

SUMMIT
HIGH-QUALITY HEAT PUMP



Owner's manual
www.thermosummit.com

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Introduction



Thank you for buying a Summit heat pump pool heater.

You have purchased the most advanced heat pump pool heater available in North America. A heat pump pool heater is a highly-efficient, cost-effective method of pool heating. Smart usage and care will result in many years of enjoyment and pleasure.

The Summit heat pump pool heater is a self-contained unit designed specifically for pool heating. The unit operates on the proven principle of household heat pump technology.

Concerning research and development, the Summit team, who know the components and the mechanics of swimming pool heaters inside out, gathered in a single unit the best available components in the industry.

Each Summit heat pump component has been selected with care to achieve a high-quality product in an effort to exceed all industry standards.

All Summit heat pumps offer a Copeland Scroll® compressor, an electronic board with service analyzer, a titanium heat exchanger tubing warranted for 10 years against corrosion and a UV-resistant plastic cabinet that eliminates all maintenance for life. All Summit components are of superior quality, which presents you with an effective, state-of-the-art technology heat pump.

In general, compared to other types of pool heaters, such as gas- or oil-fired, the Summit pool heater has a lower heating capacity on a BTU/hr basis. Therefore, it needs to operate for a longer time to accomplish the desired results. Occasionally, it may be necessary to run the heat pump for up to 24 hours per day. However, this should not be of concern to the owner because the heater is designed to operate continuously. What's more, despite continuous operation, it will still heat the pool with far greater economy than other types of heaters.

As with all pool heaters, you are advised to use a pool cover at night and when the pool is not in use. The pool cover should be used if night temperatures are 15°F (8°C) less than desired pool temperature. This will keep evaporation, the greatest source of heat loss, to a minimum, thus greatly reducing the overall pool heating costs. During warmer weather, the pool cover may not be required.

Introduction



Please read carefully

The Summit heat pump combines simplicity with trouble-free performance. As with most appliances, an understanding of what it does, what you should and should not do is important. Proper installation and operation increases efficiency and reduces heating costs. The Summit pool heater is designed with features that make it simple to operate, maintain and service. Proper installation enhances these features and minimizes problems.

Record your model's information

Please complete and mail in the ownership registration card provided with this guide. The return address is displayed on the front of your registration card. Simply post it as a would a postcard. The card helps us notify you about any new information about your heater.

Whenever you call to request service for your heater, you must know your complete model and serial numbers. You can find this information on the plate located at the base of your heater.

Please also record the purchase date of your device and your dealer's name, address, and telephone number.

Model Number _____

Serial Number _____

Purchase Date _____

Dealer Name _____

Dealer Address _____

Dealer Phone _____

<p>Consumer Assistance Center: 1-877-688-0779</p>
--

Keep this book and the sales slip together in a safe place for future reference.

General Safety Instructions



We care for our customers

We have provided important safety messages in this manual and on your heater. Always read and obey all safety messages.

Note

A Note denotes related, parenthetical information that is useful but not imperative.

IMPORTANT

The IMPORTANT sign calls attention to a note that provides important information or information essential to the completion of a task.

CAUTION

The CAUTION sign denotes a hazard. It calls attention to an operating procedure, practice, or the like, which, if not correctly performed or adhered to, could result in material damage, particularly to the product, up to the destruction of part or all of the product.

WARNING

The WARNING sign denotes a hazard. It calls attention to a procedure, practice, or the like, which, if not correctly performed or adhered to, could result in personal injury or injury to a third party. These signs are rare, but are extremely important.

CAUTION

All electrical connections must be done by a qualified electrician and according to the local electrical codes. Always cut off the unit's main power whenever the access panel is open or removed. Always install the machine outdoors (unless otherwise approved by the manufacturer), while respecting the minimal clearances needed for proper operation and heating.

General Safety Instructions



CAUTION

Proper pool chemistry is vital to the life of your heater. Pay particular attention to the total alkalinity and TDS. It is highly recommended that you have your pool chemistry checked often by an independent pool store.

Water quality standards that must be strictly observed

Description	Normal Range	Verification
pH level	7.4 to 7.8	Once/week
Chlorine concentration	1.0 to 3.0 ppm	Once/2-3 days
Total alkalinity	80 to 100 ppm	Once/2-3 weeks
Total dissolved solids (TDS)	Below 1600 ppm (fresh water) Below 3500 ppm (salt water)	Once/month Once/month
Calcium hardness	200 to 300 ppm	Once/month

Installation Instructions



Location

The placement of the pool heater is very important in keeping installation costs to a minimum while providing for maximum efficiency of operation, as well as allowing adequate access for service and maintenance.

The Summit heat pump is designed for outdoor installation and should not be installed in a fully enclosed area, such as a shed, garage, etc., unless ventilation is provided to ensure adequate air exchange for proper operation. Recirculation of cold discharged air back into the evaporator coil will greatly reduce unit heating capacity and efficiency.

The unit should be located as close as practical to the existing pool pump and filter to minimize water piping. However, do not forget to provide a 24" clearance at the very least all around your heat pump. The use of 90 degree bends and short radius elbows in the water piping should be kept to a minimum.

Mount the unit on a sturdy base, preferably a concrete slab or a set of blocks. The base should be completely isolated from the building foundation wall to prevent the possibility of sound or vibration transmission into the building. The size of the base should not be less than 36" x 36" (92 cm x 92 cm).



IMPORTANT

All Summit heat pump models feature patented, ultrasilent ventilation systems. Air is pulled through the evaporator coil and discharged through the top grille. A minimum clearance of 48 inches should be allowed above the unit for unrestricted air discharge. The unit must not be installed under a porch. Any side of the unit should be located at least 24 inches from a wall or from any other obstruction for unrestricted air intake and service access.

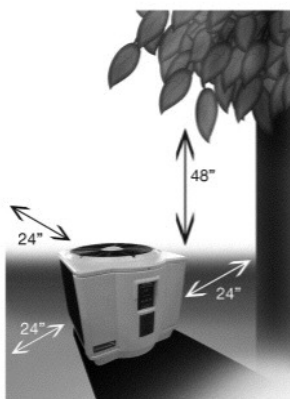


FIG.1

Installation Instructions

Water piping



IMPORTANT

The piping sequence is as follows: pool pump > filter > heater > pool. Automated chlorine distribution systems, if used, must be placed downstream of the heater to minimize harm to the pool equipment. Used rigid PVC piping if possible (SCH40 or SCH80). All joints should be glued with PVC glue. If rigid PVC is not available, you can use soft or flexible piping with stainless steel clamps. When the piping installation is complete, operate the pool pump and check the system for leaks. Then, check the filter pressure gauge to verify that there isn't any indication of excessive pump head pressure.

You can also make the connections using high-pressure flexible hose, but make sure the hose can withstand high pressure. The installation of a bypass is not necessary unless the water flow exceeds 80 GPM.

Note: Certain installations have valves which isolate the heat pump from the water circuit. If the heat exchanger is deprived of water circulation for several days, high chlorine gas could cause excessive corrosion. If the disconnect switch is turned off, be sure that the pool water is allowed to circulate through the unit, or is drained out of it.

Electrical



CAUTION

The wiring of your Summit heat pump should be performed by a qualified electrician in accordance with local requirements.

Standard power supply: 208/240 V - 60 Hz- 1 phase

A properly-sized breaker and copper wire must be used (see "Electrical Connexions," p.10 et 11).



WARNING

The unit must always be deactivated before opening the access panel.

Bonding



CAUTION

Because all metals have different electrical potentials, **all** metal and electrical components of the pool system must be bonded together. This includes the metal framework of the pool, the light, the pump, the filter (if made out of metal), the heater, any automatic chlorine generator, and any other metal or electrical equipment. On some older pools, this substructure bond wire may not exist. In these cases, a 6 to 8 foot solid copper rod must be driven into the ground near equipment. All electric and metal components must then be bonded to each other, and then to the copper rod (see diagram on next page).

Installation Instructions



Bonding and Plumbing diagram

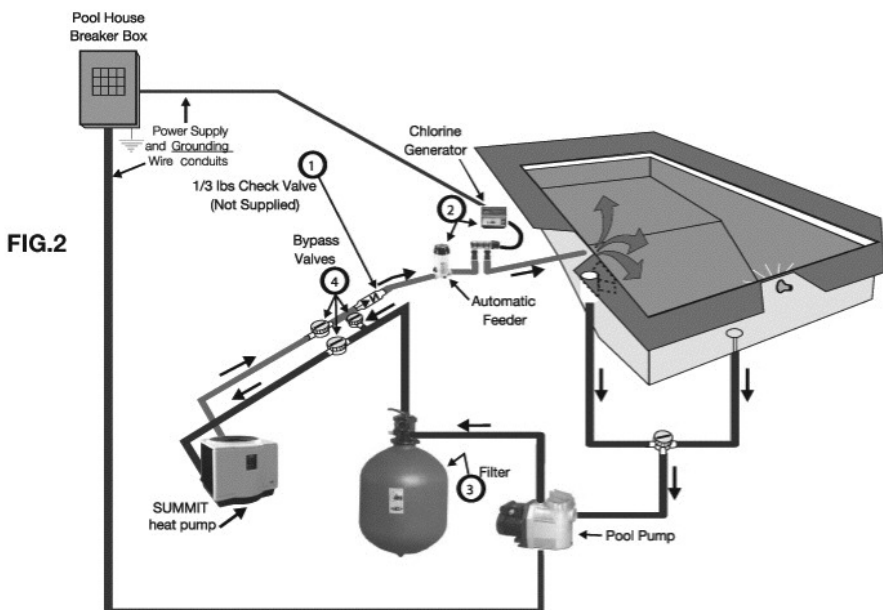
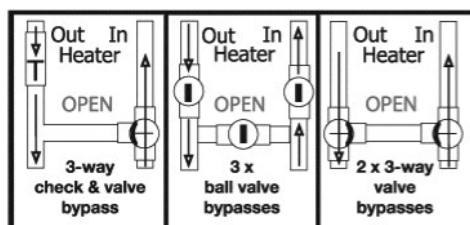


FIG.3



1. A 1/3 lbs check valve **must** be installed between the heater and any automatic chlorine distribution system (if used).
2. Any kind of automatic chlorine distribution system **must** be installed after or downstream of the heat pump.
3. The filter **must** be placed before or upstream from the heat pump.
4. A bypass and shut-offs should be installed on all systems for ease of service, maintenance and to balance the water flow. Bypasses **must** be installed on any system with over a 1 1/2 HP pool pump. (see FIG.3 for different types of possible bypasses)

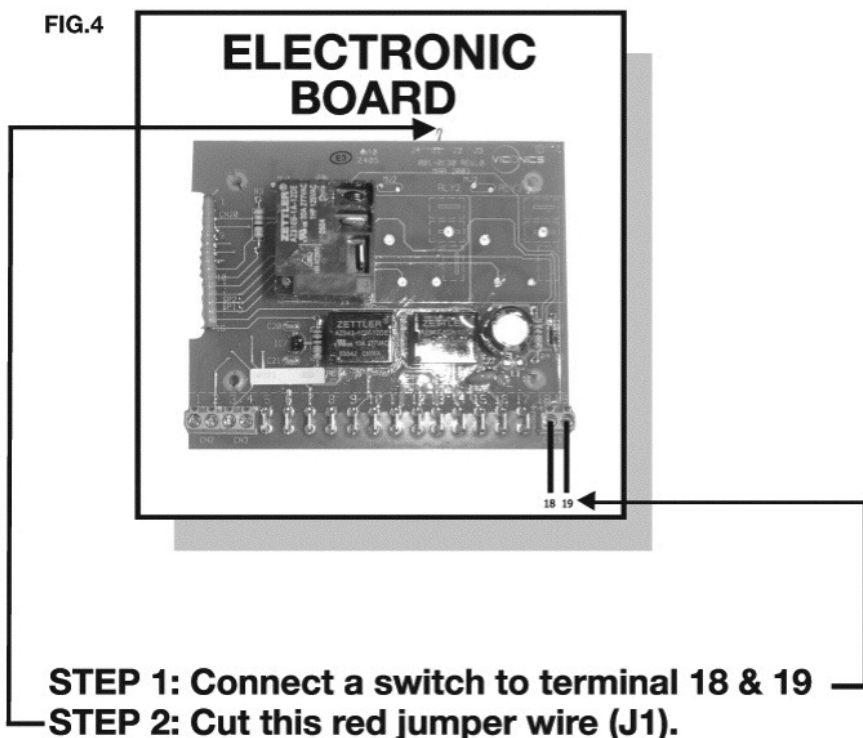
Switch Connection

Hooking up an external water pressure or water flow switch

To automatically switch from the pool temperature setting to the spa temperature setting, an additional external water flow or water pressure switch must be added to the system and connected into the electronic board at the terminals 18 & 19. The red jumper "J1" should be cut to activate the new flow or pressure switch (see FIG.4).

If a remote control device (Aqua Logic, Jandy, etc.) is used to turn the unit on and off, a normally open dry contact connection should be made at the terminals 18 & 19 on the board. The red "J1" jumper should be cut to activate the remote control. Set the spa temperature to 104°F (40°C) and pool set point to **OFF**. The pool heater will only run when the remote control calls.

FIG.4



Electrical Connections

⚠ WARNING

The installation of the Summit pool heater should be performed by a certified electrician. To connect the electricity, you must unscrew the five screws of the front panel, then slide the electric cable in the hole located on the left side of the base, and then insert it in the control box. The electrical diagram is located on the lid of the control box as well as below (see FIG.5).

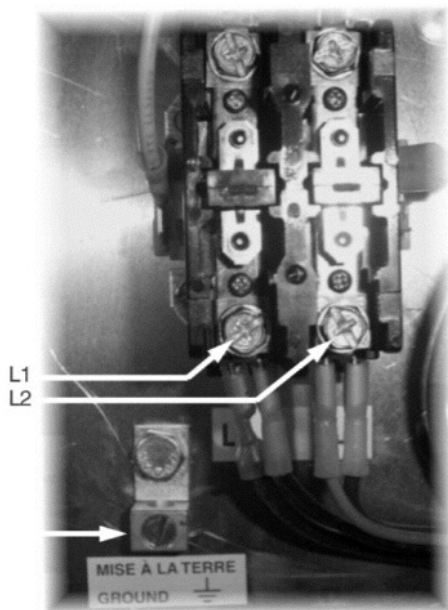
Power requirements

240 V, 1 PH, 60 Hz

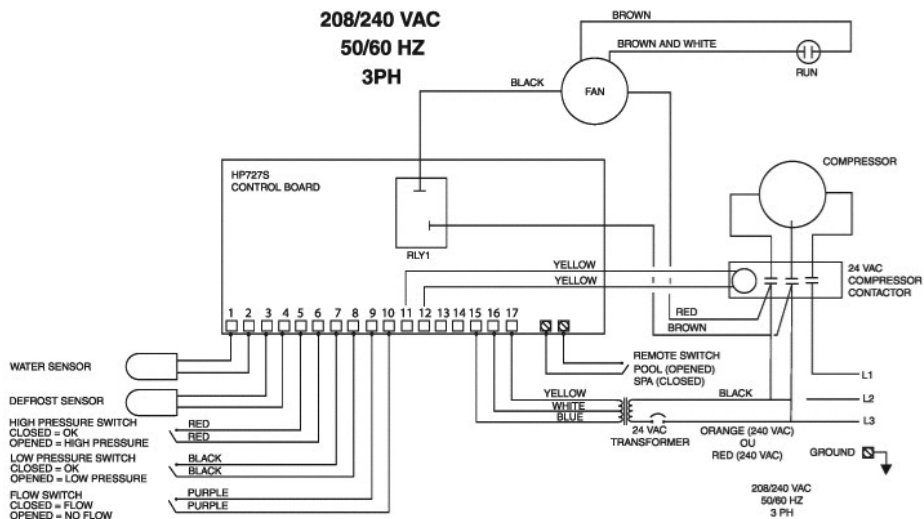
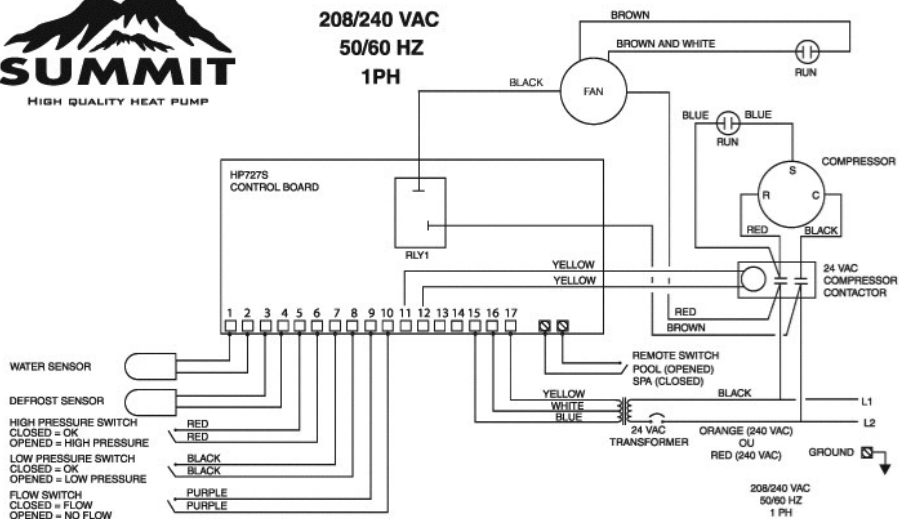
- Sum 3 30 A
- Sum 4 40 A
- Sum 5 40 A

Please refer to your local electrical code.

FIG.5



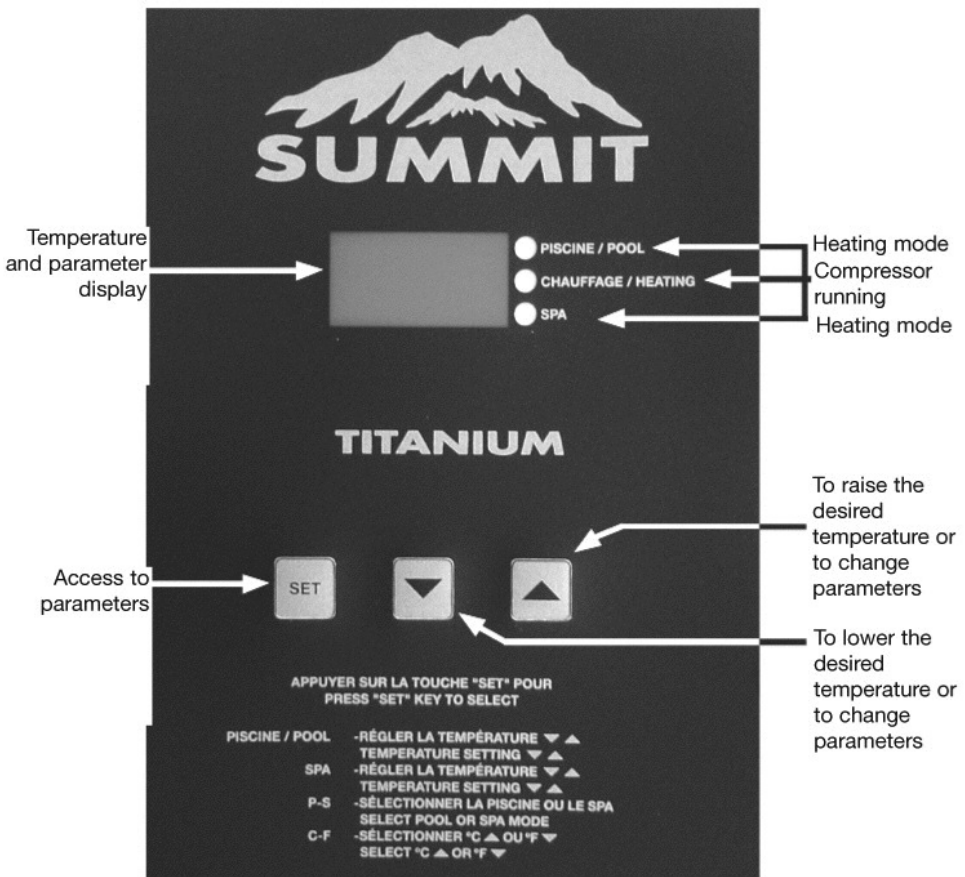
Electrical Diagrams



Service Analyzer Control



The control panel is factory set to display the temperature in Fahrenheit degrees.



Operation

TO INCREASE THE TEMPERATURE

Push the **SET** key until you see **POL** or **SPA**. The programmed temperature will be displayed. Press the UP arrow ▲ to increase the temperature setting one degree at a time.

TO LOWER THE TEMPERATURE

Proceed as explained above using the down arrow ▼.

TO SELECT THE POOL OR SPA MODE

The unit can keep two temperature settings in memory: one for pool mode (max: 95°F/35°C), and the other for spa mode (max: 104°F/40°C). To have access to either program, press the **SET** key until you see P_S and by pressing one of the arrow keys, you can switch to **POL** or **SPA**. Once the heating mode has been programmed, it will be displayed for five seconds, and will then return to the actual pool water temperature. The lights on the right side of the display indicate the chosen heating mode.

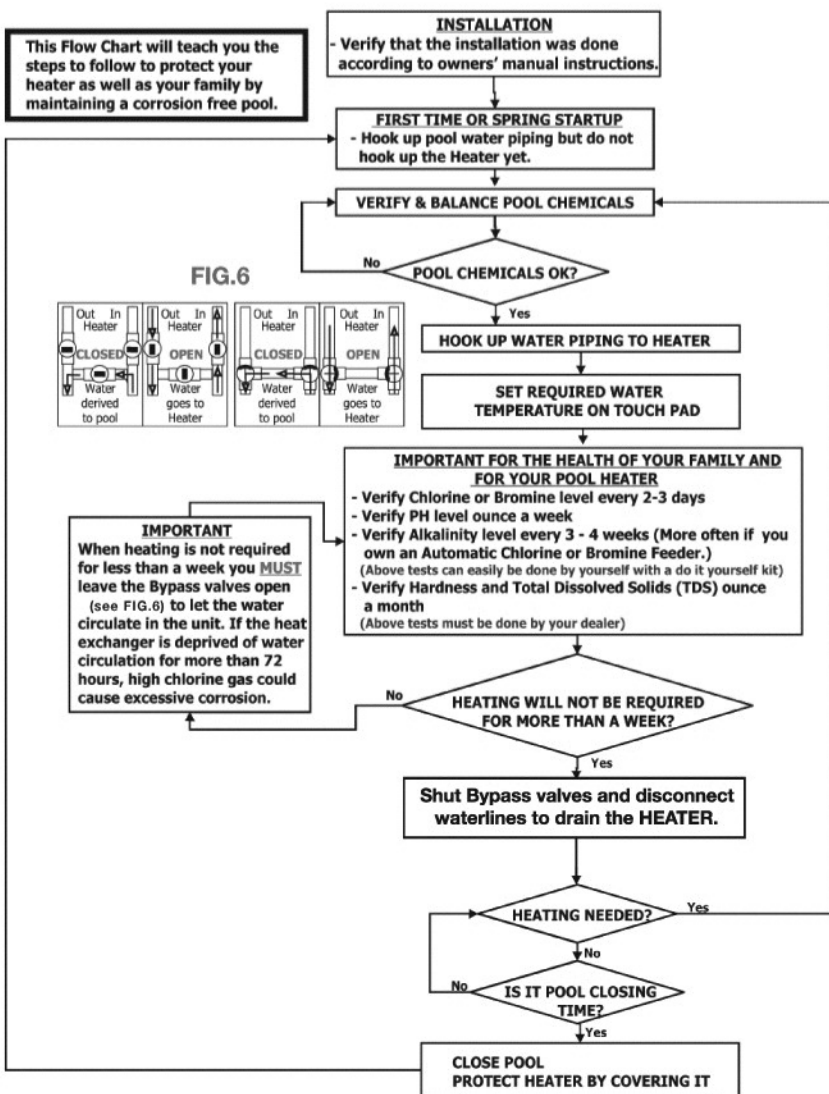
TO DISPLAY THE TEMPERATURE IN °F OR IN °C

Press the **SET** key until you see F_C and by pressing one of the arrow keys, you can switch to °F or °C. Once the heating mode has been programmed, it will be displayed for five seconds, and will then return to the actual pool water temperature in the mode that you have chosen.

Caring for your Pool Heater



How to protect your pool heater



Initial Startup



IMPORTANT

Before starting the pool heater for the first time, it is important to verify that the breaker is in the ON position.

Also make sure that the water freely circulates and that the pool pump is activated.

Then, you will need to set the water temperature you desire. The fan will immediately start. The compressor will start after a 3 to 4-minute delay.

When the compressor is running, the **CHAUFFAGE/HEATING** indicator located on the right (see "Service Analyzer Control," p. 13) should be lit. At initial startup, it is normal for the unit to run 24 hours a day.

It is also normal to see water dripping from the holes at the base of the unit. This is simple condensation.

Meaning of Display Codes



Service Analyzer Codes

Most problems will be detected by the service analyzer and a code will be displayed on the digital display of your heater.

Display	Meaning of codes
OFF	The desired programmed temperature point is lower than 60°F (15°C).
LP & LP3	Shortage of refrigerant gas in the unit or faulty low pressure control. The digital display will show LP3 after 3 LP faults and shut down your pool heater. The pool pump will also be stopped for protection if the unit's internal time clock feature is used. If LP or LP3 occurs you should call for service.
HP & HP3	Low water flow TO the unit or faulty high pressure control. Check water flow. Backwash filter and/or heater. The unit will show HP3 after 3 HP faults. This will stop your heater for protection.
Po	Water temperature probe connected to #1 and #2 on electronic board may be disconnected. If it is not, the probe may be open or defective.
Pc	Water temperature probe is short circuited or may be defective.
PLo & FL3	Possible causes: <ul style="list-style-type: none">- The FIL parameter must always be set to OFF.- The filter is in backwash position.- The filter pump is stopped.- The filter is dirty.- Shortage of water to pool pump.- Water pressure switch must be adjusted or it is broken.- The unit is in the protection mode and will show FL3, press any key to restart the unit. FL3 code will stop your heater for protection.
dPo	Suction temperature probe connected to #3 and #4 on electronic board may be disconnected. If it is not, the probe may be open or defective.
dPc	Suction temperature probe is short circuited or may be defective.
FS	Unit currently in defrosting cycle (the fan works but the compressor is stopped). This is normal operation when outside temperatures are cold.

Troubleshooting



THE POOL HEATER IS NOT RUNNING

- Heat pump control set to OFF.
 - *Raise temperature set point above 60°F (15°C).*
- Desired water temperature is reached.
 - *Unit will automatically restart when the water temperature goes below the set point.*
- Main breaker is tripped.
 - *Reset it.*

THE HEATER IS DISPLAYING "FLO" AND IT WILL NOT START

- Pool pump is not running.
 - *Turn the pool pump on.*
- Filter is dirty, restricting the water flow.
 - *Backwash and clean filter.*

THE HEAT PUMP IS IN PROTECTION MODE

- In this case, there may be a 5-minute delay before it restarting.
- The unit is on defrost cycle.
 - *Digital display should indicate **FS**. The compressor will automatically start again a few minutes after the display stops indicating **FS**.*

THERE IS NO DISPLAY AND THE FAN IS NOT RUNNING, BUT THE COMPRESSION IS RUNNING

- *Ask your electrician to verify your heat pump's power supply by checking over the L1 and L2 connections in the unit's service box.*

THERE IS WATER AROUND THE UNIT

- While your Summit pool heater is in the heating mode, a large quantity of warm and humid air passes over the evaporator and causes condensation. It is normal to see condensation dripping under the heater.
 - *To check if the water really is a leak, you must stop the heater and leave the pool pump running for over 5 hours. If water is still coming out of your heater after this period, then call your dealer for service.*

Troubleshooting



THE HEATER IS RUNNING BUT DESIRED WATER TEMPERATURE CANNOT BE REACHED

- Heat loss is too much for the heater; cover your pool as often as you can.
- Evaporator is dirty.
 - *Clean it.*
- Heat exchanger is dirty.
 - *Backwash it by reversing "Water in" and "Water out".*
- Evaporator restricted due to improper location (see section on locating the unit).
- Restricted water flow.
 - *Adjust water flow.*

Note: If your pool heater does not operate for reasons other than those mentioned above, please contact Consumer Assistance Center (see "Introduction," p. 3) to obtain the proper authorization for the warranty to apply.

Requesting Assistance or Service



IMPORTANT

All service will be handled by an Authorized Service Center. Warranty may be voided if service is not done by an Authorized Service Representative. Do not return the heater to your dealer as they do not provide service.

Before calling for assistance or service, please check the "Troubleshooting" (pp. 17-18) and "Warranty" (pp. 20-21) sections or call your dealer. It may save you the cost of a service call. If you still need help, follow the instructions below.

Service can be obtained by calling us at **1-877-688-0779** or by email at **sac@thermosummit.com**.

When asking for helping service, please provide a detailed description of the problem, your heater's complete model and the serial number, and the purchase date (see "Introduction," p. 4). This information will help us respond properly to your request.

Keep a copy of the sales receipt showing the date of purchase. Proof of purchase will assure you warranty service.



Maintenance

Dirt can accumulate on the evaporator. You can easily remove it using a water spray without damaging the small aluminum fins.

The cleaning of the plastic cabinet can be done with the help of a brush and soap.



Winterizing

First, you must turn the breaker off. The unit must be drained of all its water. You will need to disconnect the IN and OUT water connections. Then the unit must be tilted or blown out with air until all water is out.

The next step is to reconnect your IN and OUT water connections that will have previously been drained.

It is recommended to cover the heat pump to prevent snow from getting inside. A protective slipcover is also offered by your retailer.



Titanium Heat Pump Warranty

Summit inc. warrants that the Summit heat pump pool heater will be free of defects in workmanship and materials. The heat pump will be warranted for a period of three years. All parts and labor to correct any defect in workmanship or materials will be the responsibility of Summit inc.

The compressor component of the Summit heat pump pool heater has a ten (10) year limited warranty. During the first three (3) years, the costs incurred by the parts and labor needed to repair the compressor will be the responsibility of Summit inc. During years 4 and 5, only parts will be covered by the warranty. The compressor is warranted during years (6) through (10), parts only on a prorated term. In the event of failure of these components, the homeowner shall assume the following portions of the suggested retail price (MSRP) of the defective part: in year (6): 17% of MSRP; in year (7): 34% of MSRP; in year (8): 51% of MSRP; in year (9): 68% of MSRP; in year (10): 85% of MSRP. The homeowner is responsible for all labor and transportation charges during years (6) through (10).

The titanium tube portion of the heat exchanger in the Summit heat pump pool heater has a limited 10-year warranty. The titanium tube portion of the heat exchanger is warranted to the original owner and at the original address. All parts and labor are warranted for a period of three (3) years to the original home owner. After three (3) years, only the titanium tube portion of the heat exchanger part is warranted.

All Summit heat pump pool heaters must be installed according to manufacturer's specifications or the warranty will be null and void.

All warranty work must be performed by a Summit inc. authorized service center. All warranty work must be approved prior to service center performing the work.

Any alteration or repair by any person, agency or company not authorized by Summit inc. will void the warranty. Summit inc. is not liable for any damages of any sort whatsoever, including incidental and consequential damages. This warranty does not include damage to any internal piping or components due to freezing conditions, negligence, abuse, routine maintenance inspections, electrical wiring outside the heat unit, service calls caused by owner, external valve position, refrigerant or other expendable materials, installations in corrosive environments or atmospheres, nor acts of God. There are no particular warranties of merchantability that apply to this product.

This warranty applies to Canada and United States.

Summit inc. will replace or repair any parts that are defective providing such parts are returned to the Summit factory, freight collect, within the warranty period. The above is the exclusive remedy from Summit inc.

Cupronickel Heat Pump Warranty



Summit inc. warrants that the Summit heat pump pool heater will be free of defects in workmanship and materials. The heat pump will be warranted for a period of one year. All parts and labor to correct any defect in workmanship or materials will be the responsibility of Summit inc.

The compressor component of the Summit heat pump pool heater has a five (5) year warranty. For the first year, all parts and labor required to repair the compressor will be the responsibility of Summit. Year two through five parts only will be warranty.

All Summit heat pump pool heaters must be installed according to manufacturer's specifications or the warranty will be null and void.

All warranty work must be performed by a Summit inc. authorized service center. All warranty work must be approved prior to service center performing the work.

Any alteration or repair by any person, agency or company not authorized by Summit will void the warranty. Summit inc. is not liable for any damages of any sort whatsoever, including incidental and consequential damages. This warranty does not include damage to any internal piping or components due to freezing conditions, negligence, abuse, routine maintenance inspections, electrical wiring outside the heat unit, service calls caused by owner, external valve position, refrigerant or other expendable materials, installations in corrosive environments or atmospheres nor acts of God. There are no particular warranties of merchantability that apply to this product.

This warranty applies to Canada and United States.

Summit inc. will replace or repair any parts that are defective providing such parts are returned to the Summit factory, freight collect, within the warranty period. The above is the exclusive remedy from Summit inc.