# Premium Fiberglass Pools Swim Spas Owner's Manual

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# Introducion

Thank you for your purchase of a Swim spa by Premium Fiberglass Pools. We take great pride in building high quality and innovative products supported by a commitment to ensuring product safety and customer satisfaction.

To properly acquaint yourself with your swim spa, we suggest that you take time to read through this manual before hook up and operation. Doing so will familiarize you with important operating and safety procedures, thereby ensuring an enjoyable experience right from the start.

⚠ **WARNING:** This manual was written to ensure the proper use and installation of your swim spa. Any modifications to the procedures outlined in this manual may result in voiding your warranty.

This manual and its contents are subject to change without notice. Although we have prepared this manual as accurate as possible, we are not liable for errors or omissions; loss, injury, or damages caused by improper installation; or use of swim spa (improper or otherwise).

Your new swim spa is made with quality synthetic cabinet materials. Synthetic materials won't fade and are nearly invulnerable to mold and mildew. Where wood splits, cracks, and stains, synthetic materials stand in timeless perfection.

**NO DIVING**

**DANGER: DIVING MY RESULT IN SERIOUS INJURY OR DEATH**

# Important Safety Information

**IMPORTANT SAFETY INSTRUCTIONS**
**SAVE THESE INSTRUCTIONS**

Your physiological response to hot water depends on subjective factors such as age, health, pregnant women, temperature sensitivities, chemical sensitivities, and medical history. Always consult a physician before using a swim spa to understand your particular tolerance and limitations.

**READ AND FOLLOW ALL INSTRUCTIONS**

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

A wire connector is provided on this unit to connect a minimum #6 (AWG) solid copper conductor 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.

***** For units with GFCI:*** ⚠**Warning** – This product is provided with a ground-fault circuit interrupter located in the main panel. The GFCI must be tested before each spa use.

## Dangers

- ⚠ RISK OF ACCIDENTAL DROWNING: Extreme caution must be exercised to prevent unauthorized access by children. To avoid accidents, ensure that children cannot use this spa unless they are supervised at all times. Always cover the swim spa and use safety locks when it is not in use.
- ⚠ RISK OF INJURY: The suction fittings in this spa are sized to match the specific water flow created by the pump. Should the need arise to replace the suction fittings or the pump, be sure that the flow rates are compatible. Never operate the spa if the suction fittings are broken or missing. Never replace a suction fitting with one rated less than the flow rate marked on the original suction fitting.
- ⚠ RISK OF ELECTRIC SHOCK: Install at least 5 feet (1.5 m) from all metal surfaces. As an alternative, a spa may be installed within 5 feet of metal surfaces if each metal surface is permanently connected by a minimum #6 (AWG) solid copper conductor to the wire connector on the terminal box that is provided for this purpose.
- ⚠ RISK OF ELECTRIC SHOCK: Do not permit any electric appliance, such as a light, telephone, radio or television, within 5 feet (1.5 m) of a spa. Do not operate such an appliance from either inside the swim spa or when you are wet, unless such appliances are built-in by the manufacturer.

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## Warnings

⚠ **TO REDUCE THE RISK OF INJURY:**

- The water in a spa should never exceed 40˚C (104˚F). Water temperatures between 38˚C (100˚F) and 40˚C (104˚F) are considered safe for a healthy adult. Lower water temperatures are recommended for young children and when spa use exceeds 10 minutes.
- Since excessive water temperatures have a high potential for causing fetal damage during the early months of pregnancy, pregnant or possible pregnant women should limit spa water temperatures to 38˚C (100˚F).
- Before entering a spa/swim spa, the user should measure the water temperature since the tolerance of water temperature regulating devices varies.
- The use of alcohol, drugs or medication before or during spa/swim spa use may lead to unconsciousness with the possibility of drowning.
- Obese persons and persons with a history of heart disease, low or high blood pressure, circulatory system problems, or diabetes should consult a physician before using a spa.
- Persons using medication should consult a physician before using a spa/swim spa since some medication may include drowsiness while other medication may affect heart rate, blood pressure and circulation.

⚠ Do not connect auxiliary components (such as headphones, cables, and additional speakers) to the stereo (if equipped).
⚠ Do not use a swim spa immediately following strenuous exercise.
⚠ Do not use your swim spa alone.
⚠ Lock the cover on your swim spa when not in use.
⚠ Persons with infectious diseases should not use a swim spa.
⚠ Replace audio components only with identical components.
⚠ Do not leave the CD/Stereo/MP3 access door open on the stereo (if equipped).
⚠ Some types of hair dye can react with the sanitizers in your swim spa water causing your hair to change color. Use at your own risk.
⚠ Water normally splashes out of a swim spa during typical use. Install an adequate perimeter that provides sound footing.
⚠ Do not turn your swim spa on/off from a wall switch, ground fault circuit interrupter, circuit breaker, fuse, or by plugging/unplugging it.
⚠ Remove all jewelry, metal, and watches from your person before entering your swim spa.
⚠ Keep all breakables away from the swim spa area.
⚠ Maintain water balance in accordance with instructions.
⚠ Do not sit on lip of the spa.

**NO DIVING**

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## Warning Sign


**Warning Sign Must Be Posted** – The red WARNING sign like the one shown is packed with your new swim spa. This sign must be posted in a prominent place in close proximity to the swim spa installation site immediately upon completion of swim spa installation.

Warning Sign

Important: It is extremely important that this sign be permanently placed in clear view of persons using the swim spa. Occasional swim spa users may not be aware of some of the dangers hot water poses to pregnant women, small children, seniors, and people under the influence of alcohol. If you did not receive a warning sign or your sign has become damaged, please call your local dealer for a replacement.

## Hyperthermia

To reduce the risk of injury, the water temperature in a swim spa should never exceed 104˚F (40˚C). Water temperatures between 100˚F (38˚C) and 104˚F (40˚C) are considered safe for a healthy adult. Lower water temperatures are recommended for young children, senior citizens, persons with sensitivities, and when swim spa use exceeds 10 minutes.

WATER TEMPERATURE IN EXCESS OF 100˚F (38˚C) MAY BE INJURIOUS TO YOUR HEALTH.

Hyperthermia occurs when the internal temperature of the body reaches a level several degrees above the normal body temperature of 98.6˚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 swim spa
- ⚠ Physical inability to exit swim spa
- ⚠ Fetal damage in pregnant women
- ⚠ Unconsciousness and danger of drowning

**If you sense any of the symptoms of hyperthermia, safely exit the swim spa immediately.**

# SAVE THESE INSTRUCTIONS

## Basic Safety Guidelines

Your a Spa is meant to be enjoyable, healthful, and relaxing. Below are some basic safety guidelines to follow every time you use your hot tub.

- Always check the temperature of your hot tub before entering. High water temperatures can be hazardous to your health.
- Persons suffering from heart disease, diabetes, high or low blood pressure, and pregnant women should consult a doctor before using your hot tub.
- Persons under the influence of medication, drugs, or alcohol should not be allowed into your hot tub.
- Remove all jewelry, metal, and watches from your person before entering your hot tub.
- Do not allow children to use your hot tub without continuous supervision of an adult.
- Do not use your hot tub alone.
- Test the ground fault circuit interrupter (GFCI) breaker prior to using your hot tub each time to ensure it operates properly.
- Any electrical devices near your hot tub must be GFCI protected and out of reach from inside the hot tub.
- Keep all breakables away from the hot tub area.
- Lock the cover on your hot tub when not in use.
- Enter and exit the hot tub slowly. Wet surfaces can be slippery.
- Prolonged immersion can be hazardous to your health.

  Maintain water chemistry in accordance with manufacturer's instructions.

- The hot tub is not to be used by persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction
- Do not sit on lip of spa.

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## Basic Water Quality Guidelines

- *During the initial filling of the spa, add a sequestering agent to combat suspended minerals in the water. Allow water to circulate and filter for at least 12 hours before adding any other chemicals.*
- *Test water for PH, total Alkalinity, and Calcium hardness. The PH should be 7.2-7.8 and the total Alkalinity 80-180 PPM. Calcium hardness levels should be maintained between 150 and 400 PPM. Adjust PH and total Alkalinity (TA) utilizing the directions on the chemical bottles. Wait 15-30 minutes, test and adjust if necessary.*
- *Add 2 ounces of concentrated chlorinating granules (sodium Dichlor-s-triazinetreone) on initial start up to begin sanitizing the spa water. It is important not to add the chlorinating granules until the PH, alkalinity and calcium hardness have been adjusted to their proper levels.*
- *Check spa water with test strip for proper sanitation levels and adjust accordingly to the proper levels. Free chlorine should be 2-4 PPM.*
- *We recommend a minimum level of 2 PPM residual chlorine be maintained in spa water. Be sure the pumps are running when adding chlorine or non chlorine shock/oxidizer.*
- *Add 1 ounce of non-chlorine shock/oxidizer or ½ ounce of chlorine to the spa water after each spa use.*

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# Site Selection and Installation

Proper planning is an important consideration when installing your new swim spa. Site selection is a critical step and requires serious thought. Planning ahead makes the installation process easier. The following information is provided to assist you in site preparations.

1) Always comply with local building codes and obtain any necessary permits. You may also need to consult with an engineer to address your specific design needs.
2) Contact an electrician to assess your electrical needs, install wiring, and assure a safe operation.
3) Position your swim spa with proper access to water, drainage, and electricity.
4) For **external installations**, place your swim spa on a uniform solid, flat surface designed to properly support its weight. For external installations, a level concrete pad or properly constructed deck capable of supporting 200 lbs/ft$^2$ (925 kg/m$^2$) should be installed. For best results, we suggest the installation of a level concrete pad. Dig out and level the ground 8-12 inches (20-30 cm) below your desired base level. Install 4-6 inches (10-15 cm) of crushed stone. Next, install 4-6 inches (10-15 cm) of poured concrete and level it with a broom-type finish. Decks constructed flush to the swim spa should slope away for proper run off. In regions where freeze/thaw occurs, or where there will be custom decking abutting the swim spa, we recommend the installation of poured concrete footings extending below the frost line beneath the pad to prevent the possibility of future shifting.
5) For **internal installations**, check the load carrying capabilities of the floor on which the swim spa will reside. The ceiling should be more than 10 feet high (for safe entry and use), the floor should have a drain for splash over and the room should have a window or exhaust fan with humidistat for ventilation. If this is not possible, indoor/outdoor carpeting and the use of a dehumidifier while the cover is off should be adequate.
6) For **partial in-ground installations** (not recommended), follow these tips: In non-freezing climates it is sufficient to ensure that the base of the hole or cavity created for the swim spa simply has a stable, compacted base. Where the climate permits, should you choose to backfill directly against the swim spa, a clear sand backfill is suggested. Never fill using raw earth and never cover electrical components or plumbing connections. • In climates where freeze/thaw occurs, it is necessary that a proper poured concrete base, complete with concrete footings. • In areas with a high ground water table, the concrete base, as well as a concrete or wood retaining wall to hold back the earth, is suggested. This forms a box or “crib/vault” where the swim spa is placed. After excavating the installation site for your Premium Leisure swim spa, ensure that the soil underlying the foundation is capable of supporting a minimum of 1,000 lbs/ ft$^2$ or 12,206 kg/m$^2$ • ALWAYS ensure that there is good drainage, via a properly designed (gravel) drain system and/or a sump pump, to prevent ground water flooding damage to the

7) support equipment or structure. Install protective waterproof conduit to house light, or topside control cables that must be buried. Access for future service must be considered at the time of design and installation. Difficult access can result in supplemental service labor charges not covered by the factory warranty. Consider easily removable deck materials.

8) Assure that your swim spa will fit into the space you have chosen and the delivery route will accommodate its large size. In most cases, a crane will be necessary for the delivery.

9) Protect the pumps and all equipment from the weather by ensuring the cabinet panels are secure at all times.

10) Allow 36 inches (1 meter) of unobstructed access to all sides of your swim spa for normal servicing.

11) Contact your local building code department to determine if a building permit is necessary and for information on applicable bylaws (distance from property lines, buildings, fencing requirements, etc). In most cases, the shallow depth of the unit could result in it being classified as a *portable* swim spa by building regulations (as opposed to a *permanent* pool).

12) Consider positioning your swim spa out of or adequately protecting it from the wind. Just as people can get cold on cool/windy days, so can your swim spa. Windy environments can significantly increase operating costs.

## Electrical Specifications

**Important –** Qualified and licensed electricians must perform all electrical hookups. The following specifications must be followed in order to ensure proper performance and safety.

⚠ **WARNING:** Starting an incorrectly wired swim spa could cause severe damage to the mechanical equipment or even bodily harm.

⚠ **Caution:** Failure to abide by specifications listed may result in damage to the equipment and will void the warranty. All swim spas must be wired with the appropriately sized wiring. Failure to do so will cause equipment damage and will not be covered under your warranty.

| Model | Service control (controller, spa panel) | Volts/ Frequency VAC/HZ | GFCI Required in AMPS | Wire size required Service |
|---|---|---|---|---|
| EVO-14-…-15<br>EVO-16-…-15<br>EVO-18-…-15<br>AG-14-…..-15<br>AG-16-…..-15<br>AG-18-…..-15 | NEO1500<br>1000 control panel | 120/60 | 15 | 3 Wire #14<br>10-15Ft |
| EVO-14-...-20<br>EVO-16-…-20<br>EVO-18-…-20<br>AG-14-…..-20<br>AG-16……-20<br>AG-18-…..-20 | NEO1500<br>1000 control panel | 120/60 | 20 | 3 wire #12<br>10-15Ft |

**USA Electrical Specification Chart**

⚠ **WARNING:** Disconnect electrical power before servicing. Before obtaining access to terminals, all supply circuits must be disconnected.

⚠ **WARNING:** Test the GFCI before each use.

Our swim spas are certified by Intertek Testing to UL 1563 standard.

# Startup

**Important –** Read these step-by-step startup procedures before starting your swim spa. Failure to follow any of these steps listed may result in damage to the equipment and may void your warranty.

⚠ **Caution:** Running the swim spa pump dry (without water running through it) can cause IMMEDIATE damage and will void the warranty! Be sure that the swim spa is installed properly in accordance with the instructions in this manual.

Refer to the following picture for an explanation of your swim spa's controls, components, and technical terms. Note that not all models have all features and components.

## Before Adding Water

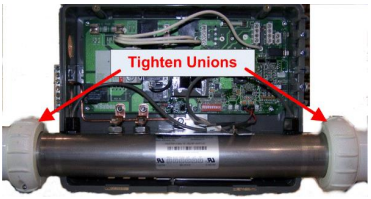
Before adding water, go through these simple steps now to prevent common issues when setting up your swim spa for the first time. Verify that the following have all been rechecked.

1. Turn off all power to the swim spa at the main breaker panel.
2. Open the side panels to access the internal components.
3. Check that all slide valves are opened (T-handles pulled out) to the heater and all pumps.
4. Check that there are no obvious signs of loose wires or broken pipes.


**Valve Open/Closed**

5. Check that the two heater unions are hand tight.

⚠ **Caution:** Do not use a wrench. Over-tightening may cause damage to unions and gaskets, which will not be covered under warranty.




**Unions Tight**

6. Check that the unions on all pumps are tight.
7. Clean out any foreign debris from within the service access area or inside of the swim spa itself.
8. With the drain open and filters removed, thoroughly rinse out the swim spa with warm water until the drained water runs clear. Run water through the

9. filtration canister and jet lines to remove any incidental dust, dirt, and debris that may have accumulated during shipment or installation. Drain all water completely.
10. Make sure that the swim spa drain valve is closed and the cap is on tight Install the filter(s) in the filtration canister.
11. Check that all of the swim spa jets are open.
12. Now is the best time to clean and polish the surfaces of your swim spa

## Filling Your Swim spa

Now it's time to fill your swim spa with water. Do not turn on the electricity yet until the swim spa is completely filled. To properly fill your swim spa:

1. Make sure that the filters (in the filtration canister) are gently screwed into place. Turn them clockwise until they stop being careful not to over-tighten them (this avoids cracking the filter).
2. Connect a standard garden hose to a faucet with regular cold tap water (not softened water or hot water).


**Filtration Canister**

⚠ **Caution:** The water from your hot water tank should not be used to fill the swim spa.

3. Put the pre-filter (if equipped*) on the other end of the hose, point the pre-filter into a suitable drain, turn on the water, and allow any sediment to be flushed down the drain. Once the water stream runs clear, turn off the hose.
4. Put the pre-filter (if equipped) into the filtration canister and turn on the hose.
5. Fill slowly. If too much water pressure is used, foaming water can force air into the pipes and cause startup problems.

**Important:** To assure that the pump is properly primed, **fill the swim spa through the filter area only**.

6. Fill the swim spa until the water level is about ¼”-1/2” above floating skimmer when pump is on at low speed. Do not over fill.

**Note**: Every person entering a swim spa displaces a given volume of water, so adjust water level to the number of people regularly using the swim spa. Turn off the hose and check again for any small leaks.

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### Draining Your Swim Spa

We recommend draining your water every 6-12 months.

1. Locate nearest drain facility (laundry tub, floor drain, lawn, shower, etc).
2. Turn off the breaker(s) to swim spa and disconnect electrical power to all equipment.
3. Remove the filter cartridge(s) from swim spa filters.
4. Locate the drain valve at the side of your swim spa cabinet.
5. Attach a garden hose to the drain-valve(s), open the drain-valve and drain swim spa.
6. Monitor the swim spa while it drains.
7. Use another garden hose to wash down interior surface as the swim spa continues to drain.
8. Completely flush the old water from plumbing lines, allow fresh water to fill into foot well area while the old water continues to be drained. When the water from the drain hose turns clear close drain-valve.

Note: For faster draining, you may use a sump pump or siphon.

## Operational Checking Your Swim Spa

⚠ **Caution:** Do not turn on any pump until your swim spa is properly filled with water. Running any pump without water in your swim spa can cause IMMEDIATE damage, which is not covered under warranty!

By now you have rechecked your swim spa's mechanical connections and filled it with water to about ¼"-1/2" above floating skimmer with pump on at low speed. Before applying voltage to power-up your swim spa, it is very important that you understand the sequence of events that occur when the system is activated in order that pumps can be primed efficiently and damage can be avoided.

1. Turn on the breaker and test the swim side operation of the Ground-Fault Circuit Interrupter (GFCI) breaker by pushing the small button. This should automatically trip the swim spa's circuit breaker.

   ⚠ **DANGER:** If this breaker does not trip, immediately call your electrician. Do not use your swim spa!

   Only if pushing this button successfully trips this circuit breaker should you reset this breaker and proceed to the next step.

2. Turn on power to the swim spa.
3. The swim spa will go through its priming mode with priming screen display on the panel. In this mode, all devices such as Jets, Light are operable. Jets can be turned on and off to prime the pump. System will exit priming mode and go to Date-Time screen when Return button is pushed, or after 4 minutes of inactivity. Water heating is disabled during priming. The purpose of the priming mode is to help insure that jet pumps have been primed with water and ready to operate. It may be necessary in some instances to bleed air from the jet pumps in your swim spa if after priming mode the swim spa pumps run but do not move water. The pump may have an air lock.

4. After energized each of swim spa pump (see for details Instruction Manual of the Spa control of each Spa model) you should hear the pump turn on high speed and water circulating through one of return jet of swim spa.

   ⚠ **Caution:** If water is not flowing from the jets after 2 minutes, turn the power off at the main panel and bleed air from the system. Turn the power on again. Sometimes momentarily turning the pump off/on will help to prime. Only do this no more than 3 times.

5. You should hear the pump turn on low speed and water start circulating through therapy jets of spa(see instruction Manual of the spa control).

6. Adjust water chemistry according to the Water balancing section

## Water Balancing

Once your swim spa reaches 85ºF, use our *Bromine Test Strips* (not included) and add the necessary chemicals (not included) to stabilize your water chemistry. Turn Pump on high speed before starting your tests to distribute chemicals evenly. Wait 5 minutes between measurements to allow added chemicals to mix thoroughly.

**Important:** Test the condition of your water in the following order:

1. **Total Alkalinity** (80-120 ppm) – Use our *Alkalinity Increaser* to raise total alkalinity and *Alkalinity Decreaser* to lower it. Low total alkalinity has little buffering capacity making the pH erratic. High total alkalinity has too much buffering capacity making the pH difficult to change.

2. **pH** (7.2-7.8) – Use *Spa Up* to raise the pH level and *Spa Down* to lower it.

   ⚠ **Caution:** A pH lower than 7.2 can harm the metal surfaces of your swim spa and irritate your eyes and skin. A pH higher than 7.8 can create calcium deposits (scaling) on the shell and equipment.

3. **Hardness** (150-400 ppm) – Add *Increase Calcium* until the proper level is achieved. Unfortunately, there is no practical way to lower the native water hardness other than using a different source of water when filling your swim spa. Low hardness causes equipment corrosion and water foaming.

4. **Sanitizer** (3.0-5.0 ppm) – Use our *Deluxe Bromine Kit* to add Bromine until the proper level is achieved. Neglected swim spa water can breed bacteria and algae causing bather discomfort, skin rashes, and/or irritation.

| Test | Range |
|---|---|
| Total Alkalinity | 80-120 ppm |
| pH | 7.2-7.8 |
| Calcium Hardness | 150-400 ppm |
| Sanitizer | 3.0-5.0 ppm |

**Recommended Ranges for Balanced Water**

**Note:** Perform water balancing weekly and whenever you change water (or when the swim spa is first filled) to ensure proper water condition.

# Frequently Asked Questions

## How do I bleed air from my system?

When draining and refilling your swim spa, the pump may become air locked. Air-locked pumps stop water from flowing in your swim spa and is easily resolved by bleeding off the trapped air. To do this:

1. Turn off the GFCI breaker
2. Open the access panel below the topside control panel
3. Loosen a heater union until you hear the trapped air escape
4. Once water drips out in a continuous stream, hand tighten the union until the water stops leaking
5. Loosen the discharge union on Pump (if equipped)
6. Once water drips out in a continuous stream, hand tighten the union until the water stops leaking
7. Turn on all pumps to make sure that there are no leaks
8. Put the access panels back on
9. Turn on the GFCI breaker


**Bleeding Air**

# Maintenance and Care

**Important –** The warranty on your swim spa and equipment depends on proper sanitation. In addition, the following maintenance procedures must be followed periodically.

## Cabinets

Your cabinet is made from a polymer that combines the durability of plastic with the beauty of simulated wood. To clean the cabinet, a mild soap and water solution easily removes residue.

## Draining and Refilling


**Drain Operation**

1) Turn off the GFCI breaker.
2) Remove swim spa cover and allow water to cool down.
3) Select a safe, suitable drainage area capable of safely assimilating approximately 3,000 gallons of water that may contain unsanitary contaminants and chemical residue that could cause harm to plants or grass.
4) Locate drain valve at base of the swim spa. Hold the rear body to prevent it from turning, then loosen and remove the front cap.
5) Attach a garden hose to the exposed threads and route the hose downhill to your drainage area.
6) Twist the drain fitting 1/3 turn counterclockwise to unlock the drain valve and pull it outward to open completely. The water will drain by gravitational flow.
7) After the swim spa drains, perform steps 3-5 in reverse order to close the drain prior to refilling swim spa.
8) Attach the garden hose to a thoroughly-flushed pre-filter (not included, rinsed of all residual sediment) and refill your swim spa through the filtration canister.
9) After refilling, turn on the GFCI breaker to the swim spa.

## Filters

The filters in your swim spa should be removed and cleaned every 2 weeks with our special Filter Clean concentrated cleanser and typically replaced every 4-6 months (depending upon use). You can clean your filters with the water pressure from the end of a garden hose then rinsed with warm water. This ensures that the water is being filtered properly.
DO NOT USE BLEACH. We recommend having replacement filters on hand that can be swapped between cleanings. Doing so enables you to quickly exchange the dirty filters with clean ones and immediately start your swim spa again.

## Sanitation

Sanitation level is influenced by two factors:

1. Filter Cycle (filtration) time
2. How much you use your swim spa each week

If your water chemistry and water clarity are all proper and your sanitation level is still too low/high, you can adjust the sanitation intensity up/down by adding more/less sanitizer a little at a time and testing the water again after two days.