AquaComfort Solutions

OWNER'S MANUAL

844.770.HEAT • www.AquaComfort.com

Table of Contents

Start Up	2
Electronic Control Panel	2
Mode of Operation	5
Maintenance	6
Winterizing	9
Troubleshooting	9
Requesting Service	11
Warranty	12
Warranty Registration	14

Start Up

ON/OFF MODE

When in OFF Mode the display will show actual water temperature for six seconds and then display OFF for two seconds. When the unit is set on, it will show the actual water temperature for six seconds and then show HEA for two seconds. To switch the unit from off to on, Press the SELECT KEY until you reach OFF. Then immediately press the down arrow twice. The display should read on in lower case letters. To switch the unit from on to off, Press the SELECT KEY until you reach OFF. Then immediately press the up arrow twice. The display should read off in lower case letters.

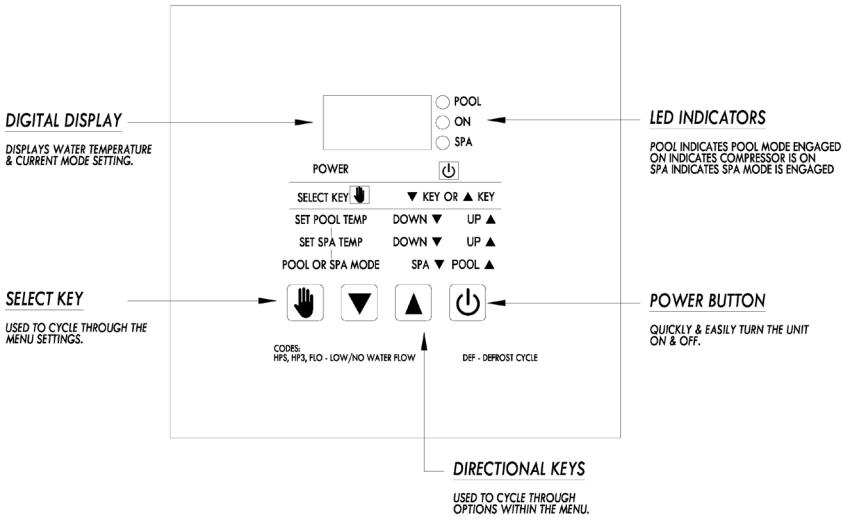
NOTE: Some units will have a power button (⏻) on the control board. Pressing this simply turns the unit on or off with one press.

NOTE: The fan may take **3-5 minutes** to start after pressing the power button.

Electronic Control Panel

The control panel will display the actual Pool or Spa water temperature for six seconds and then display the mode of operation that it is currently in (HEA, COL, AUt or OFF) for two seconds.

MENU OPTIONS



The unit will be factory preset as follows:

- Heat only unit: Will be programmed in “Pool mode (POL)” to “heat” and set to desired temperature of 82°F.
- Chill only unit: Will be programmed in “Pool mode (POL)” to “cool” and set to desired temperature of 87°F.
- Heat/Cool unit: Will be programmed in “Pool mode (POL)” to “auto” and set to desired temperature of 87°F.

FACTORY SELECT MENU

Pool Mode Set Point:
When SELECT button is pressed the control displays pool set point screen “POL”

- The set point is raised by pressing the UP button up to desired temperature. (95°F, 35°C maximum)
- The set point is lowered by pressing the DOWN button down to 61 (61°F, 10°C). When DOWN button is pressed again then “OFF” will be displayed.
- The set point is adjusted faster by holding pressed UP or DOWN button.

Spa Mode Set Point:
When SELECT button is pressed again after POL is displayed the control displays spa set point screen “SPA”

- The set point is raised by pressing the UP button up to desired temperature. (104°F, 40°C maximum)
- The set point is lowered by pressing the DOWN button down to 61 (61°F, 16°C) . When DOWN button is pressed again then “OFF” is displayed.
- The set point is adjusted faster by holding pressed UP or DOWN button

Solar Mode Set Point
This feature shows only when enabled in Configuration menu.
When SELECT button is pressed again after SPA is displayed the control displays spa set point screen “SSP”

- The set point is raised by pressing the UP button up to 105 (105°F, 41°C)
- The set point is lowered by pressing the DOWN button down to 61 (61°F, 16°C). The value for SSP may be equal to or greater than the value for POL but not lower when operating in pool mode. The value for SSP may be equal to or greater than the value for SPA but not lower when operating in spa mode.
- The set point is adjusted faster by holding pressed UP or DOWN button

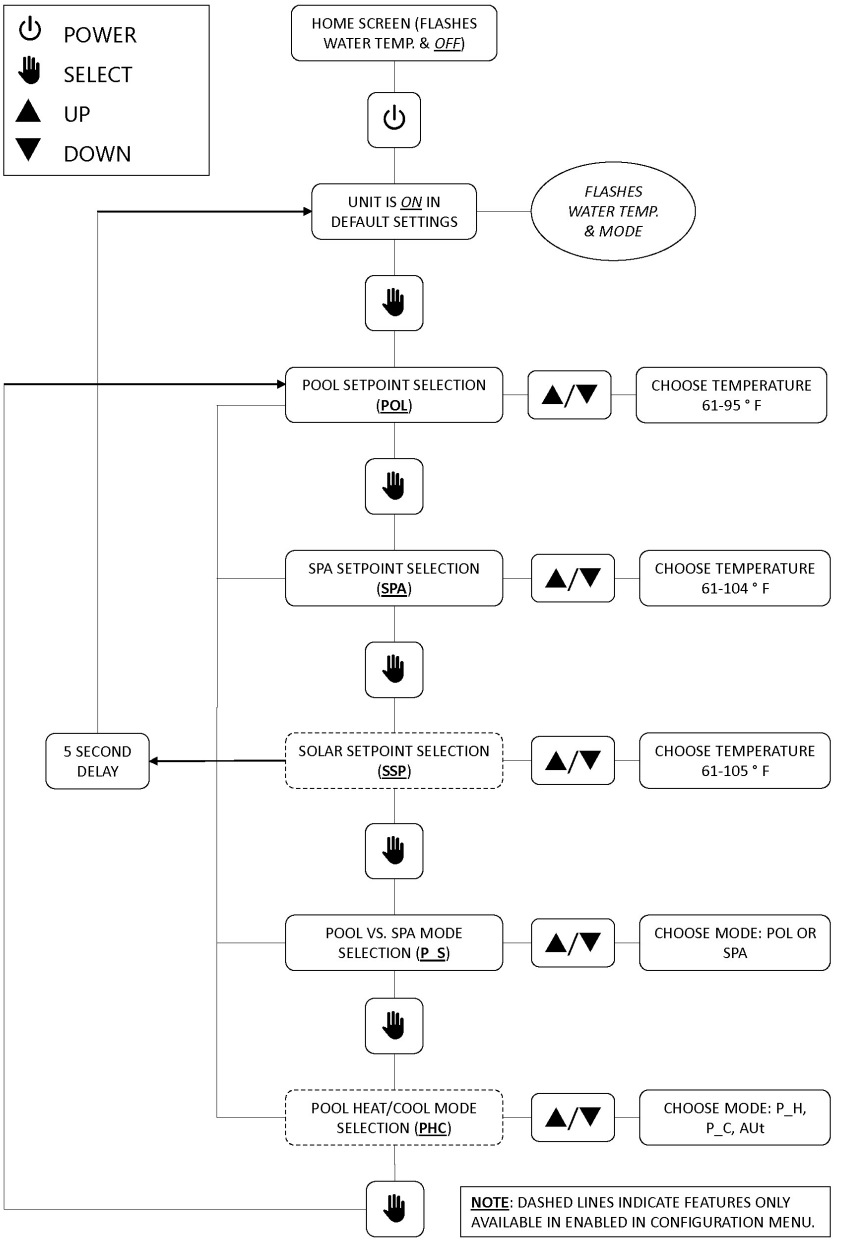
Pool vs. Spa Mode Selection
When SELECT button is pressed again after SPA or SSP display then shows Pool vs. Spa mode screen is, “P_S”

- Pool mode is selected by pressing UP button
- Spa mode is selected by pressing DOWN button
- Note this will be overridden by the remote pool spa switch.

Pool Heat vs. Cool Mode Selection
This feature shows only when enabled in Configuration menu.
When SELECT button is pressed after P_S display the control displays pool heat vs. cool mode screen “PHC”

- With UP button user sets the Pool Heat mode, “P_H”
- With DOWN buttons user sets the Pool Cool mode, “P_C”
- With either UP or DOWN buttons a second time user sets the Auto mode, “AUt”. This is set for heat-cool units to automatically switch between heating and cooling.

FACTORY SELECT MENU CHART



Mode of Operation

HEAT ONLY UNIT

- Power up the unit. The fan will start up and the board will display “rXX” and then it will display the current pool water temperature. Your Pool LED light will light up as well. Your pre-set desired pool water temperature is 82. To adjust up or down to a different desired pool water push the select/service button (the hand button) until “POL” appears and then use the up or down arrows to set your desired temperature.
- Once the desired temperature is set, within a short time the board will revert to displaying the actual pool water temperature.
- Within 5 minutes of start up the ON LED will illuminate to indicate that the heat pump is heating. The board will then display the current pool water temperature and “HEA” intermittently.

AquaCOOL UNIT

- Power up the unit. The fan will start up and the board will display “rXX” and then it will display the current pool water temperature. Your Pool LED light will light up as well. Your pre-set desired pool water temperature is 87. To adjust up or down to a different desired pool water push the select/service button (the hand button) until “POL” appears and then use the up or down arrows to set your desired temperature.
- Once the desired temperature is set, within a short time the board will revert to displaying the actual pool water temperature.
- Within 5 minutes of start up the “ON” LED will illuminate yellow to indicate that the chiller is cooling. The compressor will start, the board will then display the current pool water temperature and “COL” intermittently.

HeatCOOL UNIT

- Power up the unit. The fan will start up and the board will display “rXX” and then it will display the current pool water temperature. Your Pool LED light will light up as well. Your pre-set desired pool water temperature is 87. To adjust up or down to a different desired pool water push the select/service button (the hand button) until “POL” appears and then use the up or down arrows to set your desired temperature.
- Once the desired temperature is set, within a short time the board will revert to displaying the actual pool water temperature.
- Within 5 minutes of start up the “ON” LED will illuminate to indicate that the heat pump is heating. The compressor will start, the board will then display the current pool water temperature and either “HEA” or “COL” intermittently depending on whether your unit is heating or cooling.

HEATING IN SPA MODE

- Use the select/service button to scroll through the menu until “P_S” is displayed. Use the up or down arrow key to select “S”. The “Spa” LED will illuminate. Once water temperature appears, use the up or down arrow buttons to set desired Spa temperature. Within 5 minutes of start up the “ON” LED will illuminate to indicate that the heat pump is heating. The board will then display the current spa temperature and “Spa” intermittently.

SOLAR DIFFERENTIAL CONTROL

- All models have a controller with the ability to control a solar pool heating system without having to use an external solar controller. Solar mode may be enabled in pool and spa heat modes. Solar mode is disabled by default.
- When enabled the control will send power to a 24 VAC diverter valve to divert water flow to, or away from, the solar collector loop.
- The call to divert water to the solar loop is initiated when the difference between the solar sensor and the water sensor is equal to or greater than the solar differential start setting (SDS) AND the water sensor reading is less than the solar set point setting (SSP).
- The call to turn the diverter back to the pool and away from the solar loop (home position) is initiated when the difference between the solar sensor and the water sensor is equal to or less than the solar differential off setting (SDO) OR the water sensor reading is equal to or greater than the solar set point setting (SSP).
- When P_C is enabled and the controller switches to cooling mode then solar mode will be disabled until the cooling mode is deactivated.
- When solar mode is activated heat pump heating mode is deactivated for a minimum 3 minutes. After 3 minutes heat pump heating mode will be reactivated if conditions dictate so. This time delay will prevent the compressor from damage due to short cycling.

Maintenance

TEMPERATURE SET POINT

- Temperature set point maximum for POOL mode is 95°F (35°C).
- Temperature set point maximum for SPA mode is 104°F (40°C).
- Temperature set point maximum for SOLAR mode is 105°F (41°C) displayed for 5 seconds, then revert back to the actual pool or spa water temperature.

NOTE: HeatCOOL UNITS WILL ONLY COOL IN THE POOL MODE. (NOT SPA MODE)

- Turn power supply to heat pump ON.
- The control panel will light up and display either OFF or the actual pool water temperature.
- See Electronic Control Panel section (page 2-3) to program the unit.

- For initial heating, the pool heat pump and filter pump should run continuously until your desired temperature is reached. Once desired pool water temperature is achieved, turn the filter pump time clock to the ON position and set filter pump hours. After initial heating and desired temperature is achieved, the heat pump will run only to maintain the desired temperature.
- If your programmed water temperature is above the actual water temperature, the fan and compressor will start once the time delay is satisfied.

NOTE: Each time the compressor turns off it is protected by a 5 minute delay to prevent short cycling.

OPERATING HOURS

Initial heating may require you to run the heat pump and filter pump continuously until desired temperature is achieved. Once temperature is achieved, heat pump/filter run time is dependent on the following factors:

- Size of pool.
- Temperature difference between actual water temperature and desired water temperature.
- Ambient air temperature (the cooler the air temperature the longer the heating time).
- Heat loss (evaporative, convective, radiative and conductive).
- A pool cover/solar blanket may reduce initial heating time substantially.

REDUCING HEAT LOSS - POOL COVER / SOLAR BLANKET

We highly recommend the use of a pool cover/solar blanket. Covering the pool is the single most cost-effective means of reducing heat costs by as much as 70%. Heating a pool without a cover is like heating a house without a roof. Evaporation accounts for the greatest percentage of pool heat loss; the beneficial effect of using a pool cover or solar blanket can be dramatic.

WIND SPEED REDUCTION

Reducing wind velocity at the water surface reduces convective and evaporative losses. Fences, trees, hills, or tall hedges close to the pool perimeter are effective windbreaks. Locate the obstructions to take the maximum advantage of their effectiveness as windbreaks, without shading the pool surface from the sun.

DEFROST CYCLE

The heat pump pool heater has an automatic defrost function. When the outdoor temperature drops below 40 °F, frost may start to form on the evaporator (air) coil. Frost buildup will be heaviest on humid days when the temperature is between 35 and 40° F. During the defrost cycle, the display will show “DEF” indicating the unit is defrosting. During this time the compressor is inactive and the fan will run.

- Defrosting applies in pool and spa heat modes.
- Defrosting occurs when evaporator sensor reading is below 28°F (-4°C).
- Defrosting is terminated when evaporator sensor reading is above 40°F (4.5°C).
- During air defrosting, the compressor is turned off but the fan keeps running.

- During reverse cycle defrosting compressor will keep running, fan will shut off, and the reversing valve is engaged. Evaporator temperature conditions for initiation and termination of defrosting are the same as for air defrosting above.
- During defrosting “DEF” is displayed.

INTERNAL PROTECTION ANALYZERS

- The heat pump is equipped with internal devices to monitor and protect the integrity of the unit. If an abnormal condition occurs, the device will interrupt the operation of the unit and may display the appropriate code on the control panel.
- LOW WATER FLOW: Indicated by “HPS” or “HP3” on the control panel. The heat pump is designed to run efficiently above twenty (20) GPM. If there is insufficient water flow the unit will shut down to protect the compressor. The usual causes for these conditions are a dirty pool water filter, a restriction in the return line (i.e. skimmer), or improper valve positioning.
- NO WATER FLOW: Indicated by “FLO” on the control panel. When the filter pump is off, or if the water flow to the heat pump is interrupted during the heating mode, the internal water pressure switch will shut down the unit. When normal water flow resumes, the heat pump will automatically restart itself as long as there is a call for heat.
- Other analyzer codes include: “LPS”, “tSO”, “tSS” and “ESO” and “ESS”.

QUICK VIEWING OF EVAPORATOR & SOLAR SENSOR READING

- The Evaporator reading will be shown when the SELECT and UP buttons are pressed and held for 5 seconds. After 5 seconds control reverts back to show water temperature reading.
- The Solar reading will be shown when the SELECT and DOWN buttons are pressed and held for 5 seconds. After 5 seconds control reverts back to show water temperature reading.

KEYPAD LOCKOUT FEATURE

This feature will work as follows:

Setting the Lockout Code:

- Press Select menu and hold it pressed **AND** power the control up.
- Then control will show the spacing for two digits “_ _” from cover value from 00 to 99.
- The user enters the desired code and presses SELECT to save value. Factory default value is 20.

Locking Process:

- To lock the keypad user will press SELECT button for 5 seconds and display will show spacing for a two digit code “_ _”
- User presses the Up or Down buttons to enter the code saved from the setup of the lockout feature value from 00 to 99.
- User will enter the code according to the pre-set code.

Unlocking Process:

- To unlock the keypad user will press SELECT button for 5 seconds and display shows spacing for a two digit code "_ _" at the right hand side
- User enters the saved code value and presses SELECT button
- If correct code is entered then control switches to show water temperature
- If incorrect code is entered then control will flash "LOC" for 3 seconds and switch back to "_ _"
- If nothing is entered for the next 5 seconds then control will switch to show water temperature and remains locked.

Winterizing

We highly recommend that your pool be opened and closed by a pool professional. Freeze damage, caused by improper winterizing is not a defect. Repair of freeze damage is expensive and not covered under warranty.

- Turn thermostat settings to OFF. Turn filter pump to OFF.
- Turn power to unit OFF (i.e. pull disconnect or turn circuit breaker OFF).
- Disconnect water inlet and outlet unions at the back of the unit. (Be careful not to lose the rubber o-rings.)
- Flush the heat pump piping out with fresh water to remove any residual chemicals.
- Use low-pressure air or vacuum to remove water that has accumulated inside the piping of the heat pump.

Troubleshooting Checklist

- Check to see that the electrical power is on. Reset breakers, or replace fuses if necessary.
- Check to be sure the electric control panel is set properly. The desired temperature must be set above the actual pool or spa temperature for the heat pump to run.
- Check to make sure the evaporator coil has enough clearance and that there are no restrictions to its airflow.
- Certain ambient air conditions may cause the heat pump to go into defrost mode, displayed on the control panel as "DEF".

NOTE: IT IS NORMAL FOR WATER TO DRIP FROM THE DRAINHOLES AT THE BASE OF THE HEAT PUMP. THE UNIT PRODUCES CONDENSATION WHEN IT OPERATES.

Often this condensation is mistaken for a leak in the unit. There are 2 quick ways to check to see if your "leak" is condensation. Check as follows:

- Use a chlorine test strip to test the water coming out of the base of the heat pump. If there is no chlorine present and it doesn't match the water in your pool, it is condensation
- Turn the heat pump off for a few hours but continue running your filter pump. If the base of the heat pump dries up then your fluid is condensation since pool water is still running through the heat pump but is not leaking.

ANALYZER CODES:

FAILURE LOCK-OUT: This feature is for the protection of the heat pump. If the same failure occurs three (3) times within an hour, the control will not allow the unit to restart, and shall display the appropriate code (i.e. “LP3”, “HP3”). Reset to normal conditions can be accomplished by pressing any button on the control panel touch pad one time.

“FLO” (Little or No Water Flow)

- The water/filter pump is not running.
- The filter is dirty or clogged.
- Shortage of water to pump - air leak.
- Undersized pump.
- Valves not in correct position.
- Filter in backwash mode.
- Water pressure switch needs adjustment, or is defective.*

“HP5”: Compressor High Pressure Switch is Open

- Low water flow to heat pump.
- Defective high-pressure switch.*

“LP5”: Compressor Low Pressure Switch is Open

- Evaporator coil dirty.
- Fan motor not running.*
- Low refrigerant pressure.*
- Defective low-pressure switch.*
- Low ambient air temperature.

“E5O”: Evaporator Temperature Sensor Connection Opened

- Check for cut or loose sensor wiring or a defective sensor.*

“t5O”: Water Temperature Sensor Connection Opened

- Check for cut or loose sensor wiring or a defective sensor.*

“E55”: Evaporator Temperature Sensor Connection Shorted

- Check for a short in sensor wiring or a defective sensor.*

“t55”: Water Temperature Sensor Connection Shorted

- Check for a short in sensor wiring or a defective sensor.*

“DEF”: The heat pump is in defrost cycle.

If any of the above codes reappear after corrective actions have been taken and the unit has been reset then please call AquaComfort Solutions for information on an authorized service provider.

(* Call Authorized Service Provider: 888-475-7443)

Requesting Service

Please eliminate any water flow problems before calling for service. Visit www.AquaComfort.com, click “Service and Support” and complete the Service Request form. This is the fastest and most effective way to get service. Please have the following ready to complete your service request online: installer contact information, date of installation, model number, and serial number.

Service performed within the warranty period **MUST BE APPROVED** by AquaComfort Solutions, LLC. prior to service being performed and only by an AquaComfort Solutions Authorized Technician. See warranty for details.

Warranty Information

Keep the following information for your records:

OWNER NAME: _____

OWNER ADDRESS: _____

OWNER PHONE: _____

INSTALLER NAME: _____

INSTALLER ADDRESS: _____

INSTALLER PHONE: _____

DATE OF INSTALLATION: _____

MODEL #: _____ **SERIAL #:** _____

AquaComfort Solutions

Limited Pool Heat Pump Warranty

This limited warranty (the "Warranty") applies to AquaComfort Solutions, LLC ("AquaComfort") branded or manufactured heat pump pool heater models purchased through an AquaComfort authorized dealer and installed on or after January 1, 2018 in the contiguous United States (the "Warrantied Product(s)"). This Warranty shall begin upon the date of installation by the original owner/user (the "Customer") of a Warrantied Product and must be validated by the Customer's proof of purchase documents (including, without limitation, a receipt or invoice reflecting payment for such Warrantied Product). In the event the date of installation cannot be established, the Warranty shall begin on the thirtieth (30th) day after the date such Warrantied Product was manufactured (as verified by factory production records).

AquaComfort warrants to the Customer that the Warrantied Products will be reasonably free from defects in materials and workmanship for the warranty periods, and in accordance with the following terms and conditions of this Warranty:

1. Warranty Periods:
   a. Florida: five (5) year warranty for parts, two (2) year warranty for labor, and a lifetime warranty on the heat exchanger of any Warrantied Product
   b. Other Contiguous States: One (1) year warranty for parts and labor, two (2) year warranty on a compressor, and a lifetime warranty on the heat exchanger of any Warrantied Product.
2. AquaComfort will, at its option, and its sole obligation under this Warranty shall be to, repair or replace the Warrantied Product without charge, or refund the cost of the Warrantied Product, if, within the applicable warranty period, the Warrantied Product fails or does not perform as warranted solely due to a manufacturing defect, subject to the exclusions set forth in this Warranty. Any repaired or replaced Warrantied Product shall also remain subject to the original warranty period from the date the Warranty begins, and any repair or replacement shall not extend the original warranty period in any manner or start a new warranty period.
3. Additional Warranty Information:
   - This Warranty includes parts and on-site labor charges to remove, repair or replace defective components, or failure due to workmanship.
   - This Warranty does not include transportation charges for delivery of equipment or component parts of a Warrantied Product to or from AquaComfort.
   - At its sole discretion, AquaComfort reserves the right to replace defective parts of any Warrantied Product with new or refurbished replacement parts.
   - At the option of AquaComfort, the Customer may be required to return the Warrantied Product to the factory, freight prepaid, for warranty service. This may become necessary if the Warrantied Product was installed in an area not supported by an AquaComfort authorized service center.
   - Claims for warranty reimbursement must be pre-approved in writing by AquaComfort, and must be performed by an AquaComfort authorized service center.
   - Purchasing original and/or replacement equipment through an un-authorized dealer will void this Warranty, as will the use of parts other than genuine AquaComfort parts.
   - This Warranty is applicable only if the Warrantied Product has been installed, operated, stored, used, and maintained expressly and completely in accordance with the Warrantied Products Owner's Manual.
   - Service performed on a Warrantied Product within the Warranty period will void this Warranty for such Warrantied Product unless such service is approved by AquaComfort PRIOR to the service being performed and such service is performed by an AquaComfort authorized technician.

- Repair or replacement during the applicable warranty period shall include reasonable labor charges necessary to repair or replace the defective Warrantied Product, but shall not include applicable consumables including, but not limited to, refrigerant, glue, brazing gases and other consumable material.
- AquaComfort's liability under this Warranty shall be limited to, and shall not exceed, the repair or replacement value of defective parts of the Warrantied Products under the above-referenced limited warranty term and shall not apply to or cover any malfunction, defect, or damage to the Warrantied Product due or related to:
  - the improper or unreasonable installation, operation, use, or maintenance of the Warrantied Product;
  - operating the Warrantied Product with the improper voltage intended for the Warrantied Product;
  - the placement of the Warrantied Product in conditions not intended for its original use, including without limitation, freezing conditions;
  - negligence or abuse of the Warrantied Product;
  - accidents or acts of God;
  - using or attaching to the Warrantied Product accessories not authorized by AquaComfort;
  - the Customer's failure to monitor or properly maintain pool water balance;
  - the installation of a Warrantied Product with a known or visible manufacturing defect at the time of installation;
  - dissatisfaction with the appearance of the Warrantied Product; or
  - minor conditions, such as stains, scratches, or other similar immaterial defects.

4. THE WARRANTIES SET FORTH HEREIN ARE THE ONLY WARRANTIES MADE BY AQUACOMFORT IN CONNECTION WITH THE WARRANTIED PRODUCTS. AQUACOMFORT CANNOT AND DOES NOT MAKE ANY IMPLIED OR EXPRESS WARRANTIES WITH RESPECT TO THE WARRANTIED PRODUCTS OR ANY OTHER PRODUCTS, AND DISCLAIMS ALL OTHER WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. PRODUCTS SOLD BY AQUACOMFORT ARE SOLD ONLY TO THE SPECIFICATIONS SPECIFICALLY SET FORTH BY AQUACOMFORT IN WRITING.
5. No liability of AquaComfort related to any claim made hereunder, including claims for indemnification, shall be greater in amount than the purchase price of the Warrantied Products. IN NO EVENT SHALL AQUACOMFORT BE LIABLE TO CUSTOMER IN TORT, CONTRACT OR OTHERWISE, FOR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL, RELIANCE, STATUTORY, SPECIAL, PUNITIVE OR EXEMPLARY DAMAGES, INCLUDING, BUT NOT LIMITED TO, LOSS OF USE, LOSS OF TIME, INCONVENIENCE, OR LOSS OF DATA, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OR SUCH DAMAGES COULD HAVE BEEN REASONABLY FORESEEN, IN CONNECTION WITH, ARISING OUT OF, OR AS A RESULT OF, THE SALE, DELIVERY, SERVICING, USE OR LOSS OF USE OF THE WARRANTIED PRODUCT, OR FOR ANY LIABILITY OF CUSTOMER TO ANY THIRD PARTY WITH RESPECT THERETO.
6. This Warranty does not include or apply to any AquaComfort Solutions equipment, products, or materials used in a commercial application.
7. This Warranty gives the Customer specific legal rights that may vary from state to state, and accordingly, some of the listed conditions and exclusions may not apply to Customers living in certain states. Any dispute between a Customer and AquaComfort will be settled by binding arbitration, conducted in Seminole County, Florida, under the rules of the American Arbitration Association, and an award of attorney's fees and costs will go to the prevailing party.
8. Any questions regarding this Warranty should be addressed to:

   AquaComfort Solutions, LLC
   950 Sunshine Lane
   Altamonte Springs, FL 32714
   Attn: ACS Warranty
   Tel: 844.770.HEAT(4328)

Warranty Registration

Thank you for your recent purchase. The Warranty Registration must be submitted to AquaComfort Solutions, LLC within 60 days from the date of installation.

We encourage you to register your product online at:
www.AquaComfort.com/warranty-registration/

or mail the completed form to the address below.
AquaComfort advises you save a copy for your personal records.

Mail To: AquaComfort Solutions, LLC
Attn: Warranty Registration
950 Sunshine Lane
Altamonte Springs, FL 32714

OWNER INFORMATION

Homeowner/Business Name: _____

Street Address: _____

City: _____ State: _____

Country: _____ Postal Code: _____

Email: _____ Phone: _____

DEALER INFORMATION

Business Name: _____

Street Address: _____

City: _____ State: _____

Country: _____ Postal Code: _____

Email: _____ Phone: _____

PRODUCT INFORMATION

Installation Date: _____

Model #: _____ (Label on Front Panel of Unit)

Serial #: _____ (Label on Top Left Corner on Front of Unit)

CUT ALONG DOTTED LINE TO MAIL IN