

# STREAMLINE USER'S GUIDE



## Table of Contents

Warnings and Safety Information . . . . .	2	StreamLine Pool Maintenance . . . . .	11
StreamLine Pool Keypad Display		Draining Your StreamLine Pool . . . . .	12
Buttons and Indicators . . . . .	5	Winterizing Your StreamLine Pool . . . . .	13
Water Chemistry . . . . .	6	Water Quality Error Codes . . . . .	13
Pool Equipment and Startup Operation. . . . .	8	Propulsion System and Water	
How to Control the Swim Current . . . . .	10	Quality System Troubleshooting. . . . .	14
		Water Chemistry Test Log. . . . .	16



## IMPORTANT SAFETY INFORMATION

### IMPORTANT SAFETY INFORMATION SAVE THESE INSTRUCTIONS

**DANGER** BEFORE INSTALLING OR USING THIS PRODUCT, READ AND FOLLOW ALL SAFETY INSTRUCTIONS. FAILURE TO DO SO CAN RESULT IN PROPERTY DAMAGE, FIRE, INJURY, OR DEATH

**DANGER** SERIOUS BODILY INJURY OR DEATH CAN RESULT IF THIS PRODUCT IS NOT INSTALLED OR USED CORRECTLY

**DANGER** CHILDREN SHOULD NEVER SWIM UNSUPERVISED

**DANGER** **RISK OF ELECTRICAL SHOCK-**

- All electrical connections should be made by a licensed electrician in accordance with the all applicable National and local code and ordinances.
- This product must not be installed within 5 (1,5m) feet of any metal surface, unless the surface has been properly bonded and/or grounded in accordance with any applicable national or local electrical code.
- Improper installation will create a hazardous situation that can result in property damage, injury, or death.

**WARNING** This product must be installed in accordance with any applicable state and local code. Consult your local building and health code for more information.

IT IS THE RESPONSIBILITY OF THE END USER TO ENSURE THAT ANYONE WHO USES THIS PRODUCT IS PROPERLY INFORMED OF ALL SAFETY PRECAUTIONS.

ALL SAFETY SIGNS PROVIDED WITH THIS PRODUCT SHOULD BE PERMANENTLY INSTALLED SO THAT THEY ARE VISIBLE TO ALL OCCUPANTS. SHOULD YOU REQUIRE ADDITIONAL SIGNS OR REPLACEMENTS, CONTACT CUSTOMER SERVICE.

# **NO DIVING** **DANGER: DIVING MAY RESULT IN SERIOUS INJURY OR DEATH.**



## **! DANGER**

### **RISK OF ELECTRICAL SHOCK**

A GROUND FAULT CIRCUIT INTERRUPTER (GFCI) OR RESIDUAL CURRENT DEVICE (RCD) is required for this product. The Ground Fault Circuit Interrupter (GFCI) or Residual Current Device (RCD) is NOT provided with this product. One must be sourced locally and installed into the panel box by a licensed electrician when making the electrical connections to the spa equipment.

Test the Ground Fault Circuit Interrupter (GFCI) or Residual Current Device (RCD) prior to each use to ensure that it works properly.

DO NOT permit any electrical equipment appliance such as lights, radio, television, or telephone within 5 feet (1,5m) of this product. DO NOT operate any such product while in this product or while you are wet.

Electrical power should be shut off to this product prior to any service being performed.

## **! WARNING**

### **GROUND ALL METAL EQUIPMENT**

A green colored terminal labeled G is found inside the heater-controller. The terminal must be connected to the grounding means provided in the electrical supply panel, using a continuous copper wire equivalent in size to the circuit conductors supplying this equipment.

The electrical components inside the spa cabinet will have means to connect the local common bonding grid. Connect these components to the bonding grid using an insulated or bare copper conductor not smaller than a No. 6 AWG.

All field installed metal components (ladders, handrails, etc.) or metal surfaces must be connected to the local bonding grid.

## **! WARNING**

### **TO REDUCE THE RISK OF ACCIDENTAL DROWNING**

Children should never be allowed to use this product without adult supervision.

Children should never have unsupervised access to this product.

## **! WARNING**

### **TO AVOID THE RISK OF INJURY**

Pregnant women (or possibly pregnant women should consult a physician prior to using this product. High water temperatures have a high potential for causing damage to the fetus in the early stages of pregnancy.

Anyone taking medication should consult a physician prior to using this product.

Anyone under the influence of drugs or alcohol should not use this product.

Anyone with an infectious disease or with an open wound or sore should not use this product.

Anyone who has a history of heart disease, high or low blood pressure, circulatory system problems, diabetes, or someone is who is battling obesity should consult a physician prior to using this product.

 **DANGER**

**TO REDUCE THE RISK OF DROWNING**

Prolonged immersion in high temperature water can cause hyperthermia. Hyperthermia occurs when the internal temperature of the body is several degrees higher than the normal 98.6°F (37°C). The symptoms of hyperthermia include dizziness, lethargy, drowsiness, and fainting. The effects of hyperthermia include:

1. Failure to perceive heat
2. Failure to recognize the need to exit the water
3. Unawareness of a hazardous situation
4. Fetal damage in pregnant women
5. Physical inability to exit the water
6. Unconsciousness- which can lead to drowning

Keep hair and body parts away from suction fittings. Long hair should not be allowed to float freely in the water. Hair should be tied up or placed under a bathing cap.

 **WARNING**

**RISK OF INJURY**

Do not remove or tamper with any suction fitting. NEVER operate this product if a suction cover is missing or damaged.

All suction fittings in this product are sized to match the flow rate.

Always use compatible suction fittings should they need to be replaced.

NEVER replace a suction fitting with one rated less than the flow rate marked on the original suction fitting.

Never use this product alone.

Always completely remove the cover prior to using this product.

Water will splash out of this product. The finish surface immediately surrounding this product should be a non-slip material.

 **DANGER**

**TO REDUCE RISK OF DROWNING**

The water in this product must never exceed 104°F (40°C).

Safe water temperature for Aquatic Exercise is approximately 80°F (27°C).

 **WARNING**

**TO AVOID INJURY**

DO NOT use this product alone.

Remove all jewelry, watches, etc. prior to using this product.

Use caution when entering and exiting this product as wet surfaces can be slippery.

 **WARNING**

**RISK OF INJURY**

Keep all breakables, especially glass, away from this product.

Never insert any objects into any openings.

 **WARNING**

**TO AVOID RISK OF INJURY**

Keep all chemicals away from children and pets.

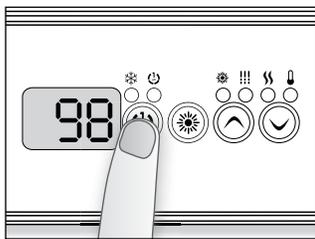
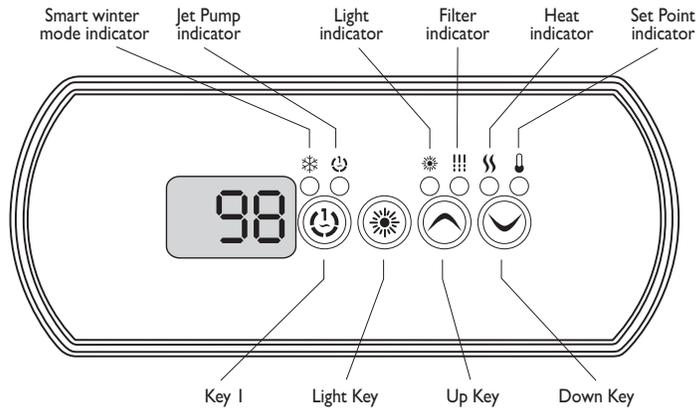
DO NOT stack chemicals on top of one another.

NEVER MIX CHEMICALS.

Sanitizing chemicals must be stored separately from balancing chemicals.

# 1. Streamline Pool Keypad Display Buttons and Indicators

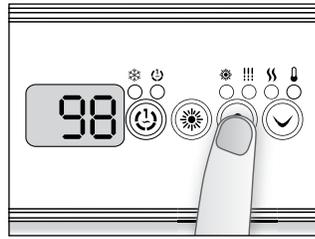
The keypad display is the command center for the Streamline propulsion system and water quality system. The keypad activates the pump that drives the propulsion system and also controls the temperature and maintenance features of the pool. The following is an overview of the keypad functions.



### Key 1

Press the Pump 1 Key to activate the pump for the propulsion system on low speed. Press the Pump 1 Key a second time to switch the pump to high speed. Press the Pump 1 Key a third time to turn the pump off. A built-in timer will automatically shut the pump off after 30 minutes of running, unless the pump has been manually deactivated first.

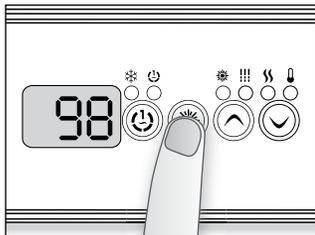
-  The Pump 1 indicator light will blink when Pump 1 is on low speed. The Pump 1 indicator light will light up solid when Pump 1 is on high speed.



### Up/Down Keys

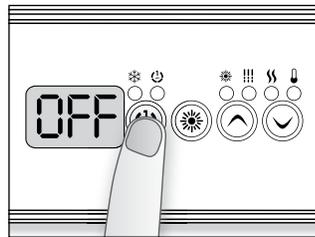
Press the Up or Down Key to set the desired water temperature. The temperature setting will be displayed for 5 seconds to confirm the new set point.

-  The Set Point icon will light up solid when the Up/Down key is pressed indicating the set point temperature has been adjusted.



### Light Key

The Light Key is not used in this application.



### Off Mode

This mode allows you to stop all outputs for 30 minutes to perform a quick spa maintenance.

Press and hold Key 1 key for 5 secs to activate the Off mode. Quick press Key 1 key to reactivate the system before the expiration of the 30-minute delay.

While the Off mode is engaged, the display will toggle between OFF and the water temperature.

### Changing Temperature Units

The water temperature of the pool displayed on the keypad can be programmed to display the temperature in Fahrenheit OR Celsius. The factory setting is programmed to display the temperature in Fahrenheit. To display the temperature in Celsius

1. Press and hold the light key for about 5 seconds until the display starts to flash "D6" and then release the light key.
2. Press the light key one time and "F4" will flash.
3. Press the light key again one time and "F" (Fahrenheit) will flash. Use the up or down key to change to "C" (Celsius).
4. Press the light key one more time to save the settings.

-  The heat indicator will be illuminated any time that the heater is on.
-  The system has a built in feature to protect the propulsion system and water quality system piping from freezing. As the temperature around the heater-controller drops, the pump that drives the propulsion system will turn on and move water through the pipes to prevent freezing. During this cycle, a swim current will be produced in the pool.
-  The filter indicator is not used in this application. The filter indicator is typically illuminated when the filtration pump is running. Since the filtration pump is always running the indicator will always be on.

## 2. Water Chemistry

### Safety Instructions

- Always check for proper sanitizer levels prior to using this product.
- Maintain water chemistry ranges consistent with the ranges presented in these instructions.
- Keep all chemicals out of the reach of children and pets.
- Store all water-balancing chemical in a cool dry place and in their original containers.
- Do not stack balancing chemicals on top of one another.
- NEVER MIX CHEMICALS
- Store sanitizing chemical separately from balancing chemical

### Overview

A water chemistry start-up kit, including test kit, has been provided with the StreamLine Pool. This kit should be sufficient to get the pool properly balanced and ready to swim. Over the course of the pool's life, additional balancing chemicals will be required. Endless Pools can only ship these aftermarket chemicals in the continental United States. Ideally, these chemicals will be purchased at any local pool and spa retail center.

Household bleach, in its most basic form, is the most appropriate form of chlorine for an indoor StreamLine Pool (that is covered when not in use). If the pool is to be installed outdoors, a more concentrated form of chlorine may be required. This should be discussed with a local pool and spa professional.

- Recommended chlorine level: .5ppm-1ppm
  - Add approximately  $\frac{1}{4}$  cup of household bleach (12%) per day
- Recommended pH range: 7.4-7.6
  - To raise pH-Soda Ash (Sodium Carbonate)
  - To lower pH-Dry Acid (Sodium Bisulfate)
- Recommended Total Alkalinity (TA) range: 80ppm to 120ppm
  - To raise TA-Baking Soda (Sodium Bicarbonate)
  - To lower TA-Dry Acid (Sodium Bisulfate)

### Detailed Instruction

#### Source Water

Endless Pools recommends testing a sample of water before you begin to fill the pool. Doing so will give you an idea of how suitable your water source is for swimming pool use. Testing the water can be done by using your Taylor test kit. A local swimming pool supply store can also test your water at a minimal charge.

## Well Water

Certain geographic areas are high in mineral content. For pools where well water is to be the water source, strong consideration should be given to having water tanked in. Well water often has high iron, calcium, and mineral content which is not ideal for your swimming pool. If well water is the only available source, please call our Customer Service Department, or seek advice from a local pool store.

## “Hard” Water and Water Softeners

The phrase “hard” water refers to having high levels of calcium in the water. Many homes that have “hard” water will often have a water softener installed in their homes that lowers the level of calcium in the water. For ideal water conditions in a vinyl liner pool, the calcium hardness level should be between 180-250 ppm. Please call us to discuss your options if you have a water softener and/or high calcium in your water supply.

---

## Sanitation

---

### Nature 2

Sanitation of your pool is partly accomplished by placing one Nature 2 Silver Ion Sanitizer into the filter-cartridge at the front of your pool. The Nature 2 Sanitizer significantly reduces the amount of chlorine you’ll need to use by adding silver ions to the pool, which will kill bacteria and algae in the water. The Nature 2 cartridge should be replaced every four months.

### Oxidation and Chlorine Requirements

Nature 2 works well as a pool sanitizer, however it does not oxidize or “burn-up” small particles of debris in the pool.

Maintaining a minimum level of 0.5 ppm free chlorine in your pool at all times is necessary. Adding 1/4 cup of Clorox a day will add about 0.5 ppm of free chlorine to a standard sized pool. How quickly that chlorine is consumed depends upon water temperature, bather load, and the amount of direct sunlight the pool receives.

### Chlorine Stabilizer and Outdoor Pools

Your Taylor test kit comes equipped with testing procedures for cyanuric acid. Cyanuric acid is a chlorine stabilizer, meaning it protects chlorine from getting broken down by sunlight. If your pool is located outdoors, we recommend using the granular form of stabilized chlorine (Should have an active ingredient of sodium dichlor) instead of Clorox. Another option would be to supplement Clorox by adding cyanuric acid. Either method will necessitate testing for cyanuric acid every two weeks. These chemicals are readily available at any pool supply store.

## Chlorine Stabilizer and Indoor Pools

Many customers are sold a stabilized chlorine product for use in their indoor StreamLine Pool. Endless Pools would not recommend this practice, as Clorox bleach is ideal for this setting. Using a stabilized chlorine source is more expensive, and it also requires the periodic testing for cyanuric acid levels. If the level gets too high, it can render the chlorine ineffective, and it may necessitate the partial draining of the pool in order to lower the levels.

## Alternatives to Chlorine and Nature 2

Although some alternative Sanitization systems can be used with a StreamLine Pool, the following precautions must be followed:

- Under NO circumstances can salt chlorine-generating systems be used in a StreamLine Pool.
- Bacquacil systems damage clear plastic products. Light lenses and pump strainer lids will crack.
- Bromine can be used, but not in conjunction with Nature 2.
- Please call Customer Service with any questions about alternate systems.

---

## Balancing Water Chemistry

---

Test your pool water now with the kit provided and/or take a sample of water to a local pool professional for testing. The test kit provided by Endless Pools tests for chlorine, pH, total alkalinity, calcium hardness and cyanuric acid. While the test kit may first seem intimidating, simply follow the instructions on the underside of the test kit lid. These instructions walk you through each of the tests step by step, and they are color coded with the appropriate reagent bottles to use for that test.

When performing the water quality tests, write down your results on the log sheet provided at the end of this bulletin. We would strongly urge you to make copies of these blank logs for use in the future. Any observations, chemical additions, or actions taken should also be noted. While it may seem a bit tedious, all of this information will prove invaluable in the event of a water quality problem, or when you go to make similar adjustments to the water chemistry in the future.

During this start-up period, which will last a few days, you will need to “Balance” the pool water by following the instructions listed below. After this initial start-up period, the testing procedures and emphasis are a little bit different, and they are explained in the “StreamLine Pool Maintenance” instructions a few pages later in this manual.

The following steps need to be followed when the pool is first filled, as well as anytime the pool is partially drained and refilled. They will walk you through testing and adjusting the factors affecting the “balance” of the water i.e., the water’s total alkalinity, pH and calcium hardness levels.

The level of chlorine inside the pool, as long as it is not above 5ppm, will not significantly affect the following tests and procedures used to balance the pool water. Therefore, if there is no chlorine in the pool at this time, add some. Add 1-2 cups of liquid

bleach (any brand is fine as long as it does not have an added scent to it) to an indoor pool. If you have an outdoor pool, add the appropriate amount of granules out of the bag of “stabilized” chlorine. Test for chlorine in a day or two and add more if necessary.

### 1. Balance Total Alkalinity (TA)

- Ideal reading: 100ppm
- Acceptable range: 80-120ppm
- Raise with: Sodium Bicarbonate (TA increaser)
- Lower with: Sodium Bisulfate (pH decreaser)

#### Method of chemical application:

Pre-mix the appropriate chemical into a clean bucket and pour into the pool.

Retest TA and adjust again if necessary.

Add less chemical than you think is necessary to effect the desired change. Keep track of how much chemical it took to make that change.

#### Notes:

Many regions of the country and world will have water with a TA higher than our recommended range. In a lot of cases, it will be desirable to leave the TA alone as any adjustment to it will also tend to affect the pH. The TA is mainly serving as a buffer for the pH. If it is above 120ppm, but lower than 200-250ppm, leave the level alone. It will simply over-stabilize the pH, which is not a problem, especially if the pH is within range or close to being within range.

If the TA is lower than our recommended range, though, we would recommend increasing it to at least 80ppm. Once again, the TA serves mainly as a buffer for the pH and if the TA is too low, the pH level in the pool can change very rapidly causing bather discomfort and damage to the pool and pool equipment.

Once the TA is within a tolerable range, move on to adjusting the pH in the pool. You should find that the TA will be slow to change—for this reason, test for it once a week.

### 2. Balance pH

- Ideal reading: 7.5
- Acceptable range: 7.4-7.8
- Raise with: sodium carbonate (pH increaser)
- Lower with: sodium bisulfate (pH decreaser)

#### Method of chemical application:

Pre-mix the appropriate chemical into a clean bucket and pour into the swim current. Afterwards, make sure you wash some water on the propulsion housing to ensure that no granules are resting on the acrylic. Test and apply more chemical as necessary.

#### Notes:

It is very important to keep the pH within range. If the level is too low, severe damage can occur to the pool liner and the pool equipment. If the level is too high, damage can occur to the liner, and it can make the water prone to “scaling,” when minerals and metals dissolved in the water will be dropped out of solution and on to liner. Having the pH too high or too low may cause bather discomfort in the form of eye or skin irritation.

The pH will change slowly over the course of a week or two. The number of bathers and the type of chlorine used are just two factors that will cause the pH to change. For this reason, pH should be tested three times a week and adjusted as needed.

Once the pH is within range, move on to adjusting the calcium hardness.

### 3. Balance Calcium Hardness (CH)

- Ideal reading: 180ppm
- Acceptable range: 175-250ppm
- Raise with: calcium chloride (calcium hardness increaser)
- Lower with: water containing less calcium (softened water)

#### Method of chemical application:

Fill a clean, five gallon bucket with pool water and dissolve the dosage of calcium into this water. Do not mix this solution with your hands. Pour the solution in to the swim current, and let the current circulate the water in the pool for a few minutes. Wait a few hours, test again, and add more calcium if necessary. Once again, always add less chemical than you think will be necessary to effect the desired change.

#### Notes:

As with TA, many regions will have higher CH than what is specified by our recommended range. If it is available, partially filling the pool with softened water will dilute the calcium content and essentially lower the CH level inside the pool. If softened water is unavailable, perhaps water tanked-in from an outside source would be the best option for you. If this not possible either, we would strongly suggest adding the “sequestering agent” sent with the pool. This chemical helps the water hold all of its dissolved materials in solution, including metals and calcium content. The main concern with having CH levels too high is that the calcium may deposit out of solution—a sequestering agent will help prevent this.

Calcium hardness will tend to slowly increase over time as water evaporates from the pool and leaves its calcium behind.

## 3. Pool Equipment and Start-Up Operation

The pool is full when the water level completely covers the honeycomb grills where the current is produced. A water level 1/2" (12mm) or more lower than this can cause air to get pulled through the skimmer-filter and into the WQS plumbing lines. This can lead to problems with the filter, and can also cause your heater to work intermittently. A water level 1" (2,5cm) or more, higher than the top of the grills can lead to water getting splashed out of the pool.

Once the pool is full and all connections are made, the water quality system can be started.

When power is first introduced to the system, the heater-controller will go through a boot-up cycle (which can last 2-5 minutes). The pump that activates the propulsion system will automatically turn on for about 1 minute during the boot-up cycle and will then turn off. It's important that no buttons are pressed on the keypad during the boot-up cycle. At the end of the boot-up cycle, the keypad should display the temperature of the water.

If the keypad is flashing "FLO" then air may need to be bled out of the system. Turn the power to the pool off. With a towel on hand, slowly unthread the union that's attached to the inlet of the circulation pump (small black pump) to allow any air to escape the plumbing. DO NOT completely unthread the union. Bleed air to the point where you start to see water escaping from the union. Once the air has been bled out, retighten the union (Fig. 1).

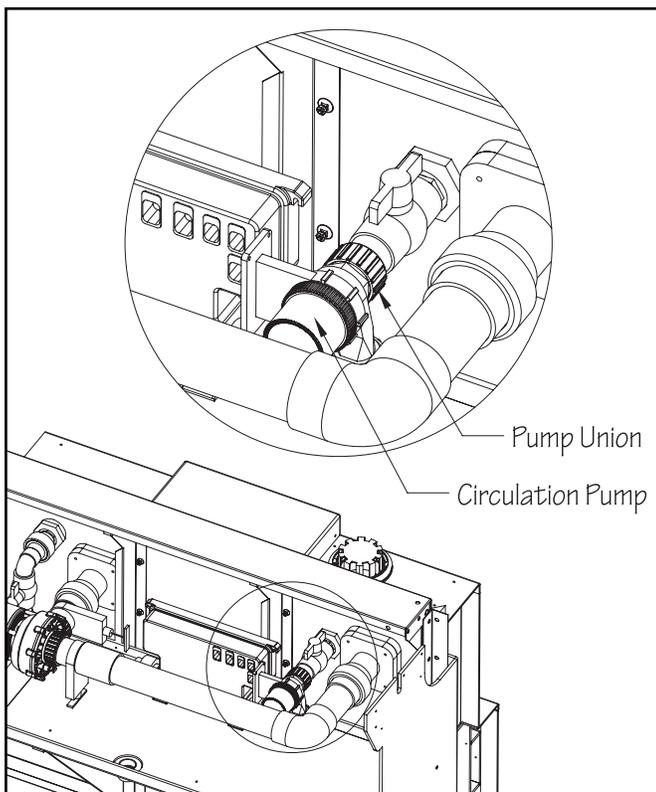


Fig. 1

**Important Note:** When bleeding air, you will lose some water. It's important to take this into account before resupplying power to the pool. The water level should cover the honey comb grill on the front of the propulsion system housing.

After the system is turned on and the heater-controller has verified proper water flow (to avoid heater activation in dry conditions), the heater will automatically turn on to reach and maintain the water temperature set point.

## Heater-Controller

Your heater-controller has been programmed to run your circulating pump continuously, meaning that your pool is receiving automated circulation and filtration (through the skimmer/filter) 24

hours a day. The temperature of your pool is controlled by the up and down key on your keypad (Refer to the following section for more information on the heater-controller features).

The Heater-Controller has a freeze protection feature called Smart Winter Mode. Smart Winter Mode senses the ambient temperature around the heater-controller and turns on the propulsion system pump as the temperature drops. A swim current will be produced in the pool when the propulsion system pump is on. The colder the temperature, the more frequently the pump will turn on.

The Smart Winter Mode indicator light (see Keypad Function section) is illuminated when this feature is activated.

**The heater-controller is also programmed to turn the propulsion system pump on 4 times daily, for 60 seconds.**

The in.xe is a heater controller used by Endless Pools to control the following features:

- Water temperature can be set between 59°F and 92°F (15°C - 33°C). Default set point at 84°F (29°C). The set point is changed with the up and down keys.
- The Circulating Pump, CP, is always on. The heater can only turn on when CP is on.
- Pump # 1 is a dual speed pump that drives the propulsion system. Pressing Key 1 will activate the pump for the propulsion system on low speed resulting in a slow to medium pace swim current. Pressing Key 1 a second time will switch the pump to high speed resulting in a faster pace swim current. A built-in timer will automatically shut the pump off after 30 minutes.

Holding in Key 1 for 5-10 seconds will turn off all devices for 30 minutes to allow for servicing. Pressing Key 1 again will return the system to normal operation.

**Important Note:** If a swim current is not produced when pressing Key 1, air may need to be bled from the propulsion system plumbing. Press key 1 a second time to switch the pump to high speed. With the propulsion system pump running on high speed, slowly unthread the air plug (Fig. 2). This will allow air to escape the plumbing. Continue to unthread the plug until a swim current is produced in the pool. Once a swim current is produced, thread the air plug back in the port.

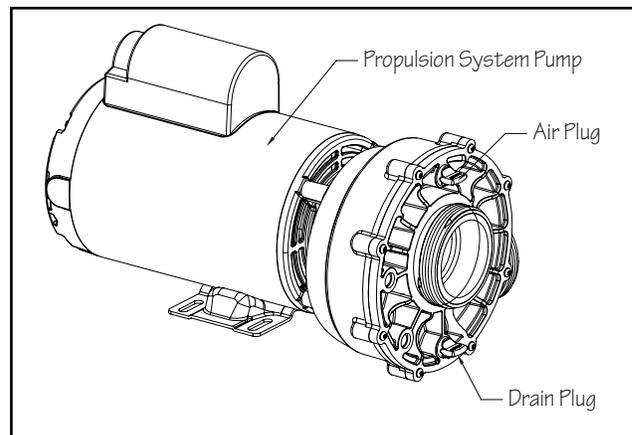


Fig. 2

## 4. How to Control the Swim Current

Two adjustment valves are provided at the front of the unit below the waterline just to the right of the propulsion system housing as you face the front (Fig 3). The primary speed control valve (large knob on the left) is for coarse adjustment while the secondary speed control valve (small knob on the right) is for fine adjustment.

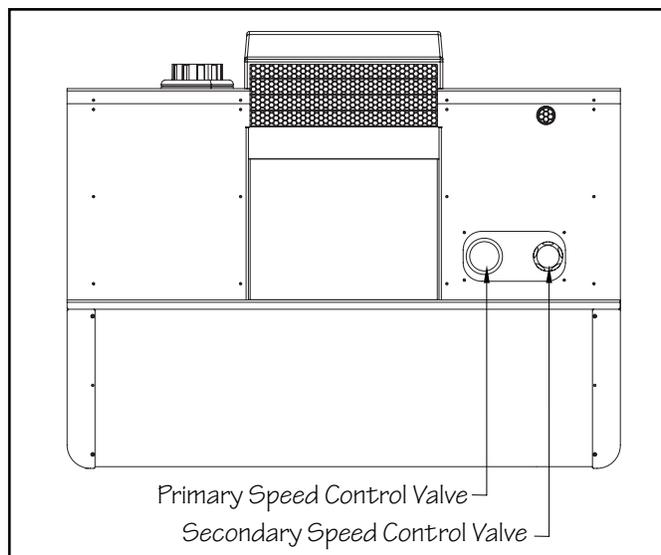


Fig. 3

If you are new to the Streamline Pool, first verify that the secondary speed control valve is closed (turned fully clockwise). Next, turn on the swim current using the keypad. By pressing the key 1 button once the pump will turn on at low speed. Press it again for high speed. When you press this button a third time the pump will turn off. Cycle the pump to high speed.

Turn the primary speed control valve back and forth and note how the swim current changes. This coarse adjustment will be all that most swimmers need. At the extreme right (fully clockwise) the current will be at its fastest speed resulting in a shallower swim current. At the extreme left (fully counter-clockwise) the current will be slower but deeper and fuller.

It is not immediately obvious what speed might be right for you, so begin by turning the primary speed control valve to the left and begin swimming. Ideally you want to stay about 6" (15cm) from the front grill staying centered and looking down. Allow yourself to float back until your feet touch the back wall giving you a sense of how much room you have.

**If you feel the swim current isn't fast enough** turn the primary speed control valve to the right (faster) until you have found a comfortable speed for you. It takes a minute or two to get used to swimming in place. A snorkel and a mask can be used as tools to better orient yourself in the swim current.

**If you feel the swim current is too fast** verify that the primary speed control valve is turned fully to the left. Then, open the secondary speed control valve by turning it counter-clockwise. The valve opens slowly with multiple turns and gradually slows down the swim current. Most users will find the lower speeds, attainable using these two adjustment valves, appropriate for them.

**If the swim current is still too fast or you wish to have a slower current for other water based exercises** you will need to utilize the two-speed nature of the pump. For this slower speed, turn the pump off first. Before turning the pump on low speed it is best to first close the secondary speed control valve by turning it multiple turns clockwise. Next, turn the pump to low speed. Adjust the current with the primary speed control valve as before. There should be no need to use the secondary speed control valve when the pump is on low speed.

Over time, users familiar with the Streamline Pool may find it convenient to make fine speed adjustments with the secondary speed control valve. This is a matter of personal preference. Initially, however, we recommend adjusting the speed as described above. In any case the Streamline Pool is designed to provide a perfect place for relaxed swimming in warm water at your convenience.

### (in.xe) UL/CSA electrical specifications:

Input rating: 120/240 VAC

(2-phase required, with neutral) 48 A maximum, 60Hz. Software limited to 24A. Install on a 30A GFCI circuit.

### UL/CSA Standards:

UL 1563 Fifth Ed.

File: E182156

CSA No. 22.2 - 218.1-M89.

### TUV Standards:

EN/IEC 60335 - 2 - 60

EN55014-1

EN55014-2

EN61000-3-2

EN61000-3-3

### Circulating Pump

The circulating pump has been provided with an integral dry run protection thermostat feature, that turns the pump off when the pump runs dry (thermostat off at 212°F + 10°F [100°C - 5°C]). If left unattended, the thermostat will automatically reset within a relatively short amount of time when the unit cools down, thereby allowing the pump to again begin operation (at 176°F + 13°F [80°C - 9°C]). Depending on the system conditions, many times one or two of these off/on cycles will correct an air bound dry run condition by itself with no harm done to the pump, thereby allowing continued trouble free operation. However, if the off/on cycling persists then measures should be taken to correct the problems in the circulation system causing the on/off cycling.

## Nature 2 Installation

The Nature 2 purification system will be placed inside of the filter cartridge. A retention strap has been provided to prevent the Nature 2 (slotted blue cartridge) from falling out of the filter.

Remove the Nature 2 cartridge, handle, and retention strap from its packaging (Fig. 4). Loop the retention strap around the Nature 2 cartridge handle, making sure the location of the strap is above the fins on the handle, and interlock the strap end into its locking mechanism. Cut the strap down to approximately two inches using a pair of scissors (Fig. 5).

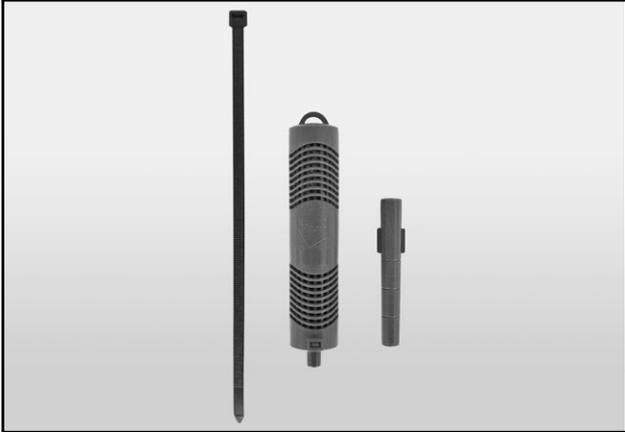


Fig. 4



Fig. 5

Attach the handle to the main body of the Nature 2 cartridge by aligning the hole at the bottom of the handle to the nipple that's attached to the main body of the cartridge (Fig. 6). Make sure there is a firm connection between the handle and the main body of the cartridge.



Fig. 6

Next, pull the cylindrical floating cage out of the filter body. Remove the filter cartridge from the filter body inside the pool, by grabbing the top and unthreading the cartridge.

Insert the Nature 2 cartridge into the opening at the bottom of the filter cartridge making sure the handle is facing towards the opening (Fig 7). The retention strap should prevent the Nature 2 cartridge from falling out of the filter cartridge.



Fig. 7

Reinstall the filter cartridge and then place the floating skimmer cage over top the cartridge.

## 5. Streamline Pool Maintenance

### Daily:

- Test for free chlorine (FC) after you swim, or at least a few times a week. Add chlorine to maintain FC levels between 0.5 - 1.5 ppm. As you become familiar with the chlorine demand for your pool, you will find that you may not have to test for chlorine as frequently in order to maintain a minimum level of 0.5ppm.

### Twice a week:

- Check and adjust water level. Water should completely cover the honeycomb grill where the current is produced. Water 1/2" (12mm) lower than this can create a choppy current and may cause your skimmer to draw air into the plumbing lines. Having the water level 1" (2,5cm) or more higher that honey comb grill will cause more water to get splashed out of the pool.

- Test for pH at least twice a week. Broadcast (i.e. pour chemical into current) pH increaser or pH decreaser to maintain levels between 7.4-7.8.

#### Weekly:

- Test for total alkalinity (TA) once a week. Slug (i.e. pour chemical in 4 spots around pool with water calm) TA increaser or pH decreaser to maintain levels between 80-120ppm. If TA is too high, it is usually not necessary to decrease as it merely serves as a buffer for the pH and will not cause damage in the pool.
- Test for total chlorine (TC) once a week. If the test for TC yields a result that is significantly higher than level of FC (i.e. the solution gets noticeably pinker) then you have a significant amount of combined chlorine (CC) in the pool water. Combined chlorine generates a heavy chlorine odor, and can cause bather discomfort in the form of eye and skin irritation. If you have significantly more total chlorine than you do free chlorine, then it is time to shock the pool (i.e. add enough chlorine to get the FC between 3-5ppm, but don't swim until FC falls below 3ppm). Shocking the pool should burn off the combined chlorine.

#### Every two weeks:

- Test for calcium hardness (CH) once every two weeks. Dissolve calcium hardness increaser (i.e. fill a 5-gallon bucket with pool water and dissolve calcium in bucket) then pour the solution into the current to keep levels between 175-250 ppm. If CH is too high, it can only be decreased by adding water with less calcium (i.e. softened water).
- If you have an outdoor pool, or if you use stabilized chlorine (i.e. sodium dichlor or sodium trichlor), test the cyanuric acid (CYA) level every two weeks. Maintain levels between 20-50 ppm. If CYA is above 80 ppm, the pool should be partially drained and refilled, or un-stabilized chlorine should be temporarily used in place of the stabilized. If CYA is above 100ppm, the pool should be partially drained and refilled.

#### Every two months:

- Remove and clean the filter that is located inside your pool. First, turn the Water Quality System off by pressing and holding the 1 Key (see section Keypad Functions) until the display reads, "OFF." Then remove the cylindrical filter cage from the filter body. Grab the filter inside and unthread it from the filter body. Once out, the filter can be cleaned by simply rinsing it off or by using a filter-specific detergent. If your filter is being cleaned with a detergent, then remove the Nature 2 from the cartridge. Insert the cleaned filter back into the filter body and thread into place. Reinstall the filter cage over the cartridge. The circulation pump will automatically turn back on after 30 minutes.
- After several uses the cartridges will have to be replaced. Replacement cartridges can be purchased on our Customer Service website, [www.myendlesspool.com](http://www.myendlesspool.com).

#### Every four months:

- Remove the Nature 2 cartridge located in your skimmer/filter, discard, and install a new one. Because this needs to be done every four months, it is best to coordinate this around the cleaning of your filter cartridges (see "Every two months" above). New Nature 2 cartridges can be purchased on our customer website, [www.myendlesspool.com](http://www.myendlesspool.com).

#### Annually

- **Have a licensed electrician make sure that all the electrical connections are tight and secure.**

#### As Needed:

- Clean the water line around the perimeter of the pool and the underside of the cover as needed. Body oils and mold may build up slowly in these areas and should be cleaned off periodically.
- If you have an outdoor pool, you may need to remove front grill (from where the swim current is generated) with a Phillips-head screwdriver and clean as necessary. Reinstall grill before restarting machine. The StreamLine Pool must not be operated with this front grill removed.
- If you happen to get cloudy water, or if the liner feels slippery, it likely means that you have algae in the pool. A vinyl liner pool brush and pole may be purchased in order to wipe down all the surfaces in the pool, increasing free chlorine level temporarily to 5 ppm will help, as will maintaining the free chlorine level in the pool at 3 ppm until the water is clear. Test the chlorine level frequently during this time.

## 6. Draining the Streamline Pool

1. Disconnect electrical power to all pool equipment.
2. Begin to drain down pool water by placing a suitable sump pump in the pool, or by setting up a siphon using a garden hose. If using a siphon, two or more hoses may be used simultaneously in order to expedite the process.
3. Continue draining pool until 6" (15cm) of water is remaining. Do not drain further than this as the liner needs this much water in order to be held stretched out and in place. If you are leaving the water like this for an extended period of time, add chlorine and possibly an algaecide in order to minimize the clean-up required before refilling the pool.
4. When you are ready, refill the pool using a garden hose with a "bobby filter" on the end to screen out debris and fine sediment. If you do not have one of these filters, contact Endless Pools Customer Service. If you have high calcium content and/or high metal content in your area, you should also add some "sequestering agent" to the pool water to help prevent scaling/staining. You may also be able to find both of these items at a local pool store.
5. The pool is full when the water completely covers the grill at the front of the pool. Reestablish electrical power to the pool equipment, and start balancing the pool water. Shock the pool to 3.0 ppm free chlorine. Turn on your WQS in order to get your new body of water filtered, circulated, and heated.

## 7. Winterizing the Streamline Pool

A StreamLine Pool may be used year round, even in colder climates. If you will not be using the pool during the winter in an area where freezing is a problem, special consideration must be taken to protect the pool and ancillary equipment if either is located outside. If you have any questions regarding precautions to take against freezing, please call our Customer Service Department at (800) 910-2714.

## 8. Water Quality Error Codes



### Hr

An internal hardware error has been detected in in.xe. Contact Customer Service.



### 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 shut power off and power your spa up again to reset the system.



### AOH

Temperature inside the spa skirt is too high, causing the internal temperature in the in.xe to increase above 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 Customer Service.



### Prr

A problem is detected with the temperature probe. Call Customer Service.



### 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 Customer Service if problem persists.



### UPL

No low level configuration software has been installed into the system. Call Customer Service.

## 9. Propulsion System and Water Quality System Troubleshooting

Symptom	Possible Cause	Solution
<b>No power to controller</b>	<ol style="list-style-type: none"> <li>1.) Tripped breaker</li> <li>2.) Disconnect turned off</li> <li>3.) Improperly wired controller</li> </ol>	<ol style="list-style-type: none"> <li>1.) Reset breaker</li> <li>2.) Turn disconnect to ON position</li> <li>3.) Verify wiring of controller</li> </ol>
<b>No Keypad Display</b>	<ol style="list-style-type: none"> <li>1.) No power to controller</li> <li>2.) Keypad cord not attached</li> <li>3.) Pins in display receptacle are bent</li> <li>4.) 1/2 amp fuse blown in heater controller</li> </ol>	<ol style="list-style-type: none"> <li>1.) See above diagnosis</li> <li>2.) Plug in keypad cord. Plug must “lock” into place.</li> <li>3.) Straighten pins to allow cord to properly attach</li> <li>4.) Check for continuity on fuse and replace if necessary</li> </ol>
<b>FLO Reading on Display</b>	<ol style="list-style-type: none"> <li>1.) Air trapped in plumbing</li> <li>2.) Water level too low</li> <li>3.) Filter is dirty</li> <li>4.) Ball valve is closed or return line is plugged</li> <li>5.) Circulating pump is not plugged in</li> <li>6.) Circulating pump turned off at keypad</li> <li>7.) No power to pump receptacle on</li> </ol>	<ol style="list-style-type: none"> <li>1.) Remove air from plumbing</li> <li>2.) Add water to pool</li> <li>3.) Clean filter(s)</li> <li>4.) Open valve or remove plug</li> <li>5.) Plug pump in. Plug must “lock” into place</li> <li>6.) Turn pump back on by pressing key 1 on keypad or wait 30 minutes for auto restart of circulating pump</li> <li>7.) 20 amp fuse may be blown inside heater controller heater controller. If fuse not blown, turn off breaker for 5 minutes and reset. If still no voltage to receptacle replace heater controller</li> </ol>
<b>Circulating Pump Makes Noise</b>	<ol style="list-style-type: none"> <li>1.) Debris in impeller</li> <li>2.) Air trapped in housing</li> <li>3.) Rotor bearing worn</li> </ol>	<ol style="list-style-type: none"> <li>1.) Remove pump from system, take apart pump and clean ceramic ball that the impeller sits on</li> <li>2.) Remove air from housing (prime pump)</li> <li>3.) Replace pump</li> </ol>
<b>Pool taking long time to heat</b>	<ol style="list-style-type: none"> <li>1.) Heater not turning on</li> <li>2.) Heat indicator on, no heat gain</li> <li>3.) Losing heat from pool</li> </ol>	<ol style="list-style-type: none"> <li>1.) Controller not calling for heat-check thermostat set point</li> <li>2.) Check element continuity (14ohms). Replace if not in this range</li> <li>3.) Insulate pool. Keep pool covered when not in use. Refer to “Retaining Heat” Service Instruction</li> </ol>

## 9. Propulsion System and Water Quality System Troubleshooting

Symptom	Possible Cause	Solution
<b>Propulsion System Wont Turn On</b>	1.) 25 amp fuse blown inside the heater controller	1.) Check for continuity on the fuse and Pump replace if necessary
	2.) No power to pump receptacle on the heater controller	2.) 25 amp fuse may be blown inside heater controller. If fuse is not blown, turn off breaker for 5 minutes and reset. If still no voltage to pump receptacle, replace heater controller.
	3.) Propulsion system pump is not plugged in	3.) Plug pump in. Plug must “lock” into place
	4.) Damaged Key 1 button on keypad display	4.) If pump 1 icon does not appear when pressing Key 1, replace the keypad
<b>No Swim Current when propulsion system pump is on</b>	1.) Water level is to low	1.) Add water to pool. The water level should cover the honeycomb grill on the front of the propulsion system housing.
	2.) Slide valve is in the closed position	2.) Open slide valve
	3.) Air trapped in plumbing	3.) With the propulsion system running on high speed, slowly unthread the air plug at the top of the pump housing to allow air to escape.

