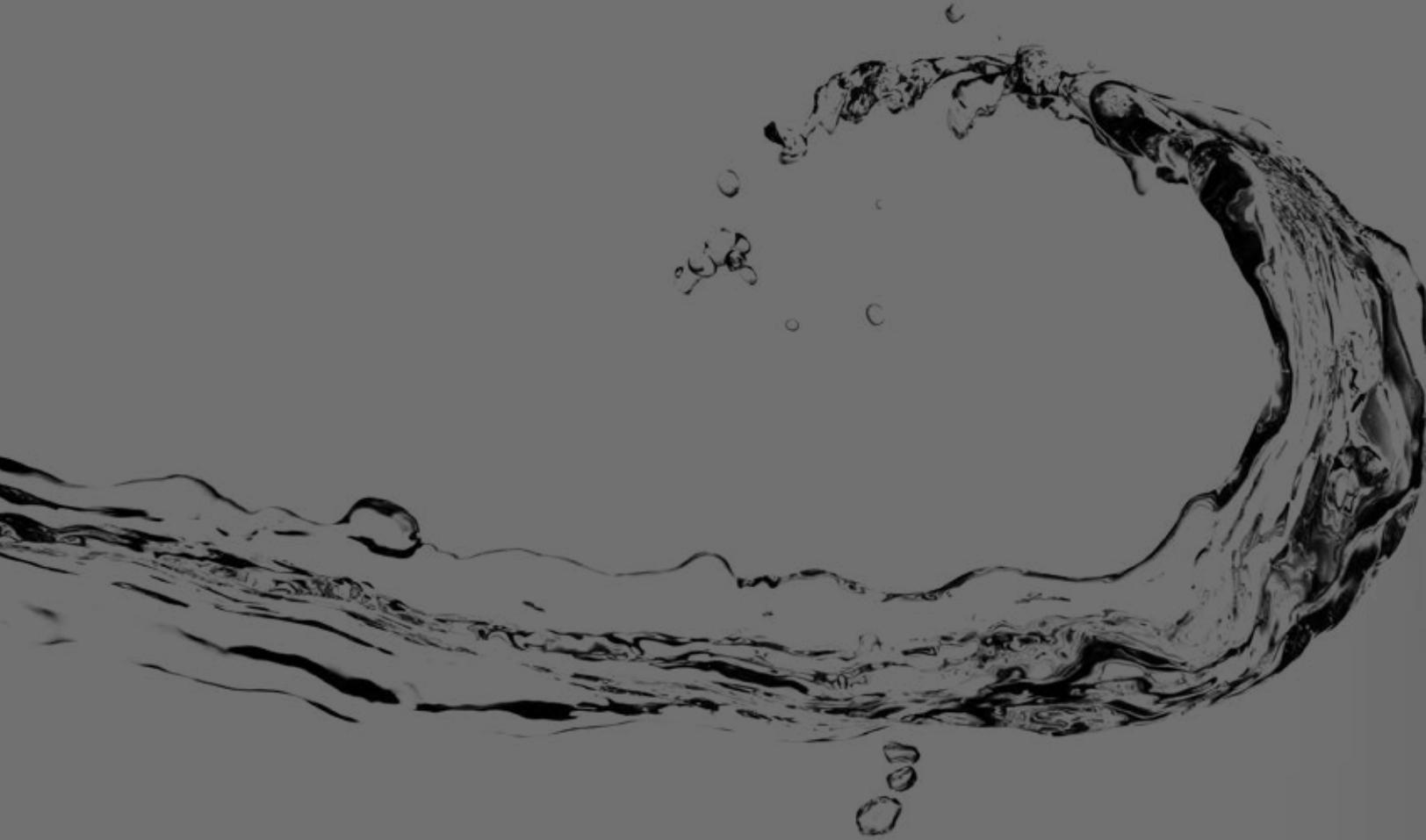


Understanding Spa Boy®





Onzen™





ONZEN™ SALT WATER SYSTEM

The Onzen™ Salt Water system is Arctic Spas® proprietary salt water system that produces sanitizer from Dead Sea salts through the process of electrolysis. Salt-water sanitizer generation has several advantages over traditional sanitizer methods. Firstly, sanitizer is created, rather than added to the system and so there is very little on-going cost related to this system. The resulting spa water is much more gentle to skin and eyes, and has a similar salinity to a human tear.

Onzen™ has many unique features that have overcome previous challenges tied to salt water systems for spas. The first is that Onzen™ has a user-replaceable electrode cartridge. Electrolysis is a sacrificial process the electrodes will eventually deteriorate and require replacement.

The replacement of the Onzen™ titanium electrode cartridge is a simple and inexpensive maintenance item that does not require the tub to be drained. The second key feature of Onzen™ is the ability to control the system either from the topside control, or via the Arctic Spas® smartphone App. This user adjustment can be used to match the sanitizer output of the Onzen™ system to the current, or anticipated bather load.

The use of the Onzen™ Salt Water system can significantly reduce the effort required to maintain clear and safe spa water, but we do suggest adding Peak Ozone to maximize the benefit of the Onzen™ Salt Water system.

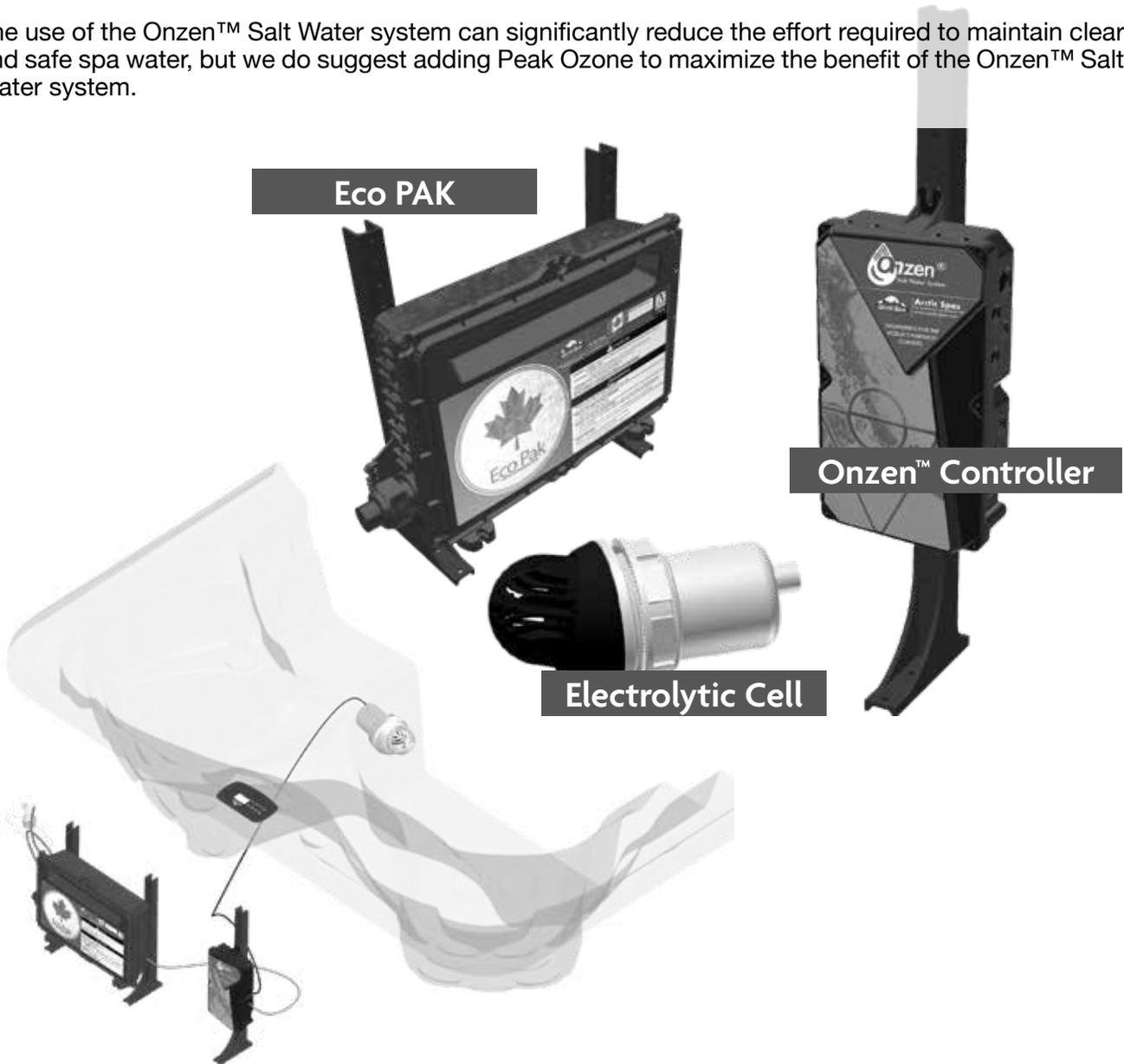


Table of Contents

1.0 Onzen™ Technical Guide

1.1 Obtaining Technical Data For Your Spa. To ensure you have the current appropriate technical data for your spa it is recommended that you obtain such data from your authorized retailer or from the Arctic Spas Web Site <http://www.arcticspas.com>.

1.2 Revision Summary. This publication has been fully revised to provide the supporting details Onzen Version 8, and spas with the Eco-Pak spa controller.

1.3 What is Onzen™? Onzen is an all-natural, salt-water softening and maintenance system.

1.4 What Does Onzen™ Do?

- Softens water.
- Clarifies water.
- Adds back up sanitizing (Chlorine) agents, automatically.

1.5 What Are The Benefits of Onzen™?

- Makes skin feel soft and smooth.
- Makes water look sparkling clean.
- Reduces contact with harsh chemicals.
- Dramatically reduces time and money needed to maintain spa water.
- Reduces impact to the environment:
 1. Fewer trips to the spa store for supplies.
 2. Less packaging wasted on chemical containers.
 3. Less industrial waste produced making spa chemicals.

1.6 How Does Onzen™ Work?

- Natural mineral sea salt blend is added to water when spa is filled.
- Sanitizing agents (Chlorine) are produced and mixed with water, automatically.
- Output is easily controlled to suit very low to very high use.

1.7 How to Determine Spa Production Date? The Spa production date can be determined from the Spa Serial Number recorded on the Spa Identification Plate mounted on the cabinet usually under the topside controller.

Example

When the Boost Button is pressed:

- The two digits following the first letter represent the year that the Spa was built 10 = 2010.
- The letter following the first two digits represent the month that the Spa was built H = August.



Understanding Onzen™

1.8 Definitions of Terms

TERM	DEFINITION
Onzen™	An all-natural, salt-water softening and maintenance system.
Onzen™ Output Electrode	<p>Three plate platinum-iridium Titanium electrode - equipped salt cell converts the saltwater solution to sanitizer, and as this solution reverts back to its natural form (salt) after sanitizing. Unless large volumes of water are added to the spa you never have to add more salt. The Three plate electrode plastic outer casing is black in color.</p> <p>Note: When the Onzen System has activated the Output Electrode to generate sanitizer, the electrode gives off smoke effect.</p>
Onzen™ Output Electrode Version	Modification status of the electrode fitted to the spa.
Calcium Hardness (CH)	<p>Calcium Hardness is a measure of the total amount of dissolved calcium salts in the water.</p> <p>CH helps determine how scaling or corrosive the water is. It is believed that calcium helps control the corrosive nature of water.</p> <p>Calcium has two major problems in Hot Water Chemistry:</p> <ol style="list-style-type: none"> 1. CH has a tendency to precipitate (fall out of suspension in high temperatures, , where pH is above 7.8ppm) 2. High pH will cause calcium to precipitate. The problem with calcium falling out of suspension is that it collects on the heater and pump, and shortens their life. High pH also reduces the life of the Onzen Output Electrode. <p>Any natural corrosiveness in the water can be combated by maintaining a slightly higher Total Alkalinity Level.</p>
Alkalinity Total Alkalinity (TA)	<p>A measure of how stable the pH is (a measure of the total levels of carbonates, bicarbonates, hydroxides, and other alkaline substances in the water).</p> <p>TA is referred to as the water's "pH buffer". In other words, it's a measure of the ability of the water to resist changes in pH level.</p> <p>If the TA is too low, the pH level will fluctuate widely from high to low. Fluctuations in pH can cause corrosion or scaling of the spa components.</p> <p>Low TA can be corrected by adding Arctic Pure, Perfect Balance to the spa water.</p> <p>If the Total Alkalinity is too high, the water will be more susceptible to scale and high pH. High pH may be difficult to bring down.</p> <p>Note: Salt systems naturally drive pH levels to increase.</p> <p>High TA can be lowered by adding Arctic Pure Salt Water Balance to the spa water.</p> <p>Once the TA is Balanced, it normally remains stable, although some sanitizers, and the addition of more water with a high or low alkalinity will raise or lower the TA reading of the water.</p>



Understanding Onzen™

TERM	DEFINITION																								
<p>Potential Hydrogen (pH)</p>	<p>The pH level is the measure of alkalinity. pH is measured between 0 and 14 denoting various degrees of acidity or alkalinity. Neutral water has a pH of 7.0 Water below 7.0 is acidic and becomes more acidic as it approaches zero. Water above 7.0 is alkaline and alkalinity increases as it approaches 14. When the pH of water is 7.0 or below, chlorine will act primarily as a sanitizer. At this level, it is very effective at killing bacteria. At 7.4, chlorine will act equally as a sanitizer and oxidizer. Above 7.8, chlorine will act principally as an oxidizer. The pH of chlorine is 11.7ppm. Spa water is considered balanced if the pH level is within the target range, between 7.2pH to 7.6pH. Adding chlorine either automatically through a salt system or manually, into spa water with high pH, above 7.6pH, will further increase the pH level and dramatically reduce the effectiveness of the chlorine as a sanitizer. This must be avoided by first reducing the pH level into the target range 7.2pH - 7.6pH. The chart below reflects the loss of sanitizer effectiveness/sanitizer effectiveness based on the spas water pH level:</p> <table border="1" data-bbox="375 919 1166 1234"> <thead> <tr> <th>pH Level</th> <th>Sanitizer (Chlorine) Loss of Effectiveness based on pH Level</th> <th>Sanitizer (Chlorine) Effectiveness based on pH Level</th> </tr> </thead> <tbody> <tr> <td>6.0 pH</td> <td>4%</td> <td>96%</td> </tr> <tr> <td>6.5 pH</td> <td>10%</td> <td>90%</td> </tr> <tr> <td>7.0 pH</td> <td>27%</td> <td>73%</td> </tr> <tr> <td>7.2 pH</td> <td>38%</td> <td>62%</td> </tr> <tr> <td>7.5 pH</td> <td>50%</td> <td>50%</td> </tr> <tr> <td>8.0 pH</td> <td>78%</td> <td>21%</td> </tr> <tr> <td>8.5 pH</td> <td>90%</td> <td>10%</td> </tr> </tbody> </table>	pH Level	Sanitizer (Chlorine) Loss of Effectiveness based on pH Level	Sanitizer (Chlorine) Effectiveness based on pH Level	6.0 pH	4%	96%	6.5 pH	10%	90%	7.0 pH	27%	73%	7.2 pH	38%	62%	7.5 pH	50%	50%	8.0 pH	78%	21%	8.5 pH	90%	10%
pH Level	Sanitizer (Chlorine) Loss of Effectiveness based on pH Level	Sanitizer (Chlorine) Effectiveness based on pH Level																							
6.0 pH	4%	96%																							
6.5 pH	10%	90%																							
7.0 pH	27%	73%																							
7.2 pH	38%	62%																							
7.5 pH	50%	50%																							
8.0 pH	78%	21%																							
8.5 pH	90%	10%																							
	<p>Maintaining a Balanced pH level between 7.2pH and 7.6pH is extremely important for:</p> <ul style="list-style-type: none"> • Optimizing the effectiveness of the sanitizer. • Maintaining water that is comfortable for the user. • Preventing equipment deterioration. • Note: Salt systems naturally drive pH levels to increase, strive to achieve a balanced pH level. <p>If the spa water's pH level is too low, the following may result:</p> <ul style="list-style-type: none"> • The sanitizer will dissipate rapidly. • The water may become irritation to spa users. • The spa's equipment may corrode reducing life expectancy. <p>Low pH can be raised by adding Arctic Pure, Adjust Up to the spa water.</p> <p>If the pH level is too high, the following may result:</p> <ul style="list-style-type: none"> • The sanitizer is less effective. • Scale will form on the spa shell surface and the equipment. • High pH will cause calcium to precipitate (fall out of suspension). • The water may become cloudy. <p>High pH can be lowered by adding Arctic Pure, Salt Water Balance to the spa water.</p> <p>It is important to check the pH on a regular basis. The pH will be affected by the bather load, the addition of new water, the addition of various chemicals, and the type of sanitizer used.</p>																								



Understanding Onzen™

TERM	DEFINITION
Chlorine Free Chlorine (FCL)	FCL is the active form of chlorine that actually kills bacteria and algae (It is a Sanitizer). Sanitizer is extremely important for killing algae, bacteria and viruses, and preventing unwanted organisms for growing in the spa. At the same time, you don't want too high a sanitizer level, or it can irritate your skin, lungs and eyes. Always maintain the sanitizer level in your spa within the recommended range. Also refer ORP
Chlorine Residual	The actual level of chlorine in the water after the chlorine demand has been satisfied.
Sanitizer	Chemical used to kill bacteria. Generic names: Chlorine, Bromine and Biguanide. Arctic Pure, Boost Adding Arctic Pure BOOST should be avoided unless the Cl level is very low.
Parts Per Million (ppm)	ppm: parts per million, a standard measure of chemical or mineral concentration.
Organic waste	Debris such as microorganisms, perspiration, urine, etc. which needs to be burned up or "oxidized" regularly to prevent haze, algae, chloramines, etc.
Shock	An oxidizer that "burns off" the organic wastes which cause cloudiness and algae. It is a generic term for a chemical used to oxidize organic wastes. Arctic Pure, Boost.

1.9 Water Chemistry Abbreviations/Acronyms & Levels

ABBREVIATION/ACRONYMS	DEFINITION CORRECT	CHEMICAL LEVELS
CH	Calcium Hardness	50 - 150 ppm
TA	Total Alkalinity	80-100 ppm
pH	Potential Hydrogen	7.2 – 7.6 ppm
FCL	Free Chlorine	1 – 3 ppm
ORP	Oxidation–Reduction Potential	600 - 1000



Understanding Onzen™

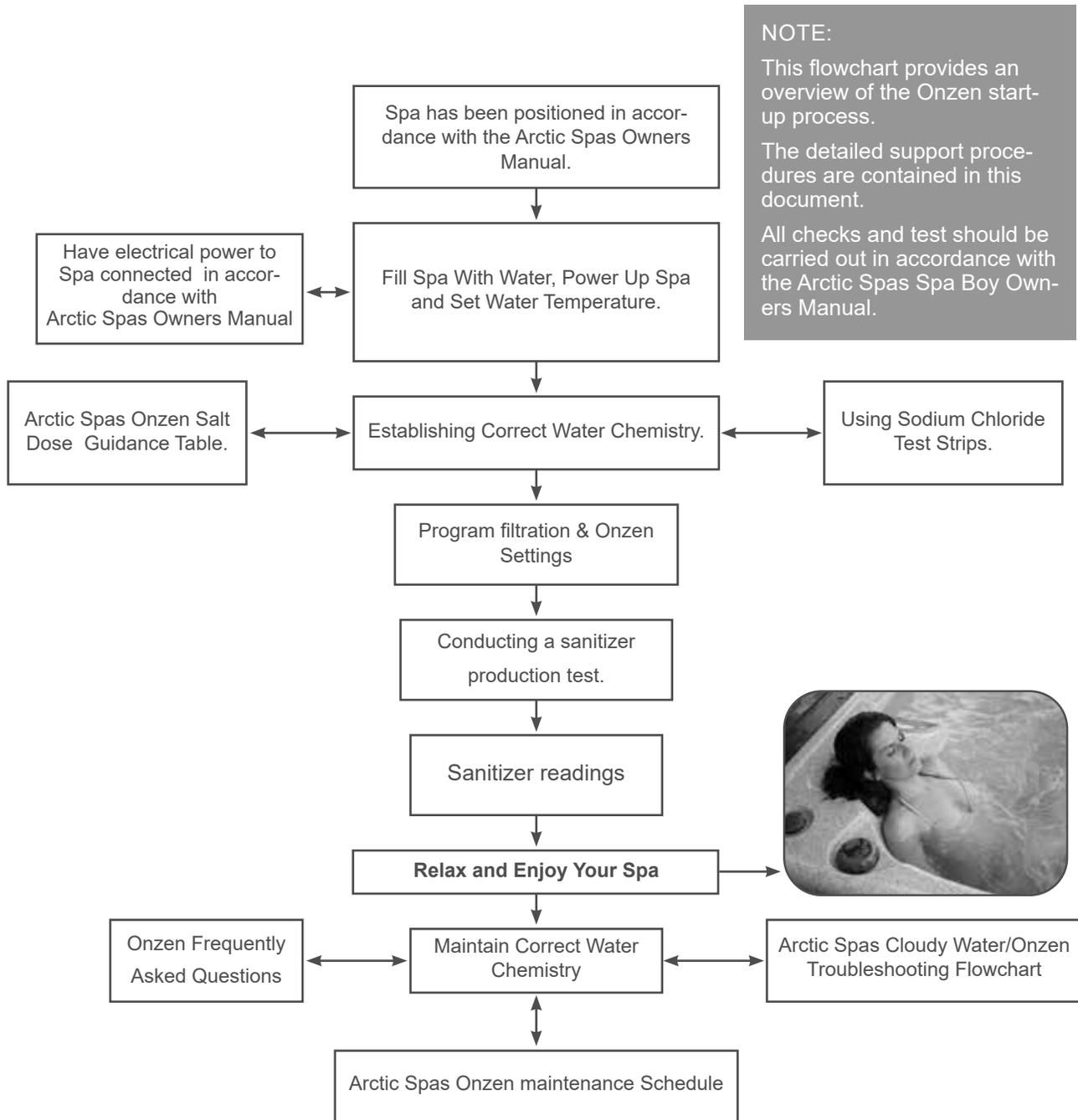
1.9 Settings Abbreviations Acronyms

ABBREVIATION/ ACRO- NYMS	DEFINITION
Fd	<p>Filter Cycle Duration</p> <p>Fd 00 = no filtration. Fd 01 = 1 hour/cycle. Fd 02 = 2 hour/cycle. Fd 03 = 3 hour/cycle. Fd 04 = 4 hour/cycle. Fd 05 = 5 hour/cycle. Fd 06 = 6 hour/cycle.</p>
FF	<p>FF</p> <p>Filter Cycle Frequency</p> <p>FF 1 = 1 cycle in 24 hours. FF 2 = 2 cycles in 24 hours. FF 3 = 3 cycles in 24 hours. FF 4 = 4 cycles in 24 hours.</p>
On	<p>Onzen Cycle Duration</p> <p>0-24 Hours per day</p> <p>* Cycles are divided into 4</p> <p>ie: If 8 hours is selected, the system will perform 4 x 2 hour cycles per day.</p>

Understanding Onzen™

1.10 Onzen™ Start - Up Guide

1.10.1 Onzen™ Start - Up Overview Flowchart



Understanding Onzen™

1.10.2 Fill Spa with Water.

Power up Spa and Set Water Temperature. The following steps provide guidance to help establish correct chemically balanced water. To help ensure chemicals dissolve appropriately it is good practice to first mix/dissolve the chemical in an uncontaminated container of hot water before carefully adding to the spa water.

Steps to Fill Spa With Water Power Up Spa and Set Water Temperature	
	<p>Step 1. Fill Spa Fill your spa through the filter intake as shown</p> <p>to the appropriate level (just under the head rests). If you have sediment or high mineral content a “carbon filled pre-filter”, as pictured, can help. (This is optional and will prolong the fill time).</p>
	<p>Step 2. Connect/Turn on Electrical Power to the spa once the spa is filled to the proper level, and turn the power on to the spa on.</p>
	<p>Step 3. Set Water Temperature Set the water temperature control on the Topside Controller to the desired temperature (between 100°F and 104°F or 38°C and 40°C).</p>

Understanding Onzen™

1.10.3 Establishing Correct Water Chemistry

The following steps provide guidance to help establish correct chemically balanced water. To help ensure chemicals dissolve appropriately it is good practice to first mix/dissolve the chemical in an uncontaminated container of hot water before carefully adding to the spa water.

Steps to Establish Chemically Balanced Water With Onzen	
	<p>Step 1. Test and Adjust Calcium / Total Alkalinity</p> <p>(a) Test Calcium hardness. Level should be between 50-150 ppm. If high, lower with a stain & scale controller such as Arctic Pure, Best Defence, to help hold the Calcium in suspension.</p> <p>NOTE: Salt systems perform best with Low Calcium levels.</p> <p>(b) Test Total Alkalinity. It should be 80 – 100 ppm (100 max). If high, lower Total Alkalinity with Arctic Pure, Adjust Down (pH Down) or muriatic acid. Do not raise Total Alkalinity!</p> <p>WARNING: Skipping these steps on Start-up can cause scaling problems and cloudy water that may not be covered under warranty.</p> <p>NOTE: Use all products according to directions on the bottle.</p>
	<p>Step 2. Test and Adjust pH</p> <p>Test pH. Levels should be between 7.2 – 7.6.</p> <p>If pH is high, (over 7.6) add Arctic Pure, Adjust Down. If pH is low, (under 7.2) add Arctic Pure, Adjust Up.</p> <p>NOTE: Use all products according to directions on the bottle.</p> <p>NOTE: Salt systems naturally drive pH levels to increase, strive to achieve a Balanced pH level.</p> <p>NOTE: High pH will cause calcium to precipitate (fall out of suspension). The problem with calcium falling out of suspension is that it collects on the heater and pump, and shortens their life.</p>
	<p>Step 3. Mix Salt Crystals</p> <p>Dissolve 1/3 of the minimum recommended salt dosage in a 5 Gallon (20 litre) pail of hot water.</p> <p>Refer Arctic Spas – Onzen Salt Dosage Chart contained in this guide.</p>

Understanding Onzen™

1.10.4 Arctic Spas Onzen™ Salt Dose Guidance Table

The following table identifies the salt quantity required for each Arctic spa model and estimated impact of adding half pound (225g) of salt. For startup, it is recommended to strive for the minimum salt dosage. Once a Sodium Chloride reading has been taken and the minimum salt dosage achieved, it can be increased slightly to accommodate spa usage and bather load, if increasing the Onzen run time does not adequately increase the Chlorine Residual. Having the minimum amount of salt concentration unless the Onzen system is unable to maintain the proper Chlorine residual, will reduce potential corrosion and increase the life of the Onzen Output Electrode.

Custom Salt Dosage Chart

Water Volume Metered Fill Point <i>(Approximately Bottom of Head Rest)</i>	Required Salt Dosage to Achieve 2200ppm <i>(Salinity Range for Spa Boy Version 1 R1 must be between 2000 ppm - 2500 ppm)</i>	Added Salt 225 Grams (1/2 Lb)
---	---	-------------------------------

Custom Spa Model	Litres	US Gal	Kg	Lb	PPM
Summit XL	2033	537	4.5	9.9	111
Summit	1363	360	3.0	6.6	165
Tundra	1556	411	3.4	7.6	145
Kodiak	1295	342	2.8	6.3	174
Klondiker	1412	373	3.1	6.9	159
Frontier	1268	335	2.8	6.2	177
Yukon	1264	334	2.8	6.1	178
Cub	1041	275	2.3	5.1	216
Arctic Fox	787	208	1.7	3.8	286
All Weather Pools	5100	1347	11.2	24.8	44

Classic Salt Dosage Chart

Water Volume Metered Fill Point <i>(Approximately Bottom of Head Rest)</i>	Required Salt Dosage to Achieve 2200ppm <i>(Salinity Range for Spa Boy Version 1 R1 must be between 2000 ppm - 2500 ppm)</i>	Added Salt 225 Grams (1/2 Lb)
---	---	-------------------------------

Classic Spa Model	Litres	US Gal	Kg	Lb	PPM
Mustang	1400	370	3.1	6.8	161
McKinley	1700	449	3.7	8.3	132
Totem	1360	360	3.0	6.6	165
Eagle	1185	313	2.6	5.8	190
Timberwolf	916	242	2.0	4.4	246
All Weather Pools	5100	1347	11.2	24.8	44

NOTE: The above table provides a guideline to achieve a salinity level of 2200 ppm. Due to differing levels of compounds and chemicals in water in different suburbs and countries, please ensure you confirm salinity level is in the desired salinity range using Aquacheck Salt Test Strips



Understanding Onzen™

1.10.5 Using Sodium Chloride Test Strips. The following steps provide guidance to help ensure sodium chloride test strips are used correctly.

Steps to Help Ensure Sodium Chloride Test Strips are Used Correctly Continued



Step 6. Sodium Chloride Adjustment

The following levels are ideal:

Minimum	Maximum
2000 ppm	2500 ppm

Note: The Arctic Spas Onzen Salt Chart in this guide provides the estimated impact of adding 1/2 lb (225 Grams) of salt to your spa.

Add or dilute water as needed.

- If Sodium Chloride reading is greater than the maximum level, add water.
- If Sodium Chloride reading is less than the minimum level, add salt.

Note: Once Sodium Chloride reading is in the ideal range salt concentration will only change if water is splashed or drained out and spa is replenished with water. Do not add salt unless this test confirms the level is below the ideal range.

Warranty: Use of salt other than Arctic Pure sea salt blend will damage the components and void the warranty. The Arctic Pure blend has been developed to protect Onzen components from damage and the use of alternative salt blends will be easily detected by technicians.

Steps to Stabilize Water



Step 1. Stabilize Spa Water

Once Filtration cycles and filtration duration low level settings have been programmed place the insulated cover on the spa and allow the water temperature to stabilize (approximately 16 hours). Make sure you secure the cover in place using the cover locks. Periodically check the spa water temperature. When the water temperature climbs above 85°F, (29°C) proceed to the next step.

Note: As heat impacts both Calcium and Total Alkalinity a little it is best to heat the water above 29°C (85°F) before advancing to Establishing Correct Water Chemistry.

Filter Cycle Suspension

During a Filter cycle, if an accessory (a pump, the blower, or the light) is used manually, the Filter cycle is suspended during the time that the accessories are used.

Once all accessories are turned off (whether manually or by built-in timer), the Filtration cycle remains suspended for an extra 40 minutes. When a Filtration cycle is suspended the Filtration cycle icon will blink.

Understanding Onzen™

Steps to Help Ensure Sodium Chloride Test Strips are Used Correctly



Step 1. Take Water Sample Take a sample of water from the spa in a small cup (about 25mm / 1" full).

NOTE: Always take water samples 25-30cm (12"-18") below the water surface.



Step 2. Place Test Strip in Water Sample Place the lower end of the strip into the water.

IMPORTANT Keep top half of strip COMPLETELY dry to get an accurate reading.



Step 3. Test Duration Period Leave strip in water for 3 – 5 minutes until yellow band at top of strip turns dark.



Step 4. Obtain Readings Obtain your reading: where top of white peak falls on the number scale.

Read top of peak to the nearest 0.2 division.



Step 5. Correspond Test Result Reading Correspond the test result reading number with the numbers on the bottle.

Understanding Onzen™

1.10.6 CUSTOM Program Filtration & Onzen™ Settings.

The Onzen™ Chlorine Production (Onzen™ Cycle Duration) settings need to be programmed: The following steps provide guidance on how to program the Onzen™ system settings:



Step 1 - Enter the filtration options through the topside controller.

Press and hold the filter button to enter into your filtration options. Your display will show "SETT" and from here, you will choose your settings.



Step 2 - Enter Onzen™ Settings Through Topside Controller.

Press your Filter again until you see 0n.
Your display will now show the settings for your Onzen™ system.



Step 3 - Onzen™ Cycle Duration.

Use your arrow keys to select your Onzen™ Cycle Duration. You can select from 1 to 24 hours per day. * Cycles are divided into 4. If 8 hours is selected, the system will perform 4 x 2 hour cycles/day.



Step 4 - Filter Duration.

Press your Filter button again. Your display will now show the settings for your Filter Duration.



Step 5 - Setting Filter Duration.

Use your arrow keys to select your Filter Duration in hours.
You can select from 0 to 6 hours, the number of hours your filtration will run each time.



Step 6 - Filter Cycle Frequency.

Press your Filter button again. Your display will now show the settings for your Filter Cycle Frequency.



Step 7 - Setting Filter Cycle Frequency.

Use your arrow keys to select your Filter Cycle Frequency. You can select from 1 to 4 times per day. You can move backwards through the settings by pressing the Pump 3 button. The Pump 1 button will allow you to exit without saving any changes. When you get to the end of the options, press the filter key one last time to save changes and begin a filter cycle immediately. If you do not press the filter key again your changes will be saved and the filter cycle will begin when you have programmed it to do so. * Press your Filter button again to start the next cycles immediately (Pumps will purge for 20 seconds).

To SAVE & EXIT but not start the cycle simply let the display time out.

Refer to appropriate Topside function section for instructions on setting Onzen™ Cycles (hours ran per day)

Custom - Page 34

Classic - Page 47

Core - Page 64



Understanding Onzen™

1.10.7 Sanitizer Readings.

The following provides guidance on the establishment and maintenance of sanitizer readings.

Sanitizer Readings

You should have sanitizer (Chlorine) readings within 24 hours.

On Start-up, you can add one capful of Arctic Pure "Boost" to the spa water.

Adding a capful of Arctic Pure Boost (Stabilized Chlorine) will establish an instant Free Chlorine level while the Onzen system is producing the residual. This will allow you to safely use the spa until an adequate residual is established.

If levels get too high, turn Sanitizer Production setting down. If you are not getting any readings, turn Sanitizer Production up.

The closer you monitor spa usage, bather load, monitor FCL and adjust Onzen Sanitizer Production Levels accordingly the less sanitizer you will need to add to your spa water.

Use Arctic Pure, Boost to sanitize the water after heavy usage, or if the Chlorine Level is too low.

Important: Always test and balance the pH and Chlorine levels before each spa use.

* Expect the pH to increase slowly over each week and when it gets too high use Arctic Pure, Salt Water Balance to correct it.

High Ph will cause premature failure of the system, cloudy water, and decreased effectiveness of the sanitizer.

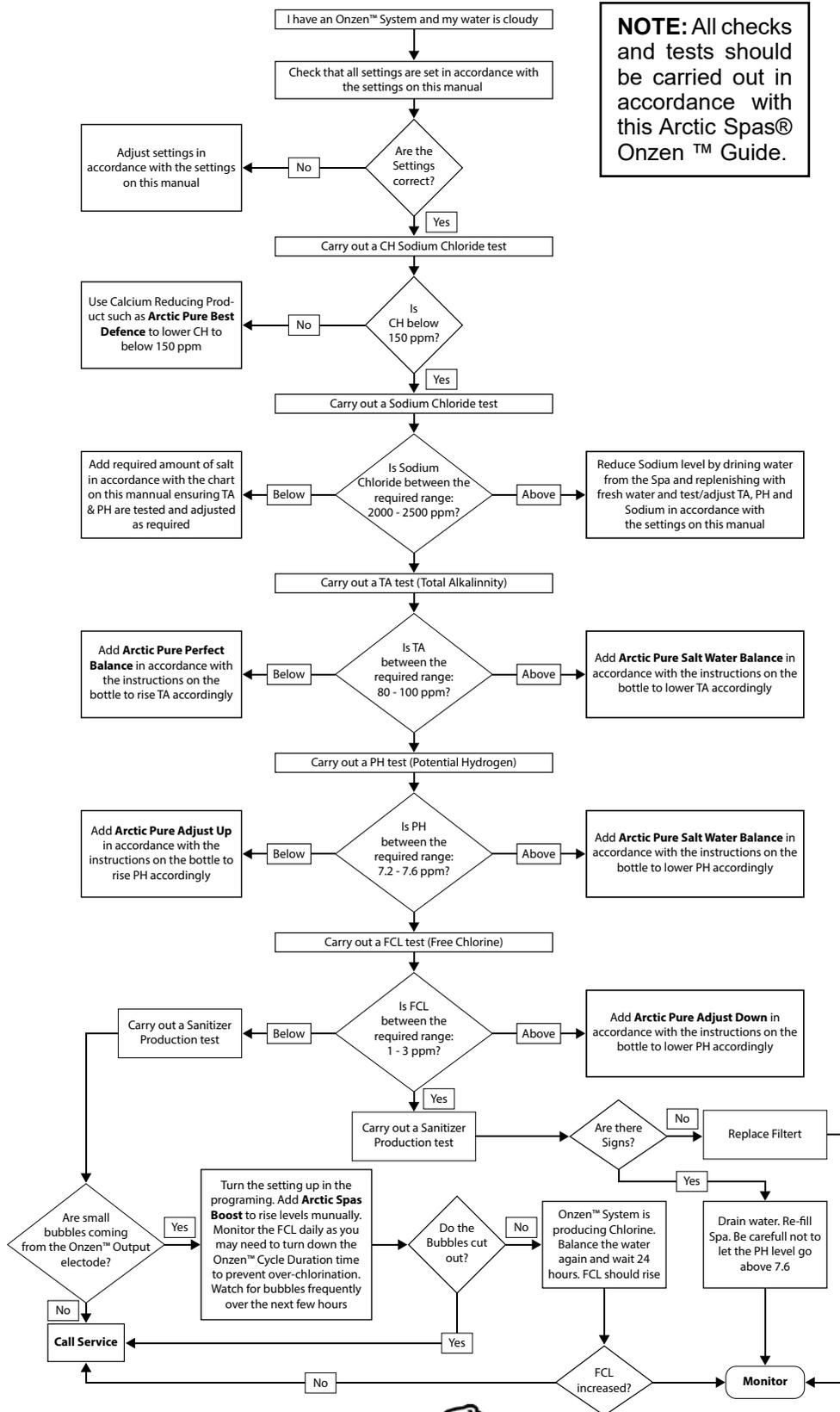
The Onzen™ system works best with low levels of calcium. Check your calcium hardness levels monthly to ensure long life of the spa equipment and maximum user enjoyment.

You must use an oxidizer treatment Arctic Pure, Refresh in your spa once a week and after heavy bather loads, add one cap of Arctic Pure, Refresh to your spa, leave the cover open for a minimum of 20 minutes to allow the oxidizer gas to vent. A high concentration of trapped oxidizer gas, which may exist as a result of the shock treatment, may eventually cause discoloration or vinyl degeneration to the bottom of the cover. This type of damage is considered chemical abuse and not covered under warranty.



Understanding Onzen™

1.11 Onzen Cloudy Water Troubleshooting Flowchart



Understanding Onzen™

1.12 Onzen Frequently Asked Questions

Onzen Questions
Question 1: How do I know if the Onzen system is working?
<p>Conduct a “Sanitizer Production test” (Also known as a Smoke test).</p> <p>This procedure activates the Onzen System while de-activating the filtration pump so you can see the mist of gas bubbles produced by the Onzen System.</p>
Question 2: What should I do if it fails the “Sanitizer Production test”?
<p>First, confirm you have the correct concentration of salt in the water “using sodium chloride test strips”. Then, start maintaining your water manually using “Boost” granular chlorine to sanitize and Adjust Up / Arctic Pure Salt Water Balance to balance pH. Continue to do this daily until the system is repaired by an authorized service technician.</p> <p>* Keep enjoying your hot tub!</p>
Question 3: What should I do if the chlorine levels are too high?
<p>Turn the Onzen Output down (decrease “On” settings).</p> <p>Unless you added granular chlorine or shock to the water high chlorine levels mean the system is staying on too long for your circumstances. It may take a day or two for levels to normalize, or you can speed this process up by using a chlorine neutralizer, such as “X-it”.</p>
Question 4: What should I do if the pH keeps increasing?
<p>Confirm that your Total Alkalinity is at the recommended level and reduce it manually with Arctic Pure Salt Water Balance. This is normal; all spa salt systems cause pH to increase.</p>
Question 5: Will the salted water damage my lawn?
<p>This is very unlikely.</p> <p>The recommended concentration of salt is used is approximately 10% of the concentration of sea water.</p>
Question 6: Why is my water bright yellow, or bright green, or a rusty colour suddenly?
<p>This can happen if the pH gets too high.</p> <p>Lower the pH using Arctic Pure Salt Water Balance. High pH is a sign that the Onzen Output may be turned up too high, so you may need to adjust the Onzen Output After balancing the pH and adjusting the Onzen Output wait about 48 hours. If the colour of the water does not normalize you may need to replace the water.</p> <p>* Keep an eye on the pH and adjust it weekly to avoid this problem in the future.</p>
Question 7: What is the typical amount of maintenance I need to do with Onzen?
<ol style="list-style-type: none"> 1. Change the water twice a year. 2. Change the filter 4 times a year. 3. Check the Total Alkalinity weekly to make sure it is in the target range (Under 100). 4. Adjust the pH once a week. Salt systems naturally drive pH levels to increase, strive to achieve a Low pH level 7.2 must not exceed 7.6. 5. Check Calcium level monthly to ensure it is in the target range. Salt systems perform best with Low Calcium levels; strive for a target range between 50 - 150 ppm. 6. Adjust the Onzen Output “On” if hot tub use changes significantly. 7. Adjust the chlorine levels using “Boost” granular chlorine, after heavy use or if the Onzen Output is too low. Refer: Onzen Maintenance Schedule for further details.

Understanding Onzen™

1.12 Onzen Frequently Asked Questions

Onzen Questions Continued

Question 8 Should I use Best Defence or another scale remover?

It is recommended that calcium be removed from the water in advance rather than adding a scale remover after the fact.

Question 9: What is the impact of phosphates on the Onzen system?

High levels of phosphates (above 250 ppb) may reduce the effectiveness of sanitizer output. Question 13 What happens if my water becomes cloudy?

1. Test the water for chlorine content. If the level is low add Boost.
2. Check your filters as they may require replacement.
3. Check you pH level you may need to adjust you pH down.

Question 10 : Can I use softened water with my Onzen system?

Yes. You probably have a water softener because your water is quite hard. Your water-softener removes calcium from your water and helps you achieve water with calcium content near the target range, between 50 - 150 ppm.

Question 11: Prior to draining spa water for refill purposes should any form of system flush be carried out?

Yes you can, Arctic Pure 'Fresh Start'. Use in accordance with the instructions on the container. Flushing the system components and hoses is helpful when you get biofilm and calcium build-up.

It is good practice to do this at least once a year.

Understanding Onzen™

***** IMPORTANT NOTICE ONZEN V8 *****

These cells are considered a consumable item and are now designed to be replaced by the customer in order to be more user friendly. **DO NOT GET THE INTERNAL CONNECTION WET!**

To change your salt cell remove the set screw on your salt cell with a Phillips screwdriver. Now unthread the salt cell from the housing turning counter clockwise. This will require you to use your muscles as the cell is threaded in quite tight to prevent any water from getting on to the 12 volt connection. Before threading in the new cell put a generous amount of dielectric grease in and around the 12 volt connections in the centre of the housing and on the end of the cell. Now thread the new cell into the housing. There is a notch built into the threads that will stop the cell precisely where the set screw needs to be installed. If the cell is changed under water the connection will get wet and corrode. The corrosion will destroy the connection between the salt cell and the salt cell housing. This corrosion will be visibly noticeable upon inspection. Warranty will be void if corrosion between the salt cell and salt cell housing is detected.

Understanding Onzen™

1.13 Arctic Spas Onzen Maintenance Schedule

The following table outlines the typical water maintenance program required for an Arctic Spa fitted with Onzen. To help ensure chemicals dissolve appropriately it is good practice to first mix/dissolve the chemical in an uncontaminated container of hot water before carefully adding to the spa water.

Item	Frequency	Maintenance Task	Target Range
TA	Weekly	Check the Total Alkalinity to ensure it is in the target range.	80 – 100 ppm.
pH	Weekly	Check the Potential Hydrogen to ensure it is in the target range.	7.2 – 7.6 ppm
FCL	Weekly (& before each use)	Check the Free Chlorine Level to ensure it is in the target range. Adjust the chlorine levels using “Boost” granular chlorine, after heavy use or if the Onzen Output is too low	1 – 3 ppm
CH	Monthly	Check Calcium Hardness level to ensure it is in the target range. Salt systems perform best with Low Calcium Hardness levels.	50-150 ppm
Sodium Chloride	Monthly	Check the Sodium Chloride Level to ensure it is in the target range.	Version 8 2000-2500 ppm
Onzen Output	As required	If spa use changes significantly, adjust the output level of Onzen Chlorine Production (“On”)	2 - 4 Hours per day suggested
Filter	Every 3 Months	Change the filter	N/A
Water	Every 6 Months	Change the water	N/A

Note: It is also good practice to take a water sample on a regular basis and have the water independently tested by your local spa/pool store.

Understanding Onzen™

Maintenance

Low TA - Can be raised by adding Arctic Pure, Perfect Balance to spa water. High TA - Can be lowered by adding Arctic Pure Salt Water Balance to spa water.

Salt systems naturally drive pH levels to increase, strive to achieve a Low pH level 7.2. pH must not exceed 7.6.

Low pH - Can be raised by adding Arctic Pure, Adjust Up to the spa water.

High pH - Can be lowered by adding Arctic Pure Salt Water Balance to spa water.

Low FCL - Can be raised by adding Arctic Pure, Boost and or turning Onzen Cycle Duration (Chlorine Production On) Level up.

High FCL - Can be lowered by:

- Natural cause over a few days.
- Turning Onzen Cycle Duration (Chlorine Production On) down.
- Adding Arctic Pure, X-it.

The above is dependent on FCL level, spa usage and bather load.

High CH - lower with a stain & scale controller such as Arctic Pure, Best Defence, to help hold Calcium in suspension.

Once Sodium Chloride reading is in the ideal range salt concentration will only change if water is splashed or drained out. Do not add salt unless this test confirms the level is below the chemical target range.

High Sodium Chloride - add water.

Low Sodium Chloride - add salt.

Go into low level settings and adjust Onzen Cycle Duration (Chlorine Production On) accordingly.

Adjust to suit spa usage and bather load.

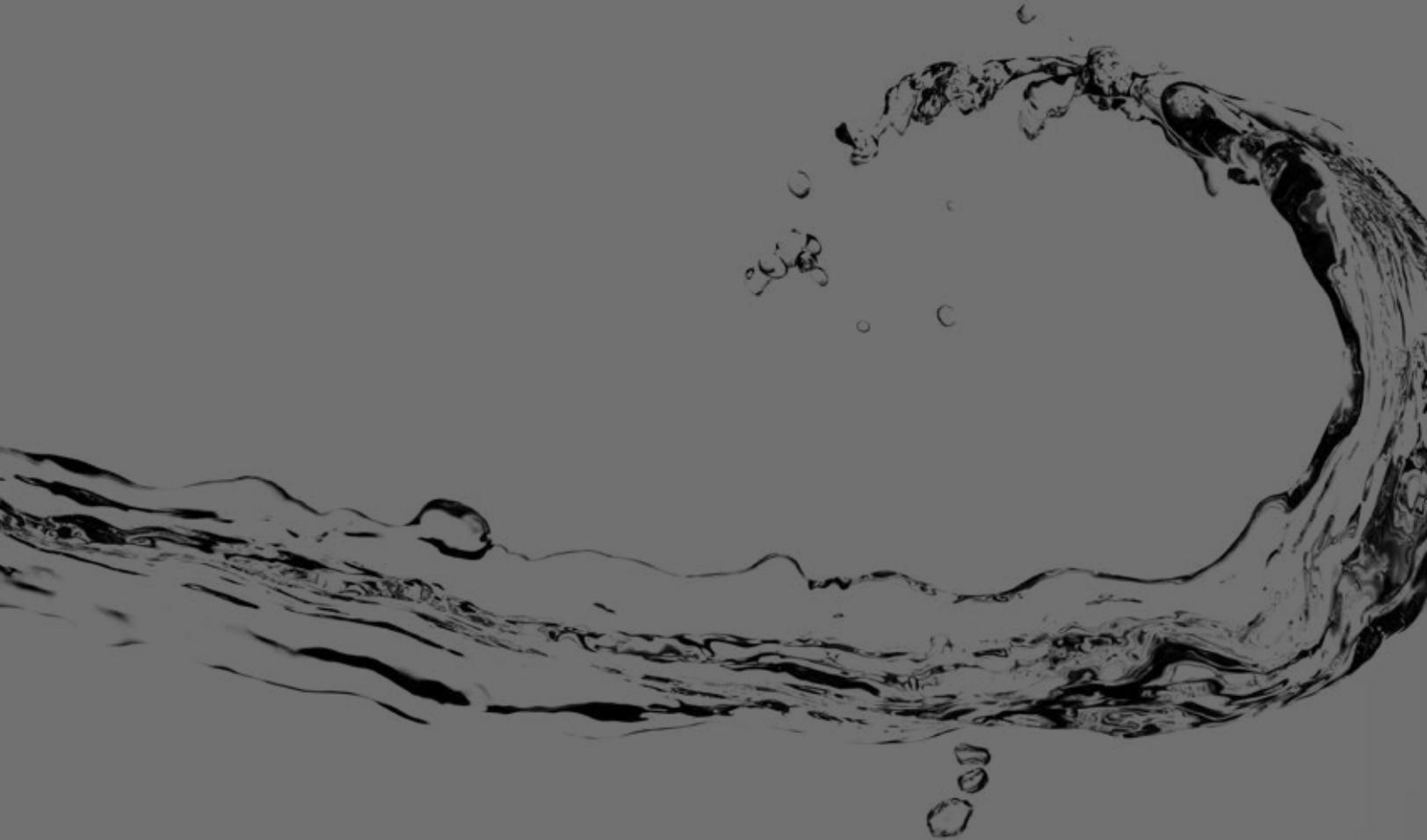
Change the filter in accordance with Owners Manual instructions.

Change the water in accordance with Owners Manual instructions.

Note: It is also good practice to take a water sample on a regular basis and have the water independently tested by your local spa/pool store.



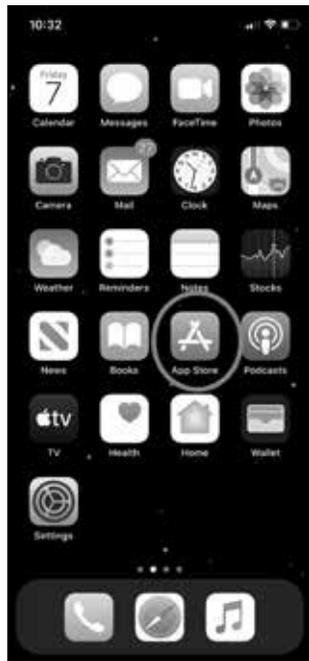
OnSpa®



2020 Connecting the Linux Pack using Built-In WiFi

Download the Arctic Spa App on your iOS or Android

1 - Go into the App Store on your personal device.



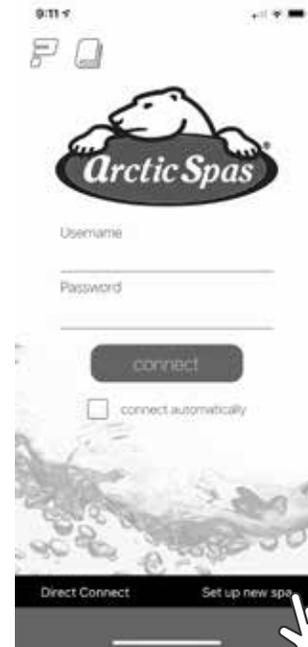
2 - Type "Arctic Spas" into the search bar and then select. Click on the App and select "GET" ("OPEN" will display if it is already downloaded).



3 - Have you downloaded the App to your device?

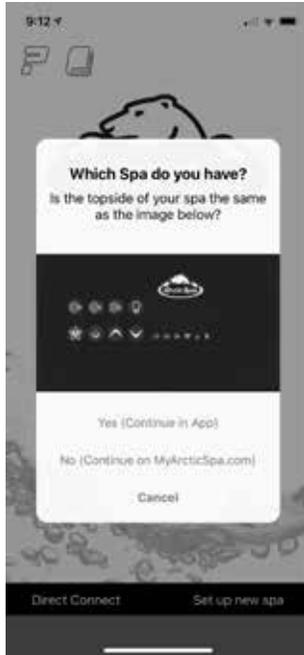


4 - Select Setup a New Spa in the lower right corner of the screen.



2020 Connecting the Linux Pack using Built-In WiFi

5 - Please note: If the Spa is a 2020, it may have come without the updated topside overlay, in which case the answer here is still 'YES'.



6 - Setup the WiFi Connection.

Select SETUP WIFI CONNECTION button on the screen if this is the first time the spas been online.



2020 Connecting the Linux Pack using Built-In WiFi

6.1 - Set up a new connection

The 2020 Spa's AP (Access Point) should automatically launch when the Spa is first powered up.

If the Spa's Access Point didn't automatically come up, you can manually launch it.

To set up the Spa's Access Point 'AP' press and hold the pump 3 button on the topside until the display reads 'AP' then release. The AP is up when APUP is displayed on the screen.



(PLEASE NOTE: This will be the 'BLOWER' button if the spa hasn't received the new topside overlay yet).

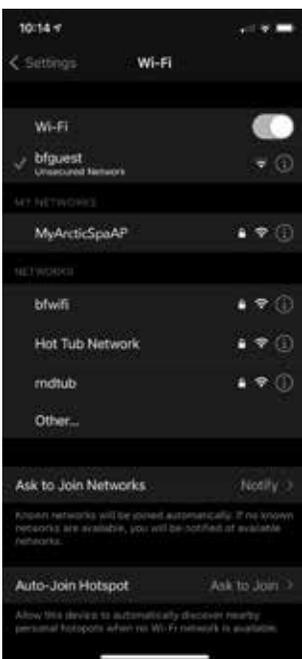
Next "APUP" will display, telling us the Spa's Access Point is now discoverable.

On device, exit the app screen and go into settings > Wifi > **MyArcticSpaAP**.



The password for this connection is:
1234567890

Join the Hotspot.



Re-open the Arctic Spa app and press CONTINUE



Find your home network and select it from the available networks, then enter your WiFi password.

2020 Connecting the Linux Pack using Built-In WiFi

7 - From this screen Select 'Create Account'.



7.1 - Enter the Required information into the fields, then press Register at the bottom of the screen.

(PLEASE NOTE: If you already have a User Account you can Login at the top of this page).



8 - Please enter your Username and Password, then press CONNECT.



9 - Enter a Spa Nickname, the Spa's Serial number then the Registration Code.

Please Note: If your phone is connected to the same WiFi Network as the Spa, it will not prompt for the Registration Code.



2020 Connecting the Linux Pack using Built-In WiFi

9.1 - Locate the registration code

Press and hold Pump 3 (or the Blower Button if still the old overlay) on the topside until the display says 'rEG' then release. Enter the code displayed then press Continue.



Adjusting Temperature & Pumps

The temperature can be adjusted using the + and - buttons or by moving the small circle around the loop.

- Press the Pump Control buttons to turn Pumps On and Off.
- The EZ button will turn All Pumps On and Off.
- Swipe the screen to the left and you will see the Spa Boy screen, if Spa Boy is installed in your spa







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