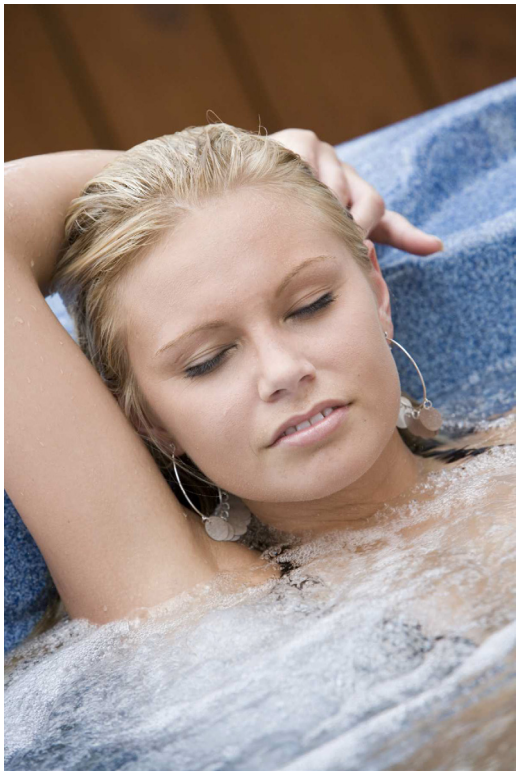
Columbia Spas

2014 OWNER'S HANDBOOK

A Spa Owner's Guide For The Care And Maintenance Of Your New Columbia Spa



Please read this handbook carefully.

THIS HANDBOOK CONTAINS IMPORTANT SAFETY, INSTALLATION AND OPERATING INSTRUCTIONS ESSENTIAL FOR YEARS OF CAREFREE SPA ENJOYMENT.

CAUTION: READ AND FOLLOW THE INSTRUCTIONS CONTAINED IN THIS HANDBOOK

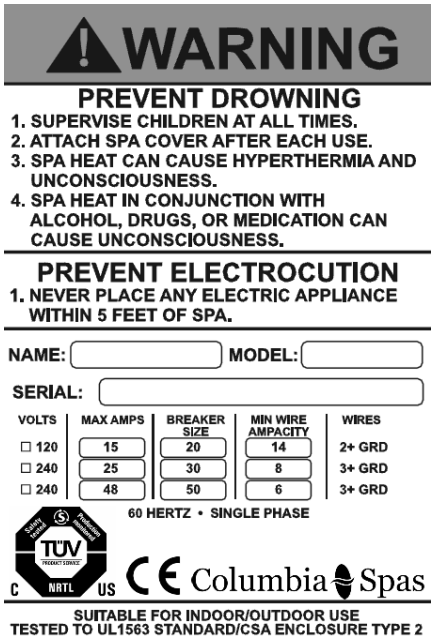
ABOUT YOUR SPA

Please take a few minutes to read this handbook. A thorough knowledge of the basic safety precautions and proper maintenance procedures will provide years of safe and pleasant enjoyment of your new Columbia spa.

WARNING – PROLONGED EXPOSURE TO DIRECT SUNLIGHT WITHOUT WATER IN THE SPA WILL CAUSE SPA SURFACE DAMAGE AND JET DAMAGE AND **WILL VOID** ALL WARRANTIES.

It is very important for you, the owner, to be knowledgeable with the instructions contained within this owner's handbook, because failure to follow these instructions may result in damage that will not be covered by the owner's warranty, or may void the warranty entirely. However, by following the operating instructions described herein, the owner will be in compliance with his owner's warranty.

SERIAL NUMBER LOCATION: The serial number is on a tag, which designates this spa as listed by TÜV-SÜD America. The warning/information label containing the serial number, model number and voltage located in the equipment bay compartment either on the filter canister or on a plaque attached to the spa frame and is similar to the one shown below on the left.



This label may be removed from the top of the spa after the spa is connected and running.

Please fill out for future reference:

Spa Model:_____

Date Purchased:_____

Serial Number:_____

Purchase From:_____

Optional Equipment:_____

_____

_____

IMPORTANT SAFETY INSTRUCTIONS

A licensed electrician **MUST install your spa to avoid danger to yourself, household, or guests.
FAILURE TO OBTAIN PROPER INSTALLATION WILL VOID YOUR SPA WARRANTY.
***GFCI MUST BE TESTED BEFORE EACH USE OF THE SPA**

1. **READ AND FOLLOW ALL INSTRUCTIONS**
2. **WARNING—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.
3. **This item applies only to models supplied with a GFCI cord.**
    a. Replace damaged cord immediately
    b. Do not bury cord.
    c. Connect to a grounded, grounding type receptacle only.

    WARNING— This product is provided with a ground-fault circuit-interrupter. This can be found at the end of the power cord. The GFCI must be tested before each use. Push the test button on the GFCI cord. This will cause the spa to shut off. To reset, press the reset button, wait for purge cycle. Spa will start within 5 minutes. When the product fails to operate in this manner, there is a ground current flowing indicating the possibility of an electric shock. Disconnect the power until the fault has been identified and corrected.
4. **DANGER**—To prevent injury to persons, do not remove suction fittings.
5. **DANGER—RISK OF INJURY.** The suction fittings in this spa are sized to match the specific water flow created by the pump. Should the need arise to replace the suction fittings or the pump, be sure that the flow rates are compatible. Never operate 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.
6. A wire connector is provided on this unit to connect a minimum 8 AWG (8.4 mm2) 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.
7. Install spa to provide drainage of compartment for electrical components.
8. **DANGER—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 8 AWG (8.4mm2) solid copper conductor to the wire connector on the terminal box that is provided for this purpose. **CHECK LOCAL AND COUNTY ELECTRICAL CODES AND ORDINANCES BEFORE INSTALLATION.**
9. **DANGER—RISK OF ELECTRIC SHOCK**. Do not permit any electric appliance, such as a light, telephone, radio, or television, within 5 (1.5m) feet of a spa.
10. **WARNING**—To reduce the risk of injury:
    a. The water in a spa or hot tub should never exceed 40° C (104° F). Water temperatures between 38° C (100° F) and 40° C are considered safe for a healthy adult. Lower water temperatures are recommended for younger children and when spa 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 spa or hot tub water temperatures to 100° F (38° C).
    c. Before entering a spa or hot tub, the user should measure the water temperature with an accurate thermometer since the tolerance of water temperature-regulating devices may vary as much as ± 5° F (3° C).
    d. The use of alcohol, drugs, or medication before or during spa or hot tub use may lead to unconsciousness with the possibility of drowning.

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

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

11. **SAFETY WARNING—**For models provided with Audio equipment:

a. **CAUTION—**Risk of Electric Shock. Do not leave compartment door open.

b. **CAUTION—**Risk of Electric Shock. Replace components only with identical components.

c. Do not operate the audio/video controls while inside the spa.

d. **WARNING—**Prevent Electrocution. Do not connect auxiliary components (for example cable, additional speakers, headphones, additional audio/video components, etc.) to the system.

e. These units are not provided with an outdoor antennae; when provided, it should be installed in accordance with Article 810 of the National Electrical Code, ANSI/NFPA 70.

f. Do not service this product yourself as opening or removing covers may expose you to dangerous voltage or other risk of injury. Refer all servicing to qualified service personnel.

g. When the power supply connections or power supply cord(s) are damaged; if water is entering the audio/video compartment or any electrical equipment compartment area; if the protective shields or barriers are showing signs of deterioration; or if there are signs of other potential damage to the unit, turn off the unit and refer servicing to a qualified service personnel.

h. This unit should be subjected to periodic routine maintenance (for example, once every 3 months) to make sure that the unit is operating properly.

A. WARNING: PEOPLE WITH INFECTIOUS DISEASES SHOULD NOT USE A SPA OR HOT TUB

B. WARNING: TO AVOID INJURY EXERCISE CARE WHEN ENTERING OR EXITING THE SPA OR HOT TUB

C. WARNING: DO NOT USE A SPA OR HOT TUB IMMEDIATELY FOLLOWING STRENUOUS EXERCISE

D. WARNING: PROLONGED IMMERSION IN A SPA OR HOT TUB MAY BE INJURIOUS TO YOUR HEALTH

E. CAUTION: MAINTAIN WATER CHEMISTRY IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS

SAVE THESE INSTRUCTIONS

SAFETY PRECAUTIONS

- Never use your spa while under the influence of alcohol.

- Never use your spa when taking anticoagulants, antihistamines, vasoconstrictors, vasodilators, stimulants, hypnotics, narcotics, or tranquilizers.
- Pregnant women, persons with heart disease, diabetes, high or low blood pressure or any serious illness should not enter a spa without prior consultation with their doctor.
- Keep electrical appliances a significant distance from the spa, including telephones. Do not try to adjust or touch equipment such as the pump, heater, or electrical appliances while you are in the spa.
- The temperature of the spa should be no higher than 104° F (40° C). Do not soak for more than 15 minutes at one sitting in 104° F (40° C) water. Prolonged soaking in hotter temperatures may cause drowsiness, fainting or induce hyperthermia.
- Never walk, climb, jump or play on the energy cover of your spa. Never swim or play under the cover when it is installed on the spa. Always cover your spa with the hard cover when your spa is not in use.
- Never allow children to use the spa unsupervised.
- A fence around your spa with a self-closing and self-latching gate can be the best protection against unauthorized entry and use. Check with local Building and Safety Division regarding requirements.
- If your spa is indoors, lock the door to the room to keep out unauthorized users.

SPA LOCATION AND INSTALLATION

PERMANENT SPA INSTALLATIONS: Permanent spa installations require extensive planning and expert advice, which can be provided by your spa dealer.

SITE SELECTION - A smooth, level, self draining surface is necessary in order to ensure years of trouble free use and for your spa to function properly. For the spa to function properly and safely, it should be situated on a hard, flat, level surface. For optimum installation a concrete slab sloped at 1 inch per 10 feet will allow rain water and water spillover will run off and not puddle underneath the spa (water under the spa for long periods of time may cause the wood to deteriorate).

It is important to note that soft surfaces, even when stepping stones or pavers are used to evenly distribute the weight of the spa, will have a tendency to settle, thus resulting in an non-stable and non-level spa and voiding your warranty.

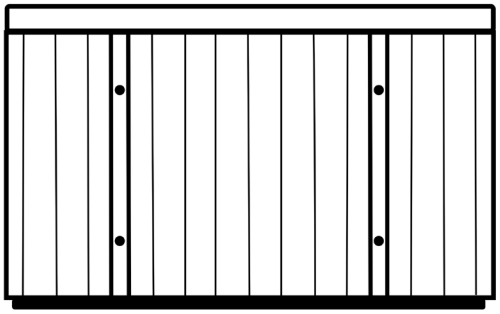
INSTALLATION ON A WOOD DECK - Wood decking requires that the deck must be constructed to support at least 80 pounds per square foot. Individual spa weight per square foot will vary. Refer to a licensed contractor for proper structural support.

EQUIPMENT COMPARTMENT ACCESS - When considering an installation site, always allow for a minimum access space of 30 inches in front of the equipment compartment of the spa. This provides adequate clearance for future service if necessary. If accessory items will be installed on or around the spa (gazebos, steps or planters), allow for additional space around the spa's perimeter.
Be sure the spa is in the desired position before filling with water. Check for power cords, tools or hoses that may be caught underneath the spa.
CAUTION: Adequate drainage must be supplied if the equipment is to be installed below ground level.

PLEASE NOTE: Some cities and counties may require a permit for installation of electrical circuits or the construction of exterior structures (decks and gazebos). In addition, some countries may require permits for the installation of a portable spa. Check your local codes for compliance.

PLEASE NOTE: Placing your spa on grass or dirt does not provide a sufficiently solid surface for your spa. Doing so will void your warranty. It will also increase the amount of debris which is inadvertently brought into the spa water and may cause harm to your equipment as well as the spa surface, and is not covered under warranty.

ELECTRICAL INSTALLATION



● indicates approximate screw locations

Equipment Access

To access the electrical equipment system in your spa the Eco-wood or natural cedar slats and panel must be removed. The panel below the topside control is typically the one to remove to access the equipment. (Actual slat and screw locations will vary depending on the spa model)

120 VOLT INSTALLATION

For spas with a Control Unit designed to operate at 120V, 60Hz. Installation of a 20 amp dedicated circuit is required. The unit may be connected to this dedicated circuit with a 15 amp Ground Fault Circuit Interrupter (GFCI) cord either installed at the factory or supplied by your local Columbia Spas dealer. All National and Local electrical codes must be observed.

The GFCI cord should be tested before each spa use to insure that it is functioning properly.

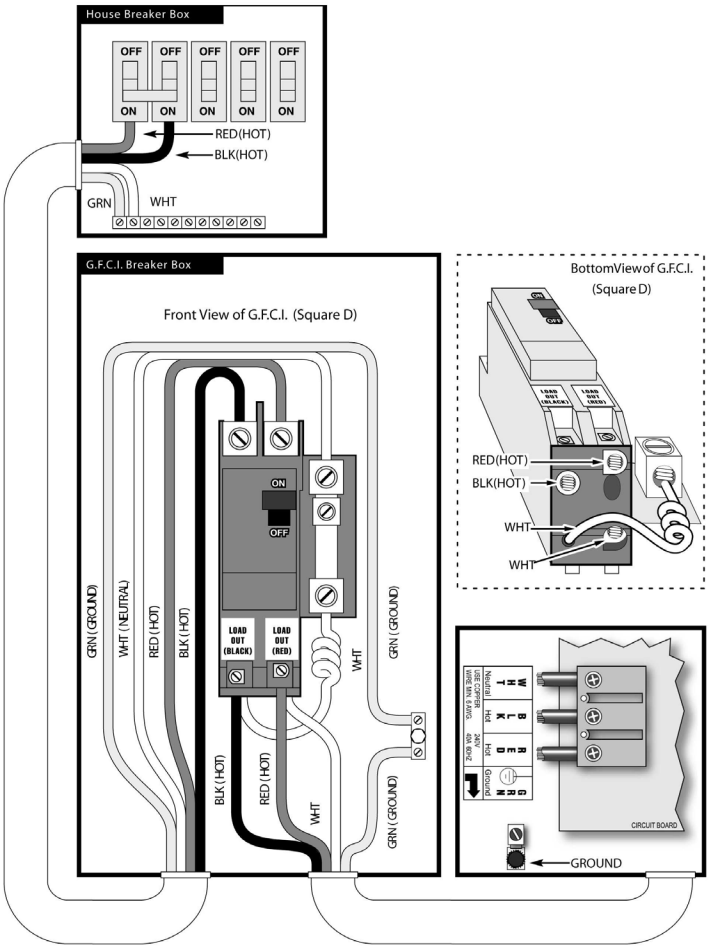
240 VOLT INSTALLATION

For spas with a Control Unit designed to operate at 240V, 60Hz. Installation of a 50 amp dedicated circuit is required. The unit must be hard wired directly to a supply circuit using 6 AWG copper that is protected by a Ground Fault Circuit Interrupter (GFCI) circuit breaker.

General Electrical Instructions (240V only – see reference diagram below)

- This hot tub must be permanently connected (hard-wired) to the power supply. **No plug-in connections or extension cords are to be used in conjunction with the operation of this hot tub.** Supplying power to the hot tub which is not in accordance with these instructions will void both the independent testing agency listing and the manufacturer's warranty.
- The power supplied to this hot tub must be a dedicated circuit with no other appliances or lights sharing the power provided by the circuit.
- All wiring must be copper to ensure proper connections. **Do not use aluminum wire.** When using wire larger than #6, add a junction box near the hot tub and reduce to short lengths of #6 wire to connect to the hot tub.
- The disconnecting means must be readily accessible to the hot tub's location but installed at least 5 feet (1.5m) from hot tub water.
- The electrical circuit supplied for the hot tub must include a suitable ground fault circuit interrupter (GFCI) as required by NEC Article 680-42.
- A green-colored terminal or a terminal marked G, GR, Ground, Grounding, or the symbol is located inside the supply terminal box or compartment. To reduce the risk of electrical shock, this terminal must be connected to the grounding means provided in the electric supply service panel with a continuous copper wire equivalent is size to the circuit conductors supplying this equipment.
- At least two lugs marked BONDED LUGS are provided on the external surface or on the inside of the supply terminal box or compartment. To reduce the risk of electric shock, connect the local common bonding grid in the area of the hot tub or spa to these terminals with an insulated or bare copper conductor not smaller than 6 AWG.
- All field-installed metal components such as rails, ladders, drains, or other similar hardware located 3 m of the spa or hot tub shall be bonded to the equipment grounding bus with copper conductors not smaller than 6 AWG.

IMPORTANT NOTICE: The electrical wiring of this hot tub must meet the requirements of the National Electrical Code (NEC) and any applicable state or local codes. The electrical circuit must be installed by a qualified electrician and approved by a local building/electrical inspection authority.



Illustrations are for reference only. Your instillation may differ.
Consult a licensed electrician for your install.

SPA PREPARATION

IMPORTANT! A minimum of 6 jets, per pump, must be in the open position at all times. Damage resulting from failure to do so will not be covered under your warranty.

PREPARE THE SPA FOR FILLING

a. Clean all debris, dirt or other materials out of the spa.
b. Although the spa shell has been polished at the factory, you may want to treat it with a specially formulated spa cleaner and wax available from your dealer prior to filling it for the first time.
c. Check all plumbing connections for leaks, and repair as needed. ALL DISCONNECTED AND/OR LOOSE PUMP OR CONTROL PACK UNIONS SHOULD BE HAND TIGHTENED ONLY.
d. Make sure the all suction fitting cover(s) are in place in the foot well of your spa. This unit is not to be installed or used without the suction fitting covers approved to prevent hair and body entrapment. Virginia Graeme Baker Act (VGB) approved fitting covers have been installed at the factory in your spa.

FILL THE SPA

a. Never fill your spa with water from a water softener. This will damage your spa components. The use of a in-line hose filter cartridge is acceptable
b. Fill your spa with water before applying power to your spa. Running your spa without water can cause permanent damage to your spa and equipment and void your warranty.
c. Fill the spa up to at least one-half the depth of the filter.
d. **PLEASE NOTE**: Your spa has been filled and test-run at the factory to ensure your spa will function properly. The first time your spa is filled with water, you may find some discoloration from residual test water in the lines. This will disappear when the spa is completely filled and the filtration system is activated.

TURN ON THE POWER

Turn on power to the spa at the home's circuit breaker, Ground Fault Circuit Interrupter (GFCI) and any other switching devices installed by your electrician. When power is on, the spa's LCD screen will display information. (see the spa controls section below)

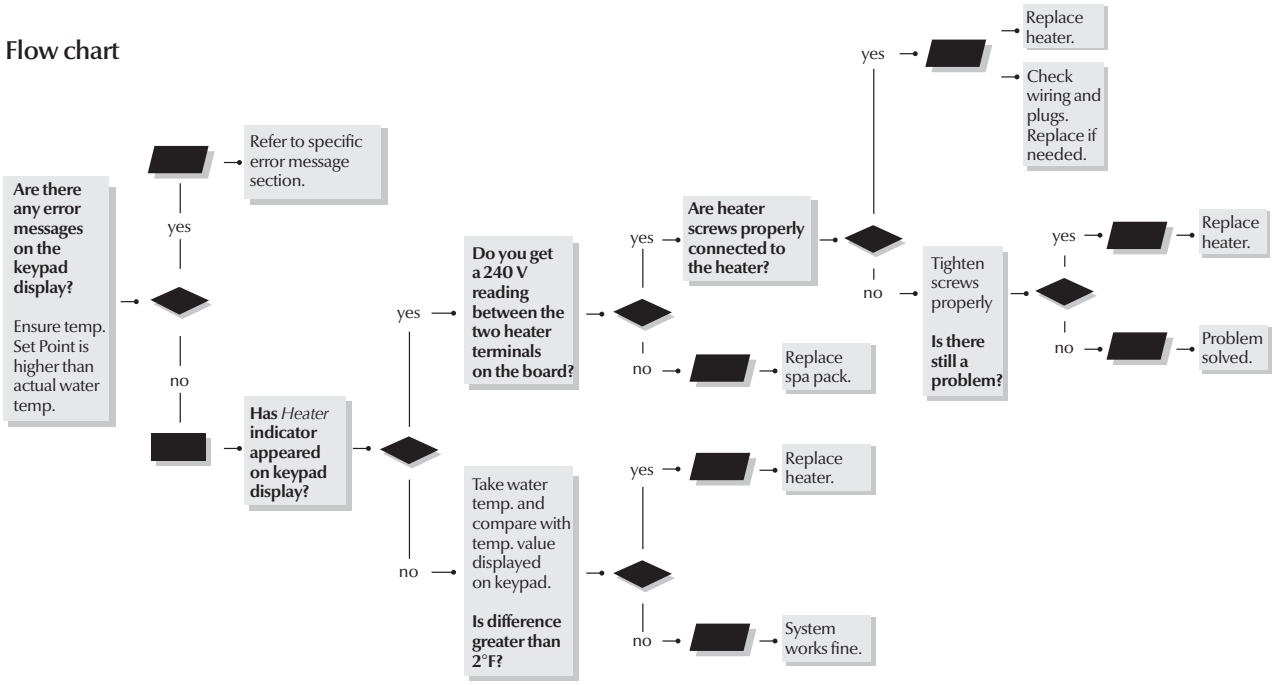
ACTIVATE THE JETS

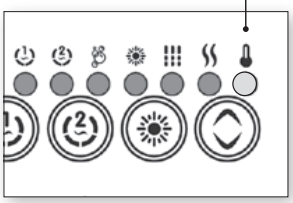
a. Set all air controls to the "ON" position to help you see which jets are being activated.
b. **CAUTION:** Do not allow the spa to run if no jet action is detected. You may need to slightly open a union fitting on the control pack or pump to release any air lock in the system. Air trapped in the plumbing and heater could result in a heater "dry-fire" causing rapid destruction to the heater housing.
c. There are two basic cycle modes for your spa —

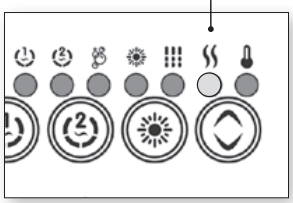
Spa not heating / flow chart & step-by-step

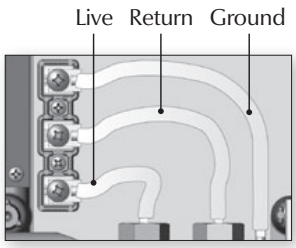
If spa is not heating,
follow this troubleshooting flow chart:

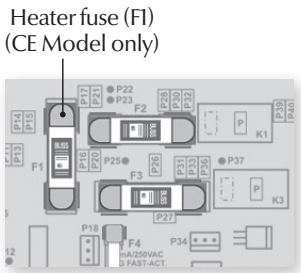
Flow chart











Spa not heating!

- Check for an error message on keypad display. If there is one, refer to specific section indicated by the error message.
- If there is no error message, try to raise water temperature by increasing the Set Point 2°F higher than actual water temperature. Press Up key to increase Set Point.

- Verify if Heater indicator appears on keypad display.
- The heater indicator will be on when heater is on. It will flash if more heat has been requested, but heater has not started yet.

- If heater indicator lights up on the display, take voltage reading between the heater live and return terminals.

Your reading should be:

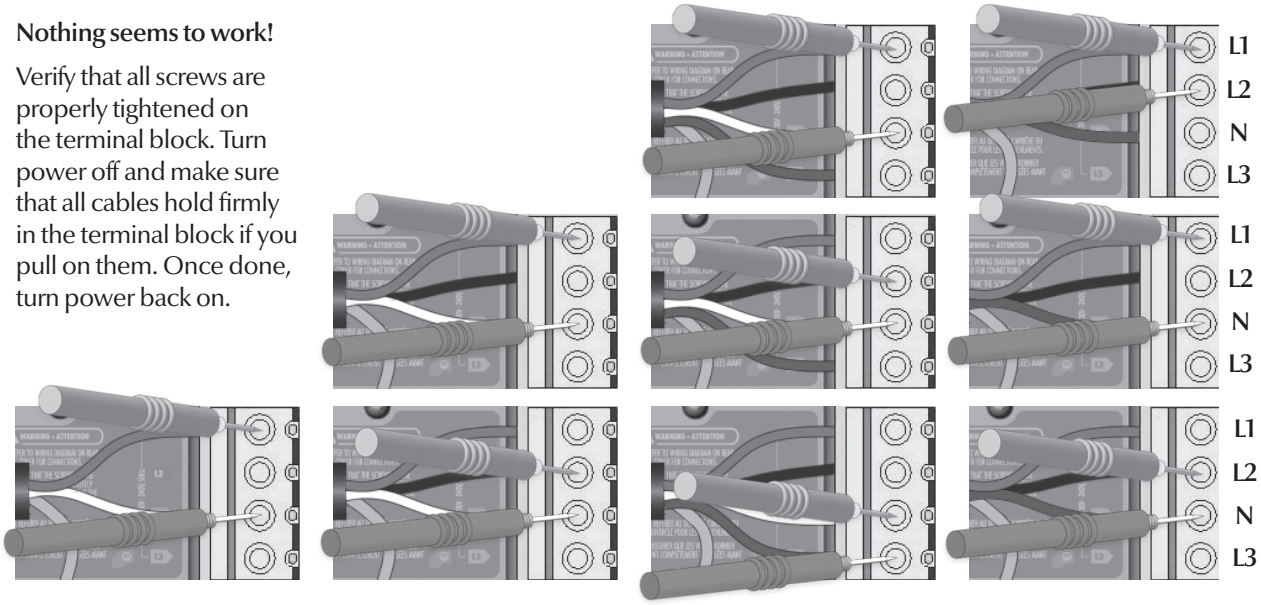
240 V: for 240 V heaters
120 V: for 120 V heaters

- If voltage reading is not as it should be, verify if heater terminals are properly connected .
- If it is, replace spa pack.
- In the case of the European model in.yt.ce only, replace accessory fuse.
- If problem persists, replace spa pack.

Step-by-Step

Nothing seems to work!

Verify that all screws are properly tightened on the terminal block. Turn power off and make sure that all cables hold firmly in the terminal block if you pull on them. Once done, turn power back on.



For 1-phase system

- On the terminal block, measure voltage between line 1 and neutral.
- You should get 230 V.
- If you do not get good readings, this indicates an electrical wiring problem.

  Call an electrician!

For 2-phase system

- Measure voltage between line 1 and neutral and between line 2 and neutral.
- You should get 230 V on both readings.
- If you do not get good readings, this indicates an electrical wiring problem.

  Call an electrician!

For 3-phase system

- Measure voltage between line 1 and neutral, between line 2 and neutral and between line 3 and neutral.
- You should get 230 V for each reading.
- If you do not get good readings, this indicates an electrical wiring problem.

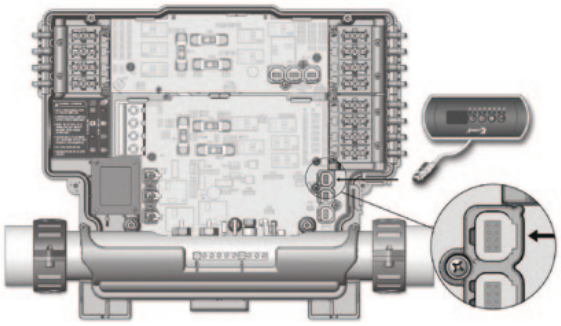
  Call an electrician!

For 3-phase Delta system

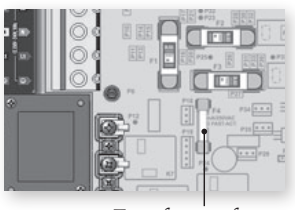
- Measure voltage between line 1 and line 2, between line 1 and line 3 and between line 2 and line 3.
- You should get 230 V for each reading.
- If you do not get good readings, this indicates an electrical wiring problem.

  Call an electrician!

If the voltage reading are OK then:



- Verify if keypad is correctly connected to the spa pack.



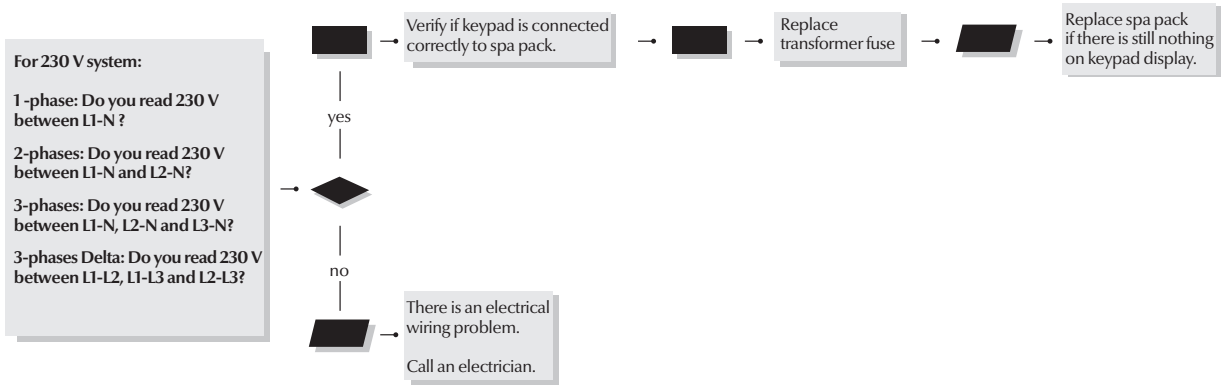
Transformer fuse

- Verify the transformer fuse.
- Replace transformer fuse if neccessary.
- If problem persists, replace spa pack.

Nothing seems to work (European version)/ flow chart

If nothing seems to work, turn off the main breaker and visually inspect power input cable, gently pulling on it to make sure is properly tightened. Turn the main breaker back on and follow this troubleshooting flow chart:

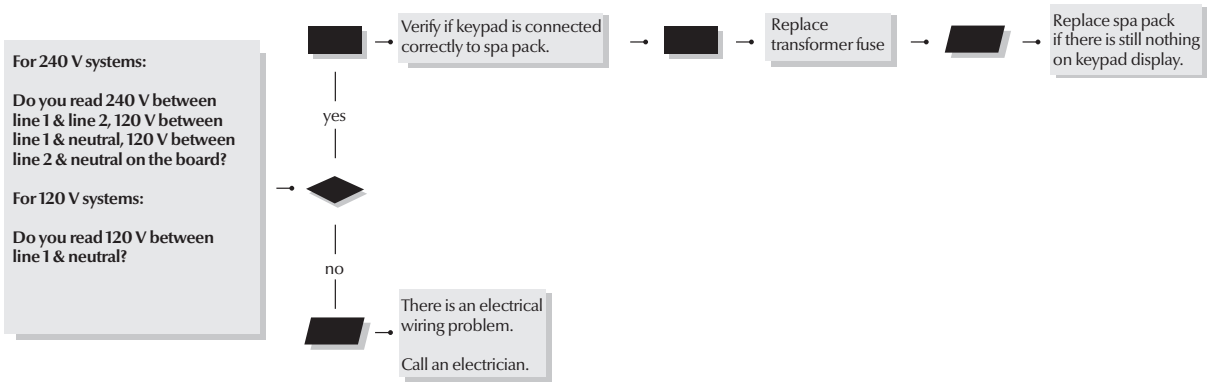
Flow chart
For European systems



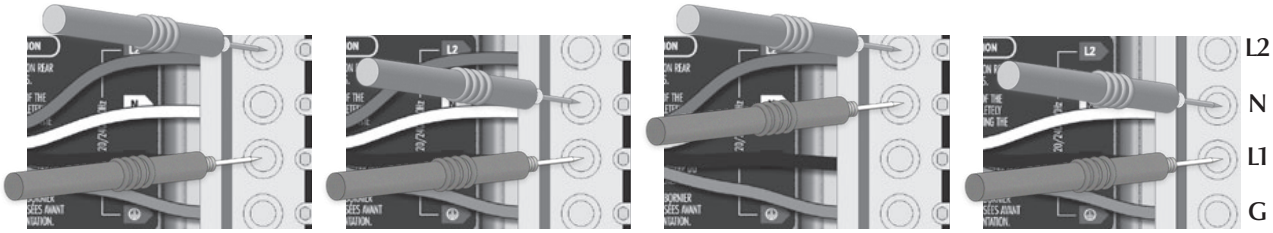
Nothing seems to work / flow chart & step-by-step

If nothing seems to work, turn off the main breaker and visually inspect power input cable, gently pulling on it to make sure is properly tightened. Turn the main breaker back on and follow this troubleshooting flow chart:

Flow chart
For North American systems



Step-by-Step for North American version



Nothing seems to work!

- Verify that all screws are properly tightened on the terminal block. Turn power off and make sure that all cables hold firmly in the terminal block if you pull on them. Once done, turn power back on.
- On the terminal block, measure voltage between line 1 and line 2.
- You should get 240 V.
- Measure voltage between line 1 and neutral.
- You should get 120 V.
- Measure voltage between line 2 and neutral.
- You should get 120 V.
- If you do not get good readings, this indicates an electrical wiring problem.

Call an electrician!

For 120 V systems

- Measure voltage between line 1and neutral.
- You should get 120 V.
- If you do not get good readings, this indicates an electrical wiring problem.

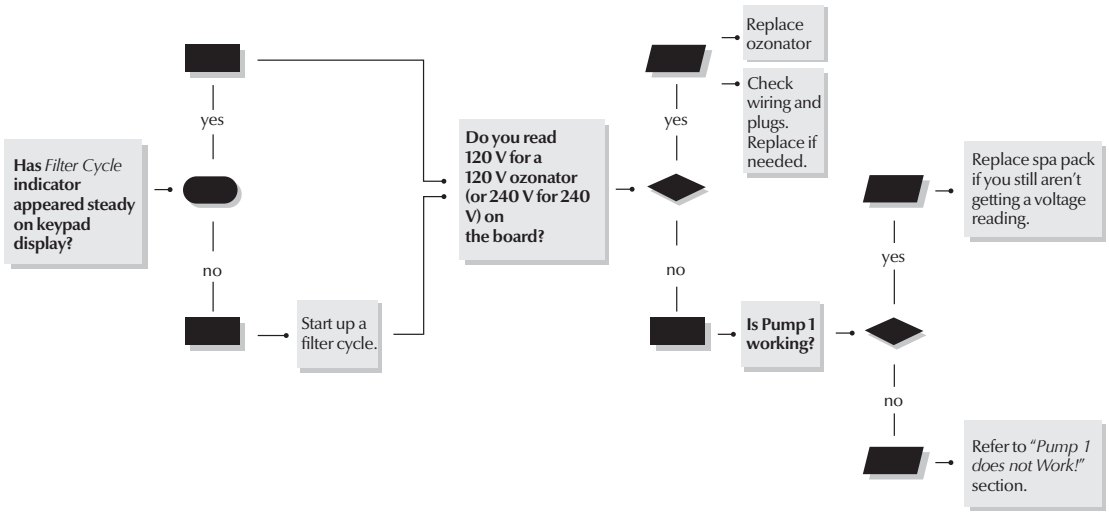
Call an electrician!

Ozonator doesn't work / flow chart & step-by-step

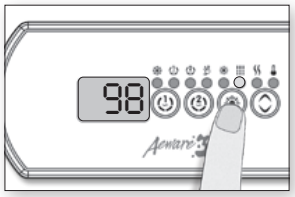
**If the ozonator is not working,
follow this troubleshooting flow chart:**

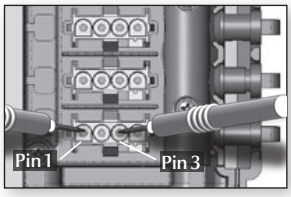
Ozonator output will be shut down when Pump 1, Pump 2 or blower have been turned on manually.

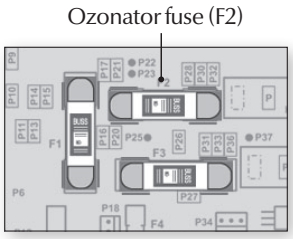
Flow chart



Step-by-Step







If the ozonator is not working:

- Check if Filter Cycle indicator appears steady on keypad.
- If the filter indicator is blinking it indicates that the filter cycle has been interrupted. In that case, reset the breaker by turning the power off and on again to resume cycle.
- If not, start up a filter cycle (see Programming Filter Cycles section).
- If ozonator does not work even when filter cycle indicator is on, take voltage reading on the corresponding AMP connector:

  Pin 1 & Pin 3

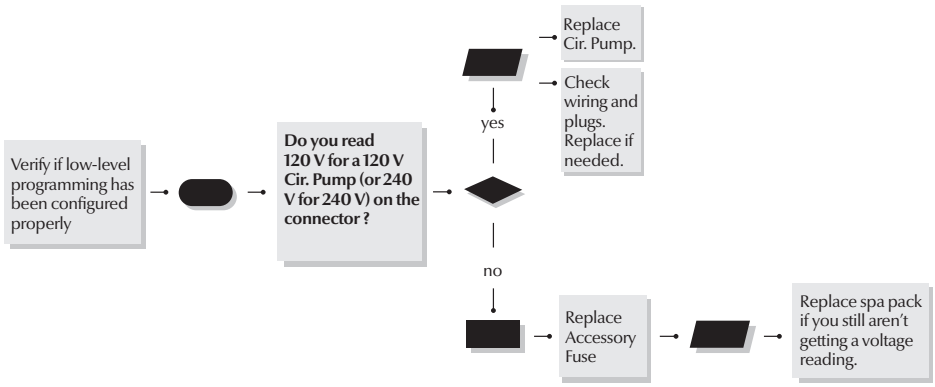
  Your reading should be:
  240 V for
  a 240 V pump

  120 V for a
  120 V pump
- If you don't get a voltage reading, replace the accessory fuse.
- If changing the fuse does not fix the problem, replace the spa pack.
- If voltage is as it should be, replace ozonator.

Circulation pump doesn't work / flow chart & step-by-step

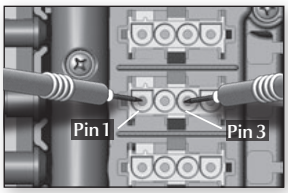
If circulation pump is not working, follow this troubleshooting flow chart:

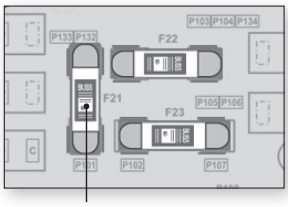
Flow chart



Step-by-Step

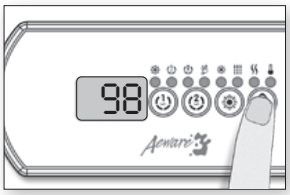
in.yt model

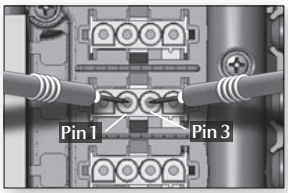


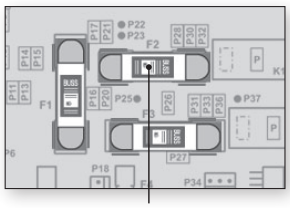


Circulation pump fuse (F21)

in.ye model







Circulation pump fuse (F2)

If circulation pump is not working:

- Verify low-level programming configuration.
- Start circulation pump by setting temperature set point 2 °F higher than actual water temperature.

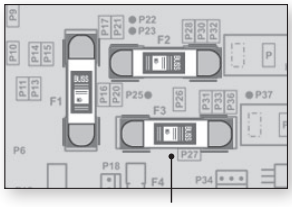
- Take voltage reading on the corresponding AMP connector:

  Pin 1 & Pin 3

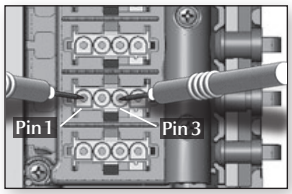
  Your reading should be:
  240 V for
  a 240 V pump

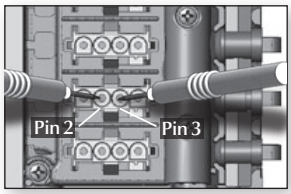
  120 V for a
  120 V pump

- If you don't get a voltage reading, replace the accessory fuse.
- If changing the fuse does not fix the problem, replace the spa pack.
- If voltage is as it should be, replace circulation pump.



Pump 2 fuse (F3)





- If Pump 2 does not work in either speed, replace Pump 2 fuse.
- If replacing the fuse is not effective or if Pump 2 works in only one speed, take voltage reading on the corresponding AMP connector.

- Turn Pump 2 to high speed and take voltage reading between:

  Pin 1 & Pin 3

  Your reading should be:

  240 V for a
  240 V pump

  120 V for a
  120 V pump

- Turn Pump 2 to low speed and take voltage reading between:

  Pin 2 & Pin 3

  Your reading should be:

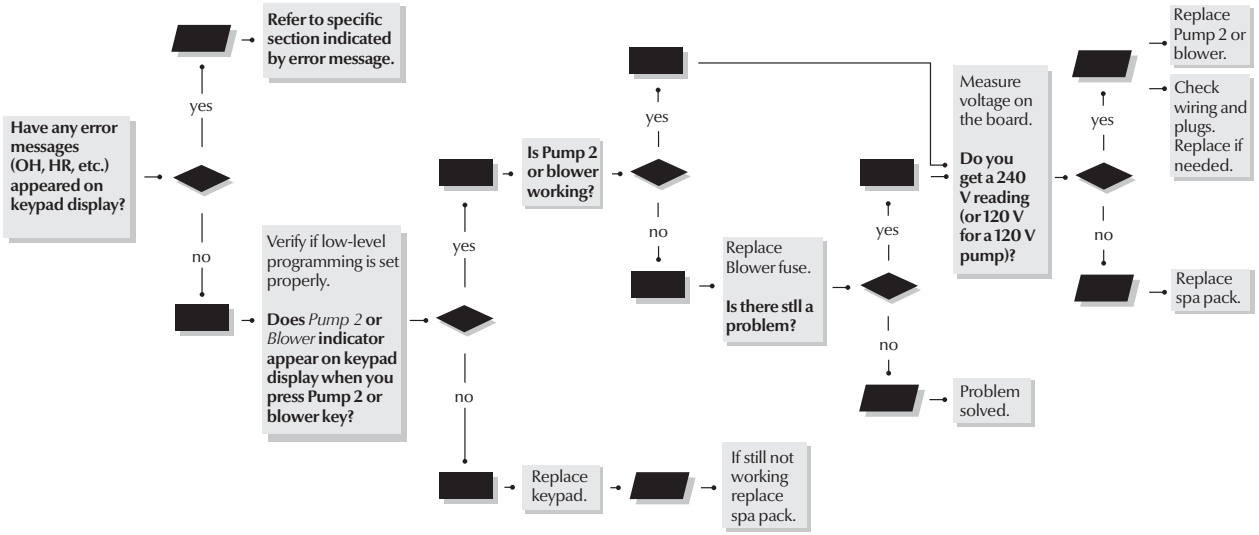
  240 V for a
  240 V pump

  120 V for a
  120 V pump

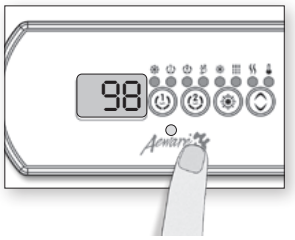
- If voltage is as it should be, replace Pump 2.
- If not, replace spa pack.

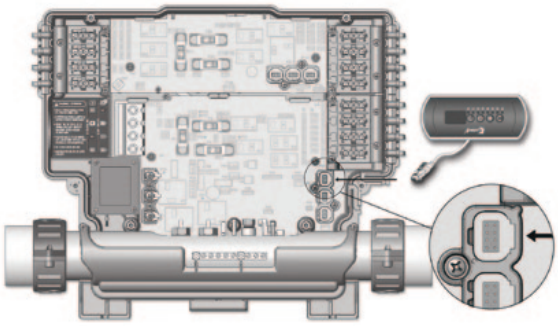
Pump 2 or blower doesn't work / flow chart & step-by-step

If Pump 2 or blower is not working,
follow this troubleshooting flow chart:



Step-by-Step



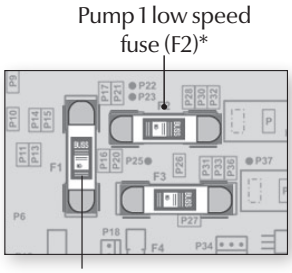


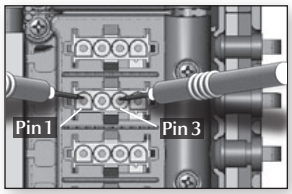
Pump 2 or blower is not working!

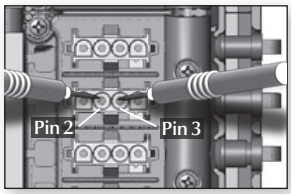
- Check for an error message on keypad display. If there is one, refer to the specific section indicated by the error message.
- Verify low-level programming configuration.
- Verify if Pump 2 or Blower indicator appears on keypad display when you press **Key 2** button.
- If Pump 2 or Blower indicators do not appear, use a spare keypad to verify if keypad is defective.

  If it is, replace keypad.

  If not, replace spa pack.
- If Pump 2 indicator appears when **Key 2** is pressed, verify if pump works in either speed (if dual speed pump).







- If Pump 1 does not work in either speed, replace appropriate Pump 1 fuse.
- If replacing the fuse is not effective or if Pump 1 works in only one speed, take voltage reading on the corresponding in.link connector.

**Pump 1 high and low speed are F2 on the CE version.*

- Turn Pump 1 to high speed and take voltage reading between:

  Pin 1 & Pin 3

  Your reading should be:

  240 V for a
  240 V pump

  120 V for a
  120 V pump

- Turn Pump 1 to low speed and take voltage reading between:

  Pin 2 & Pin 3

  Your reading should be:

  240 V for a
  240 V pump

  120 V for a
  120 V pump

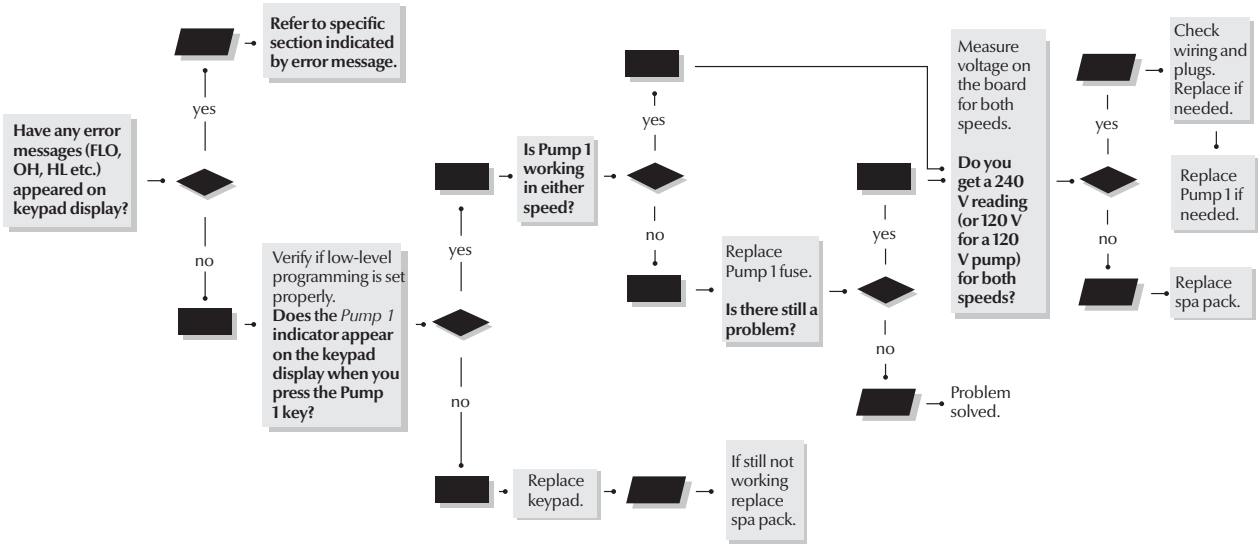
- If voltage is as it should be, replace Pump 1.
- If not, replace spa pack.

Troubleshooting

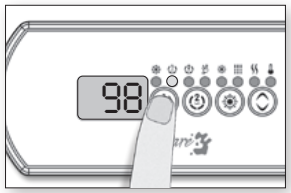
Pump 1 doesn't work / flow chart & step-by-step

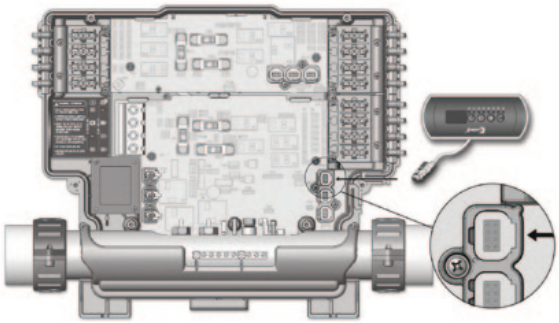
If Pump 1 is not working,
follow this troubleshooting flow chart:

Flow chart



Step-by-Step





Pump 1 does not work!

- Check for an error message on keypad display. If there is one, refer to the specific section indicated by the error message.
- Verify low-level programming configuration.
- Verify if the Pump 1 indicator appears on keypad display when you press **Key 1**.
- If the Pump 1 indicator does not appear, use a spare keypad to verify if keypad is defective.

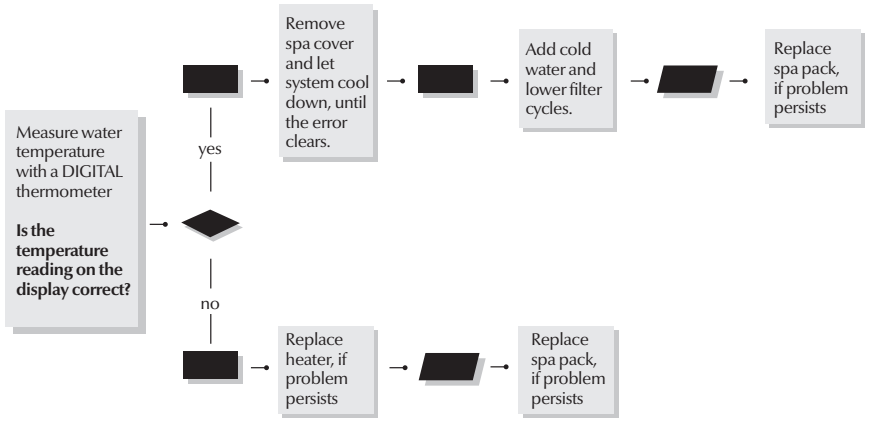
  If it is, replace keypad.

  If not, replace spa pack.
- If Pump 1 indicator appears when **Key 1** is pressed, verify if pump works in either speed.

OH error message / flow chart & step-by-step

OH — Water temp. in the spa has reached 108°F

Flow chart



Step-by-Step

- Measure water temperature with a DIGITAL thermometer and compare its reading with temp. on the display. If temp. reading is different, replace heater.
- Remove spa cover and let spa cool down.
- Add cold water and lower filter cycles.
- If problem persists replace spa pack.

UPL error message / Step-by-Step

UPL — **No low-level configuration software in system!**

Step-by-Step

- New low-level configuration software needs to be downloaded into the spa system; without it the system will not be operable.
- Contact our toll free line for technical support **(1-800-784-3256).**

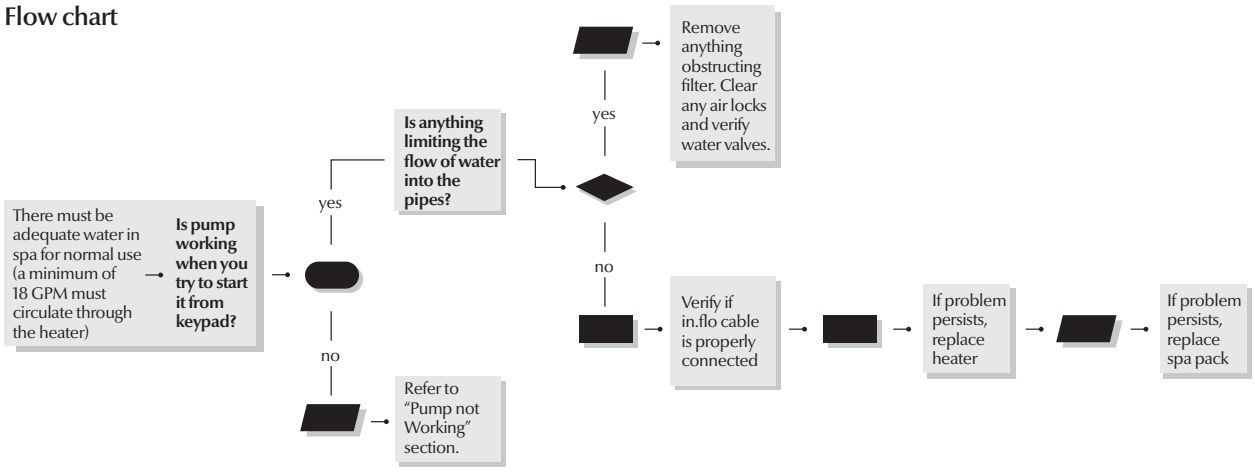
Note: this line is dedicated to assist authorized service technicians and dealers only.

FLO & UPL error message / flow chart & step-by-step

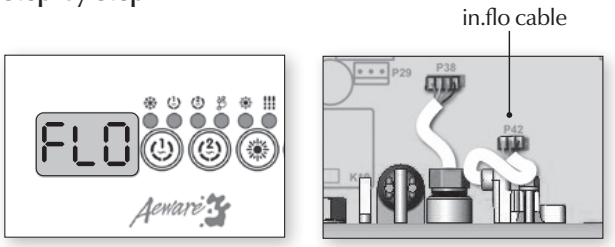
The system did not detect any water flow while the primary pump was running.
Follow the troubleshooting flow chart below to identify the problem:

Make sure that the low-level programming has been properly set, with or without circulation pump (depending on your system configuration).

Flow chart

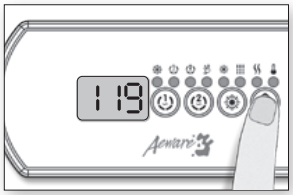


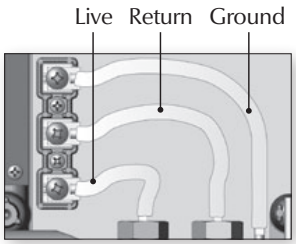
Step-by-Step

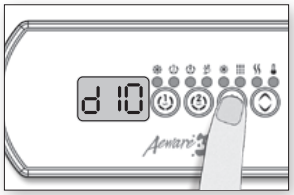


FLO
Primary pump is activated, but the system doesn't detect any water flow

- Make sure water valves are open and that water level is high enough.
- Check and remove anything obstructing the filter.
- Make sure there is adequate flow and that no airlocks are trapped in the unit's plumbing. Pumps may make strange noises. If airlocks are formed, start the pump and slowly loosen one of the union nuts to release the air trapped in the plumbing. Tighten the nut again after you are done.
- Make sure that the pump associated to the heater (primary pump) is running.
- Make sure the in.flo cable (located above the heater) is properly connected.
- If problem persists replace heater.
- If the problem is not solved replace the spa pack.







If weather is very hot:

1. Remove spa cover (even during the night). Start blower if spa is equipped with one. Wait until spa cools down (add cold water if necessary).

   • Shut power off and power the spa up again to reset the system.

If hot weather is not a factor:

2. Lower Set Point below current water temperature.

   The Heater indicator should disappear from keypad display.

3. With a voltmeter, read voltage between the live and ground heater terminals.

4. If you do read 240 V, replace spa pack.

5. If you do not read 240 V, pump may be overheating water during filter cycle.

   Shorten filter cycle duration.

To shorten filter cycle duration:

6. Press and hold the **Light** key for 5 seconds. Display will show a value that represents the filter cycle duration in hours.

7. Use the **Down** arrow key to lower the number of hours.
   0 = no filtration
   12 = continuous filtration

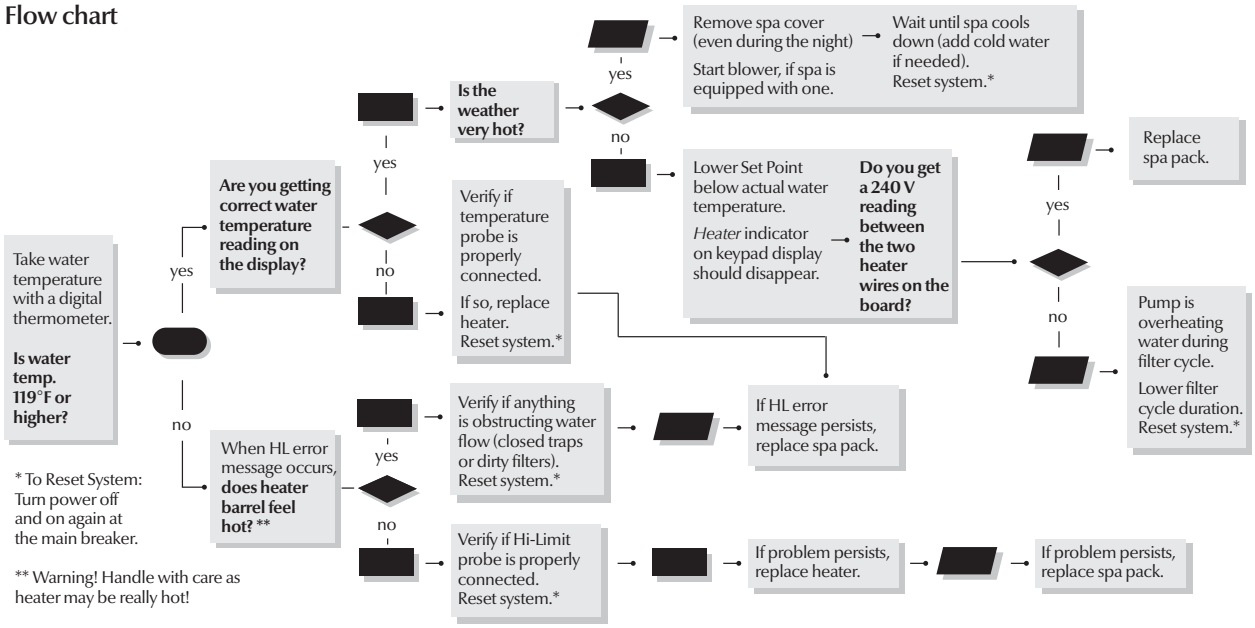
   When the desired setting is displayed, Press the **Light** key again. The filter cycle will start immediately.

HL error message / flow chart & step-by-step

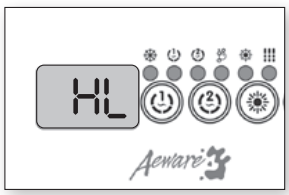
HL

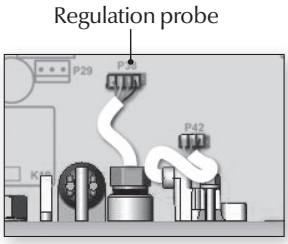
The system has shut down because the temperature at the heater has reached 119°F (48°C).

Flow chart



Step-by-Step





HL

Water temperature at the heater has reached 119°F

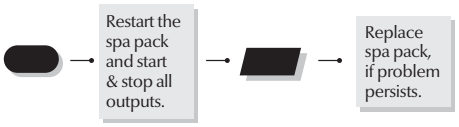
1. Measure the temperature with a DIGITAL thermometer and compare its reading with temp. on the display. Make sure the temp. reading is lower than 119°F.

2. If reading is below 119°F:
   - Carefully check if heater barrel feels hot. If it's hot, verify if anything is obstructing water flow (closed valves or dirty filter).
   - Shut power off and power the spa up again to reset the system.
   - If HL error persists, replace heater.
   - If HL error persists, replace spa pack.

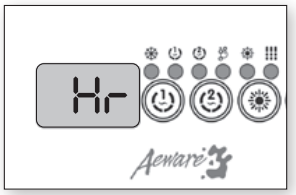
3. If reading is 119°F or higher:
   - Verify if the Temp. & High Limit probes are properly connected.
   - Shut power off and power the spa up again to reset the system.
   - If problem persists, replace heater.
   - If problem persists, replace spa pack.

Hr error message / flow chart & step-by-step

Hr An internal hardware error has been detected



Step-by-Step

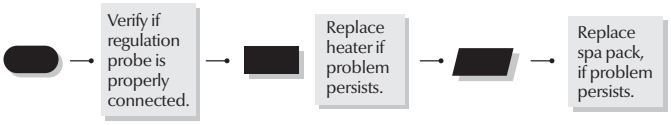


- Restart the spa pack and start & stop all pumps and blower.
- If error reappears, replace the spa pack.

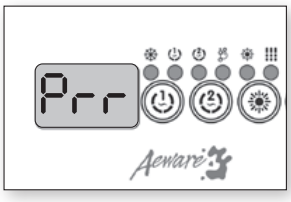
Prr error message / flow chart & step-by-step

Prr Regulation probe issue

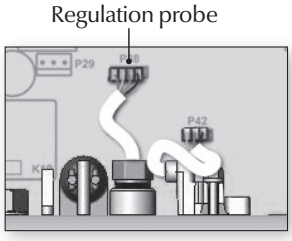
Flow chart



Step-by-Step



- Verify if regulation probe (located above the heater) is properly connected.

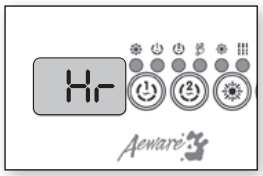


- Replace heater if problem persists.
- Replace spa pack, if problem persists.

Y Series error codes

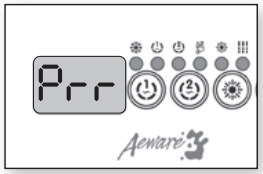
Error codes indicate a failure condition or a problem which needs to be corrected to ensure proper functioning of the system. Both the error code and the water temperature are alternatively displayed.

All errors codes will be displayed on the keypad display.



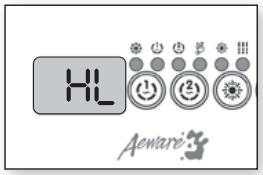
Hr

An internal hardware error has been detected in the spa pack.



Prr

The Prr error message indicates a problem with the regulation probe. The system is constantly verifying if temperature probe reading is within normal limits.



HL

Water temperature at the heater has reached 119°F.
Do not enter spa water!

FLO

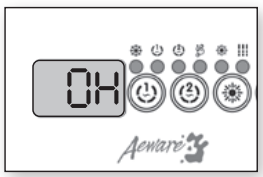
The system did not detect any water flow while the main pump was running.

UPL

No low-level configuration software has been downloaded into the system.

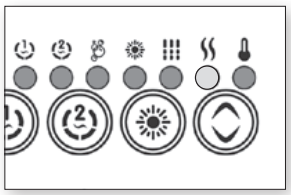
AOH

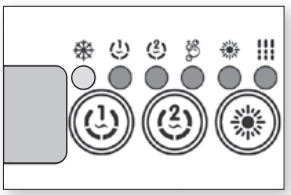
Temperature inside the spa skirt is too high, causing the internal temperature in the spa pack to go above normal limits.



OH

Water temperature in the spa has reached 108°F.
Do not enter spa water!





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.

The system verifies periodically that all parameters are within normal range.

If the readings received from the system are not valid, blanks (- - -) will be displayed until normal readings have been successfully recorded.

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.

Cool down

After heating the spa water to the desired Set Point, the heater is turned off, but its associated pump (Pump 1 low-speed or CP) remains on for a certain amount of time to ensure adequate cooling of the heating element, prolonging its life.

The Heater icon flashes during this time.

Typical settings

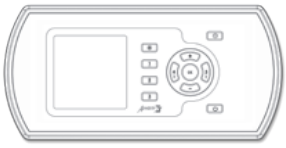
Adjustable Regulating Set Point:	59°F (15°C) to 104°F (40°C)
Factory Default Set Point:	Typical 95°F (35°C) / Max 100°F (38°C)
Filter Cycle Duration:	0 to 24 hrs / Factory set at 2hrs
Filter Cycle Frequency:	1 to 4 times a day / Factory set at 2
Filter Cycle Start:	00:00 to 23:59 / Factory set at 12:00
Pump Runtime:	1 to 255 min. / Factory set at 20 min.
Light Timeout:	1 to 255 min. / Factory set at 120 min.

Keypads available for the Y Series:

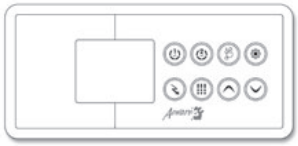
in.k19

in.k35

in.k200 (LED display, 4 keys, 8 light indicators)



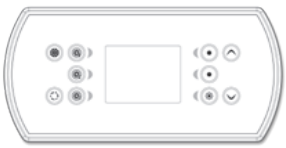
in.k600 (streamlined)



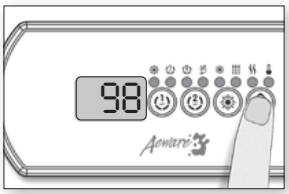
in.k4

in.k8

in.k450 (LCD display, 6 keys, 10 function icons)



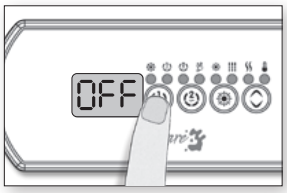
in.k800



Up/Down key

Use the **Up**/**Down** keys to set desired water temperature. The temperature setting will be displayed for 5 seconds to confirm your new selection.

When the Set Point indicator is lit the display shows the desired temperature, NOT the current water temperature!



Off Mode

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

Press and hold **Key 1** for 5 sec. to activate the Off mode. Press **Key 1** to reactivate the system before the expiration of the 30 minute delay.

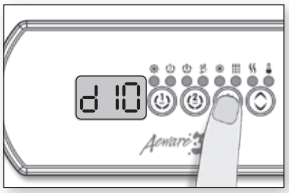
While the Off mode is engaged, the display will toggle between OFF and the water temperature.

Programming the system

Depending on system configuration the system performs either purge cycles or filter cycles.

Filter cycles

To program the filter cycles, you must enter the duration and frequency. During a filter cycle, pumps & blower run at high speed for one minute to purge the plumbing. Pump 1 or CP then runs at low speed for the remainder of the cycle.



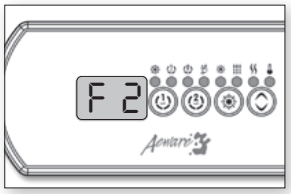
Setting filter cycle duration

Press and hold the **Prog** or **Light** key until the display shows d xx, with "xx" representing the duration in hours.

Use the **Up**/**Down** keys to change setting.

0 = no filtration
24 = continuous filtration

Note: it's not recommended to set this to "0".



Filter cycle frequency

Press the **Prog** or **Light** key again. The display will show Fx, with "x" representing the number of filter cycles per day (up to 4).

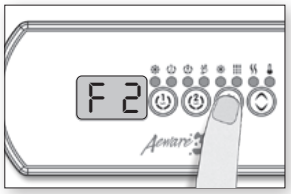
Use the **Up**/**Down** keys to change the setting.

When the desired setting is displayed, Press the **Light** key to confirm. A filter cycle will start immediately.

The Filter indicator lights up when a filter cycle is on.

Purge cycles

To program the purge cycles, you must select the frequency. During a purge cycle, all pumps and the blower run for one minute.



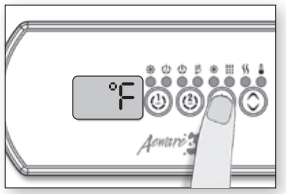
Purge cycle frequency

Press and hold the **Light** key until the display shows Fx, with "x" representing the number of purge cycles per day (up to 4).

Use the **Up**/**Down** keys to change setting.

When the desired setting is displayed, Press the **Light** key to confirm. A purge cycle will start immediately.

The Filter indicator lights up when a purge cycle is on.



Setting the temperature display units

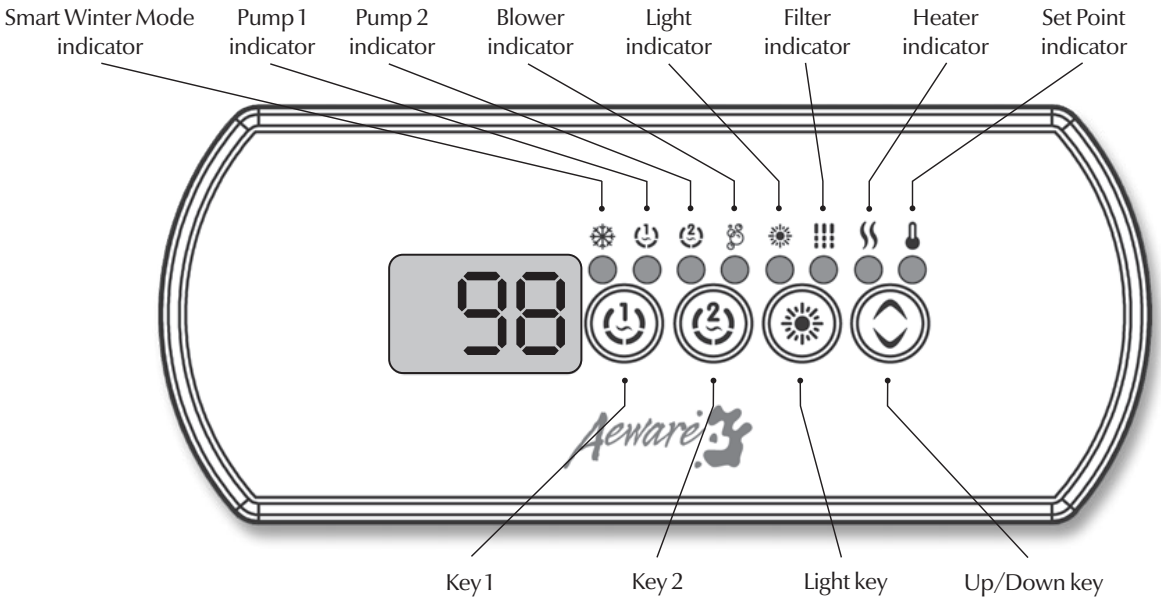
Press the **Light** key again. The display will show either °**F** or °**C**.

Use the **Up**/**Down** keys to change units.

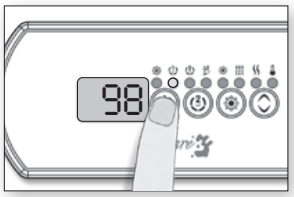
Press the **Light** key a last time to go back to normal mode.

°**F** = Fahrenheit
°**C** = Celsius

Function description



Instructions

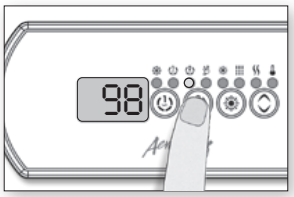


Key 1

Press **Key 1** to turn pump 1 on at low speed. Press a second time to turn pump to high speed (with a dual-speed pump). A third time turns the pump off.

A built-in timer automatically turns pump off after a predetermined period of time, unless it has been manually deactivated.

The Pump 1 indicator lights up when pump 1 is on. With dual-speed pump, the indicator will flash when pump 1 is on at low speed.



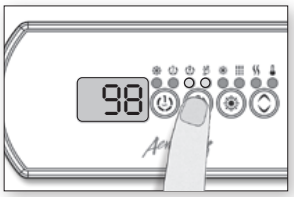
Key 2 (single pump or blower)

Press **Key 2** to turn pump 2 or the blower on. Press a second time to turn the pump or blower off.

A built-in timer automatically turns the pump off after a predetermined period of time, unless it has been manually deactivated.

The Pump 2 and/or Blower indicator lights up when the corresponding output is on.

Note: with dual-speed pump, the indicator will flash when Pump 2 is on at low speed.

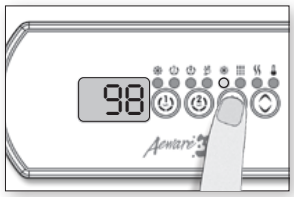


Key 2 (single pump & blower)

Press **Key 2** to turn Pump 2 on at high speed. Pressing a second time turns blower on. A third press turns Pump 2 off but leaves blower on. A final press turns blower off.

A built-in timer automatically turns pump/blower off after a predetermined period of time, unless it has been manually deactivated.

The Pump 2 and/or Blower indicator lights up when the corresponding output is on.



Light key

Press the **Light** key to turn light on. Press the **Light** key a second time to turn light off.

A built-in timer automatically turns light off after a predetermined period of time, unless it has been manually deactivated.

The Light indicator lights up when light is on.

Keypad overview

The following instructions are generic and provide a quick overview of the main keypad functions. Please refer to your own QRC for specific functions.

The Y Series spa pack is compatible with the following keypads: in.k200, in.k400, in.k450, in.k600 (streamlined). In.k19, in.k35, in.k8 (with in.link connector) and in.k800 (color display).

WATER CHEMISTRY GUIDELINES

IMPORTANT! It is essential that regular maintenance and proper chemistry be maintained to avoid possible damage to the spa or equipment. Failure to maintain the correct chemical balance can void your warranty. Since water chemistry varies from region to region, you should refer to your spa dealer for advice on how to best treat the water in vour area.

While filling the spa with water, it is necessary to use the appropriate chemicals to bring the water to the correct chemical balance. Be sure to follow the chemical manufacturer's recommendations and guidelines for proper use of chemicals.

Failure to maintain the proper pH (between 7.2 and 7.6) can cause eye burns, skin rashes and other discomforts as well as clogged pipes, staining and heater element damage.

Recommended alkalinity is between 100-150 PPM (parts per million).

Chlorine content should not exceed 2 PPM, except occasionally during "super chlorinating". Super chlorinating is used only to treat fresh water after completely draining the spa, and after periods of heavy use. For guidelines on water hardness, refer to your spa dealer.

CHEMICAL SAFETY

Add only one chemical at a time to the water. Never mix chemicals or chemical solutions together. Follow the manufacturer's instructions for dilution and precautions of all chemicals. When diluting chemicals, add the chemicals to water, do not add water to chemicals. When working with acid, avoid skin contact.

MAINTAINING YOUR SPA

TROUBLESHOOTING—SPA WATER

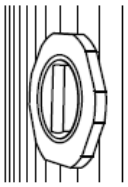
SYMPTOM	POSSIBLE CAUSE	SOLUTIONS
WATER ODOR	⇉ Low pH ⇉ Bacterial or algae growth	⇉ Raise pH with chemicals ⇉ Shock the spa. If the problem can be seen, draining and cleaning the spa might be needed.
CLOUDY WATER	⇉ Dirty filter ⇉ High pH ⇉ Over-used or old water ⇉ Suspended particles ⇉ Excessive oils/organic matter	⇉ Clean the filter ⇉ Adjust pH ⇉ Drain the spa, clean and refill ⇉ Use clarifier ⇉ Shock the spa
FOAMING	⇉ Excess of body oils, lotions, and/or soaps or detergents	⇉ Add de-foamer or drain the spa, clean and refill
ORGANIC BUILDUP AROUND THE SPA	⇉ Body oils and dirt	⇉ Wipe scum with a clean rag. If the problem is severe, drain the spa, use a spa surface cleaner and refill. ⇉ Clean the filter
ALGAE/ WATER MOLD	⇉ High pH ⇉ Low chlorine, bromine	⇉ Shock the spa. Adjust pH. ⇉ Shock the spa. Adjust chlorine/bromine level and maintain at recommended levels

IMPORTANT MAINTENANCE GUIDELINES

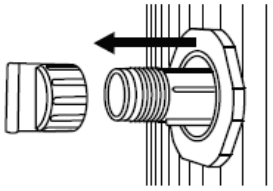
Twice a week **IMPORTANT** **Keep sand and dirt out of spa.** Sand and dirt will damage your spa's components. Remove any sand or dirt from your spa as soon as possible.	**Check water level.** Fill the spa up to a least one-half the depth of the filter opening. Check and adjust bromine or chlorine level. (Bromine is chlorine is used to sanitize water. **Test the spa water.** As needed: ⇉ Adjust pH and total alkalinity. ⇉ Check and adjust bromine. (if bromine is used to sanitize water) ⇉ Adjust chemicals as needed. **Check spa cover** and make certain it is positioned correctly and water or snow is not accumulating on cover.
Monthly	Inspect and clean the spa filter cartridge.
Two months (heavy usage) **Five months** (light usage)	**Drain your spa.** Refill with clean water. Follow the procedures outlined in the FILL THE SPA section of this handbook
Once a year	**Replace** spa filter cartridge. Clean and stain your spa cabinet. Note: Do not use a wood sealer on cedar.

DRAINING

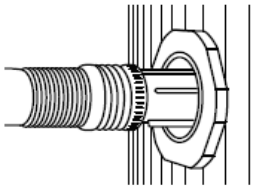
It is recommended to completely drain the spa at least four times a year. Otherwise, the water becomes chemically "saturated" and no longer responds to regular chemical upkeep. To drain the spa, turn off the power supply to the spa. Turn OFF the main power switch. Unplug the electrical cord (if equipped), or turn OFF the circuit breakers. The drain valve will drain approximately 5 gallons per minute.



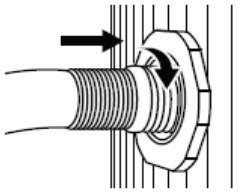
1. Inset closed position



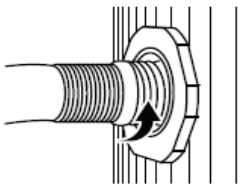
2. Extended closed position



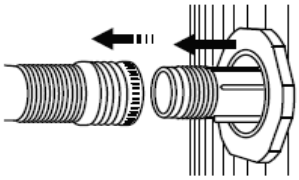
3. Full extended closed position (attach garden hose In the full extended closed position).



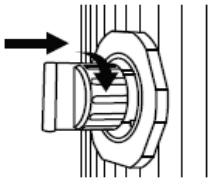
4. Open position for draining (turn hose and fitting ¼ turn clockwise and insert ½ way to open position for draining).



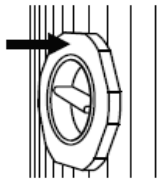
5. Open position for drainin (turn hose and fitting ¼ tur counter clockwise and pull to full extended closed position).



6. Full closed extended position (remove hose and replace cap).



7. With replaced cap screw on, turn ¼ turn clockwise a push in all the way to insert closed position.



8. Closed inserted position.

REMOVING THE FILTER

First, turn off power to spa. Remove the floating weir and pre-filter basket by turning base ring counter clockwise to reveal the filter cartridge. Carefully, remove the filter for inspection and cleaning. After the filter is cleaned or replaced, carefully reinstall the filter in the filter housing. Make sure to securely seat the filter in the bottom of the filter housing. Replace the floating weir and pre-filter basket.

REFILLING

Fill the spa with fresh water from a garden hose. You can use on in-line garden hose filter cartridge. After filling add the necessary chemicals to achieve the proper chemical balance.

CLEANING

It is possible to clean your spa without draining it. The water line can become soiled, and should be wiped clean with a soft cloth or sponge. Do not use any abrasive cleaners as they can scratch and dull the surface. Use spa cleaner, which can be obtained at an authorized spa dealer.

SPA COMPONENTS AND OPERATION

HIGH EFFICIENCY HEAT RETENTION COVER

A highly energy efficient hard cover is supplied by the factory or in some cases from your local dealer. The use of an insulating hard foam cover is recommended to help keep the cost of heating of your spa as economical as possible. Follow the cover manufacturer's recommendations on cleaning the cover. The hard cover should be kept on the spa when not in use to help prevent heat loss. This will help maintain a more consistent water temperature in between spa uses.

HEATER HIGH-LIMIT PROTECTION SYSTEM

Your spa is equipped with an high limit/ over heat protection system. The system will shut the heater down if the temperature at the heater has reached 119°F (48°C). **Do not enter the water!** Turn off the power, remove the spa cover and allow the water to cool down. After water has cooled down power your spa up again to reset the system. If the high limit protection system is activated repeatedly, do not use your spa until the problem has been corrected. Contact your local spa dealer to correct this problem.

AIR CONTROL VALVES

Air control valves will help enhance your jet experience by injecting air into the water stream giving the jets increased performance. To activate, locate the air control valves located a the top rail of your spa. Turn the valve until you to achieve the desired jet performance.

ADJUSTING THE JETS

Your spa is fitted with adjustable, fully directional hydro-jets. The jet action can be directed by aiming the swivel ball nozzle. The water flow through some jets can be regulated turning the jet face clockwise or counter-clockwise.

UNDERWATER SPA LIGHT

Your spa is equipped with an underwater spa light located in the spa interior. The low-voltage 12-volt system produces a bright white light for use in the spa, and makes entering the spa safer. The light control switch is located on the spa control panel. To replace a burned-out bulb, open the equipment bay door to find the spa light housing attached to the spa side. Remove the lamp socket from the back of the light assembly by turning and pulling at the same time. Gently pull the bulb out of the lamp socket, and replace with a similar bulb available from your spa dealer. Installation is reverse of removal.

SPA SURROUND MAINTENANCE

Your spa has either the “Eco-wood” low maintenance siding or natural cedar siding. The Eco-wood siding is very low maintenance. If the Eco-wood needs to be cleaned a spray from a garden hose or light to medium spray from a pressure washer will work fine. A soft cloth or towel can be used to wipe the siding as required. The natural cedar skirting should be stained annually with an exterior-grade wood treatment for weather protection. If cleaning is required caution should be used with a pressure washer as not to damage the wood.

GENERAL SPA CARE

To avoid damage to the heater and pump, the spa support system must never be run without water in the spa. Inspect or clean the filter cartridge weekly (or as needed). Clean it more often during frequent spa use. A dirty filter inhibits the water flow, thereby reducing the jet action, the efficiency of the heater, and could damage the pump seal.

DO NOT COVER YOUR SPA WITH ANY TRANSPARENT OR PLASTIC COVER.

Clear "solar blankets" are not recommended because they can create a solar oven effect that could cause structural warping, blistering, fading of the acrylic surface and jet damage and will void your warranty.

SERVICE RECORDS & NOTES
