



HEAT PUMP

INSTALLATION & OPERATION

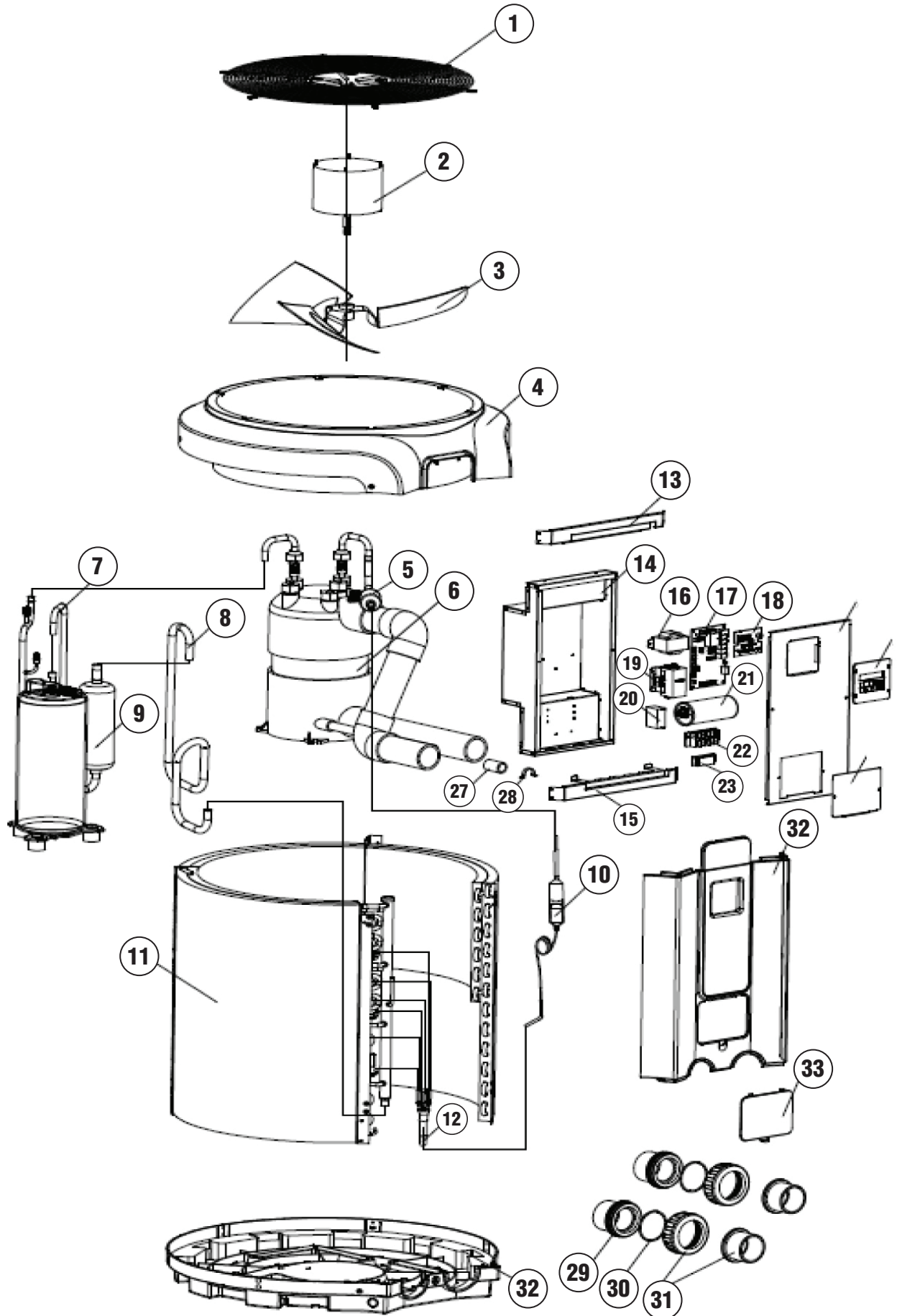


**READ THIS MANUAL CAREFULLY BEFORE
USING YOUR HEAT PUMP**

SWIMMING POOL HEAT PUMP

- The pool heat pump is a self-contained unit designed specifically for pool heating. Each component has been selected with care to achieve a high-quality product in an effort to exceed all industry standards.
- All pool heat pumps have an electronic board with service analyzer, a titanium heat exchanger tube warranted for 10 years against corrosion and a PVC plastic cabinet that eliminates all maintenance for life. All components are of superior quality, which presents you with an effective heat pump.
- Compared to other types of pool heaters, such as gas or oil-fired, the pool heat pump 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 far more economically than other types of heaters.
- As with all pool heaters, you are advised to use a pool solar cover at night and when the pool is not in use. The pool solar cover should be used if night temperatures are 15°F 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.

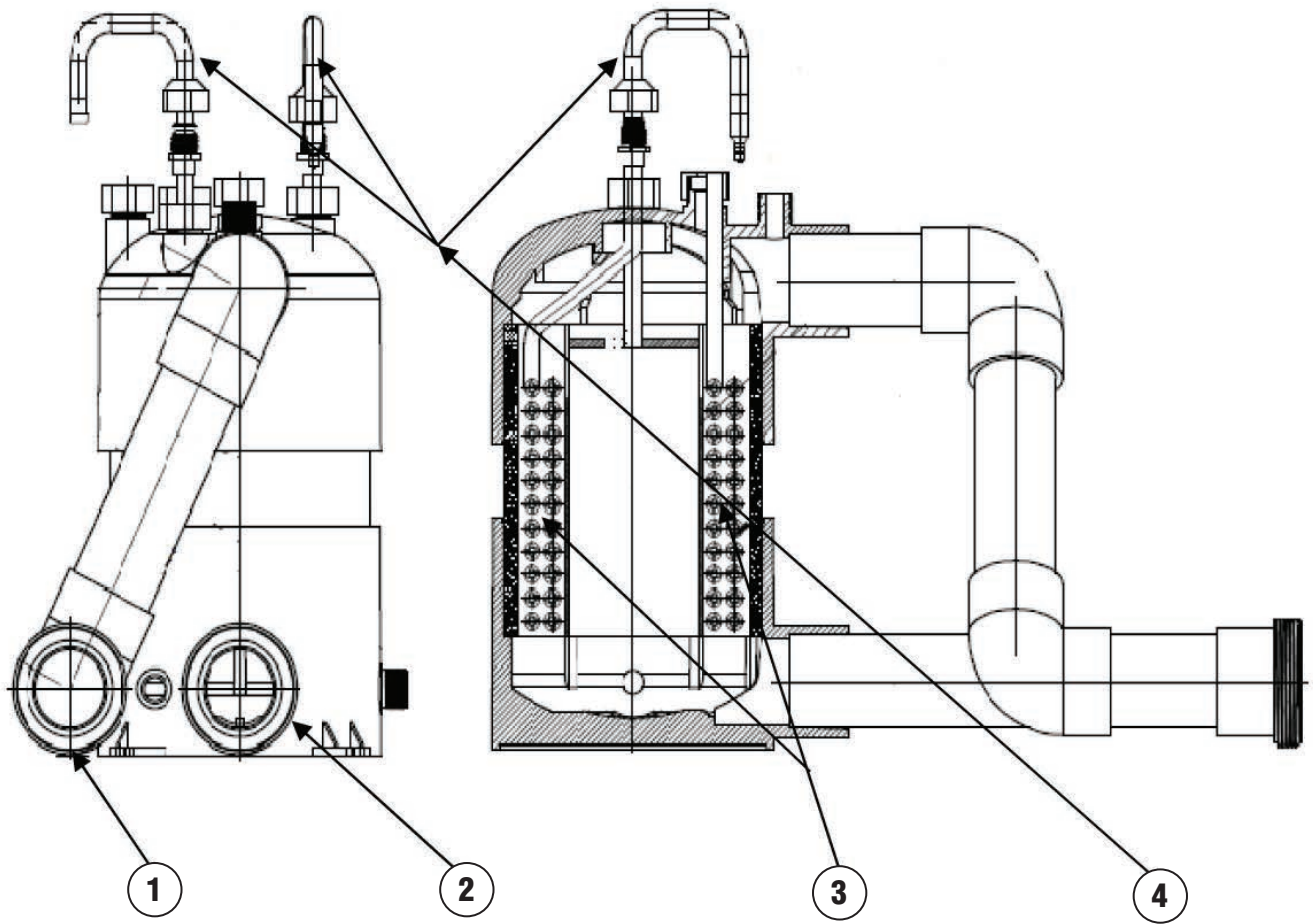
STRUCTURE OF THE HEAT PUMP



COMPONENTS OF THE HEAT PUMP

No.	DESCRIPTION
1	Grating Cover
2	Motor
3	Impeller
4	Roof Frame
5	Filter
6	Heat Exchanger Components
7	Exhaust Pipe
8	Gas-returning Pipe
9	Compressor
10	Gas Filter Outlet Pipe
11	Evaporator Components
12	Liquid-distributor
13	Stainless Steel Plate (Up)
14	Electric Control Box
15	Stainless Steel Plate (Down)
16	Transformer
17	Main Board

No.	DESCRIPTION
18	Wire Controller
19	Contactor
20	Fan Motor Capacitor
21	Compressor Capacitor
22	Terminal Block
23	Bonding
24	Cover Plate
25	Digital Display Panel
26	Joint-box Cover
27	Pipe Joint
28	Pipe Clamp
29	Water Inlet Connection
30	Seal Ring
31	Joint Valve
32	Front Panel
33	Front Panel Cover
34	Base Plate



- As the picture shows, the titanium exchanger refrigerant and offers high resistance to excellent heat exchange.

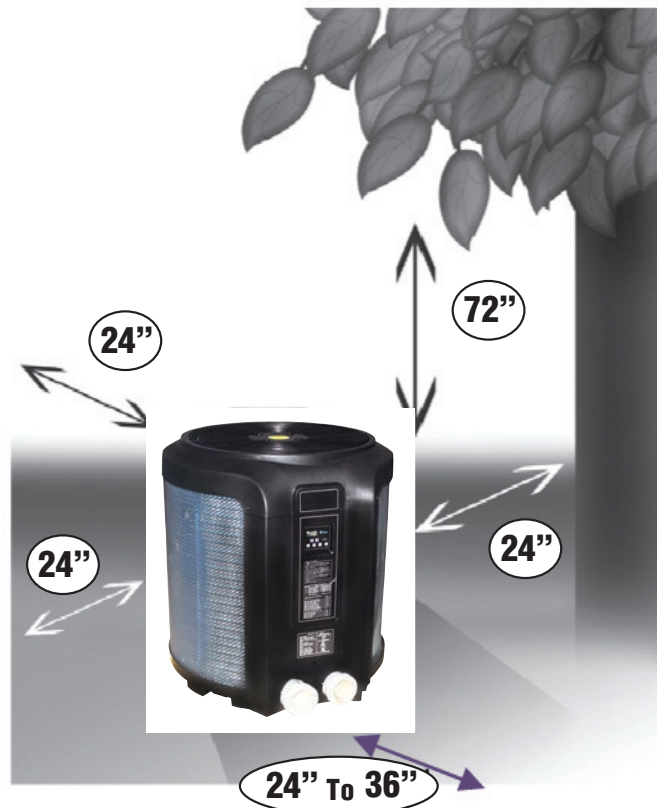
No.	DESCRIPTION
1	Water Outlet Port
2	Water Inlet Port
3	Titanium Pipe
4	Copper Pipe

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 pool heat pump is designed for outdoor installation and should not be installed in a fully enclosed area, such as a shed, garage, etc. 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 the size of the heat pump.

IMPORTANT Air is pulled through the evaporator minimum clearance of 72 inches should be allowed above air discharge. The unit must not be installed under a porch. Any side of should be located at least 24 inches from a unrestricted air intake and service access.



WATER PIPING

- As The piping sequence is as follows: pool > pool pump > filter > heater > check valve > chemical feeder > pool. Automated chlorine distribution systems, if used, must be placed downstream of the heater to minimize harm to the pool equipment. Use rigid PVC piping if possible.
- All joints should be glued with PVC glue. 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 heat pump bypass is not necessary unless the water flow exceeds 75 GPM.

IMPORTANT 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

- The wiring of your pool heat pump should be performed by a qualified licensed electrician in accordance with local requirements. A properly-sized breaker and copper wire must be used. Check the heat pump data label for required maximum breaker size.

IMPORTANT The unit must always be powered off before opening the access panel.

BONDING

- 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 the equipment.
- All electric and metal components must then be bonded to each other, and then to the copper rod. Contact a licensed electrician.

- IMPORTANT**
- Check valves must be installed between the heater and any automatic chlorine distribution system.
 - Any kind of automatic chlorine distribution system must be installed after the heat pump.
 - The filter must be placed before the heat pump.
 - A bypass and shut-off 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 3/4 HP pool pump.

BONDING AND PLUMBING DIAGRAM

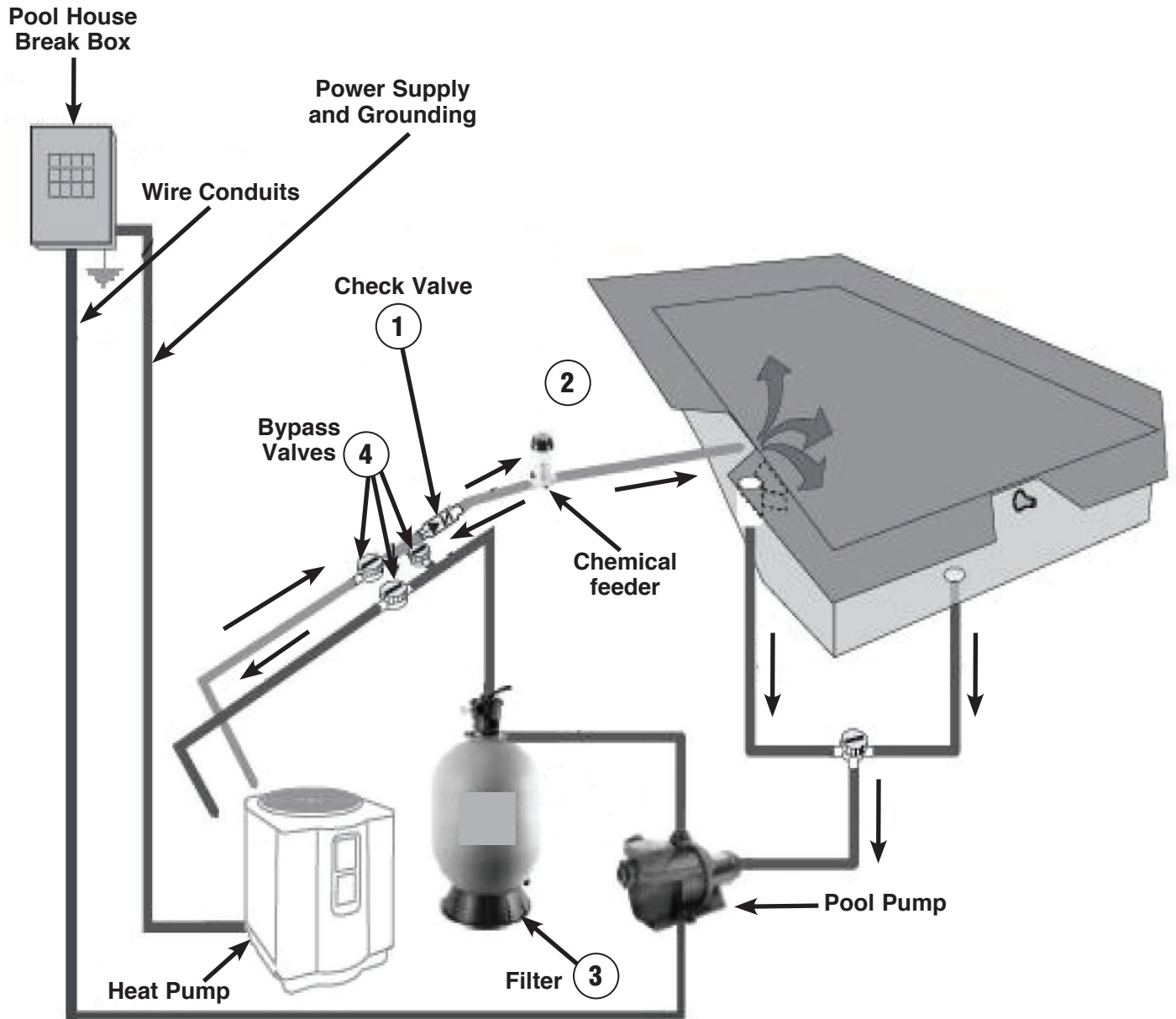
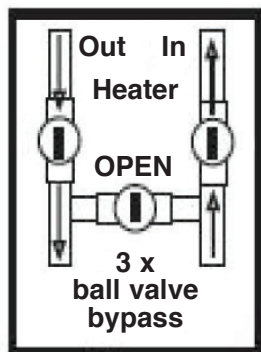


Fig. 3



ELECTRICAL CONNECTIONS

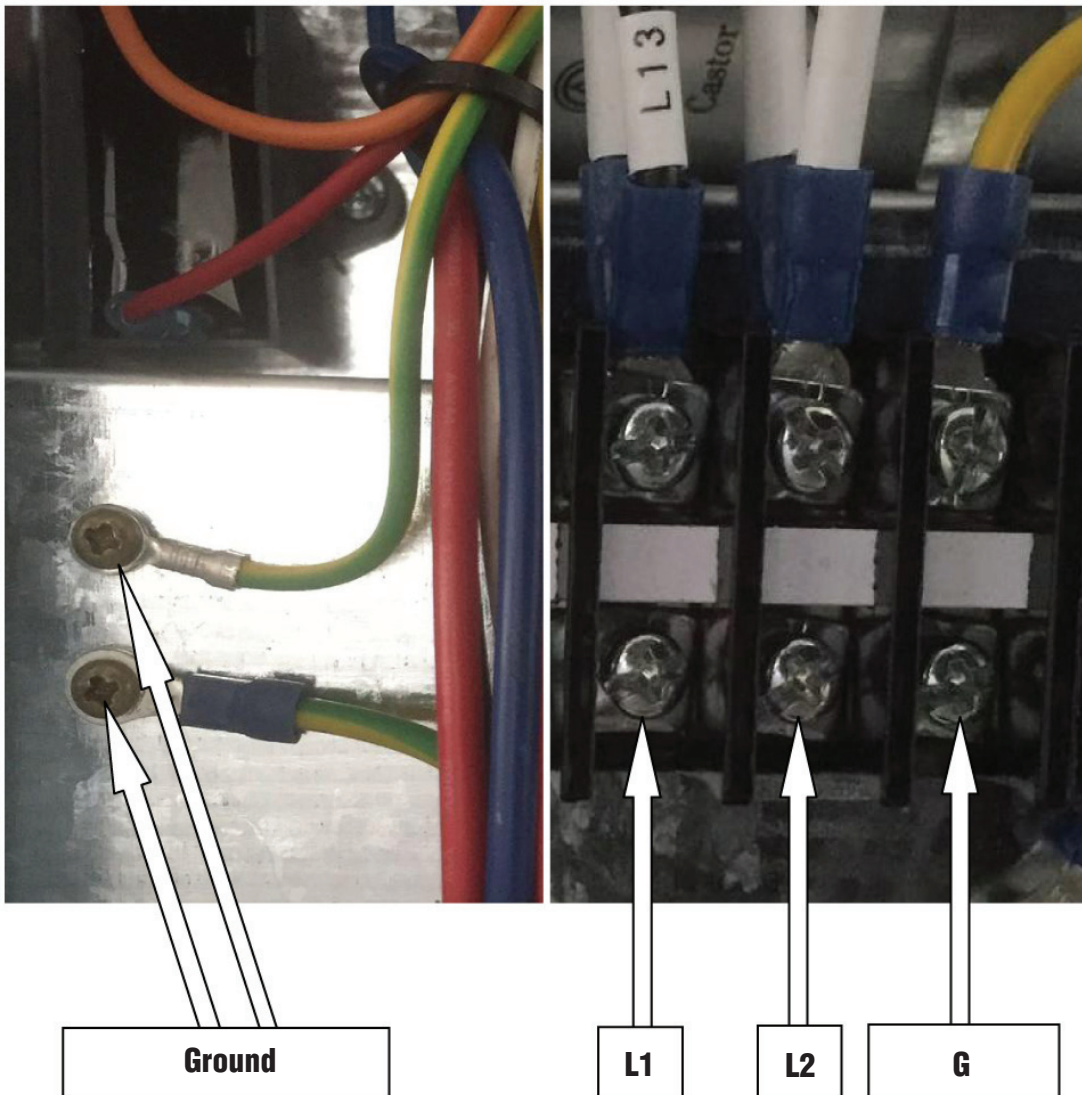
- The installation of the pool heater should be performed by a certified licensed electrician.
- To connect the electricity, you must unscrew the two screws under the front panel, then slide the electric cable through the knock out located on the left or the right side of the base, and then insert it in the control box.

POWER REQUIREMENTS

230V, 1PH, 60Hz

Look at the name plate located on the heat pump to know the required amperage

Please refer to your local electrical code for additional wiring requirements

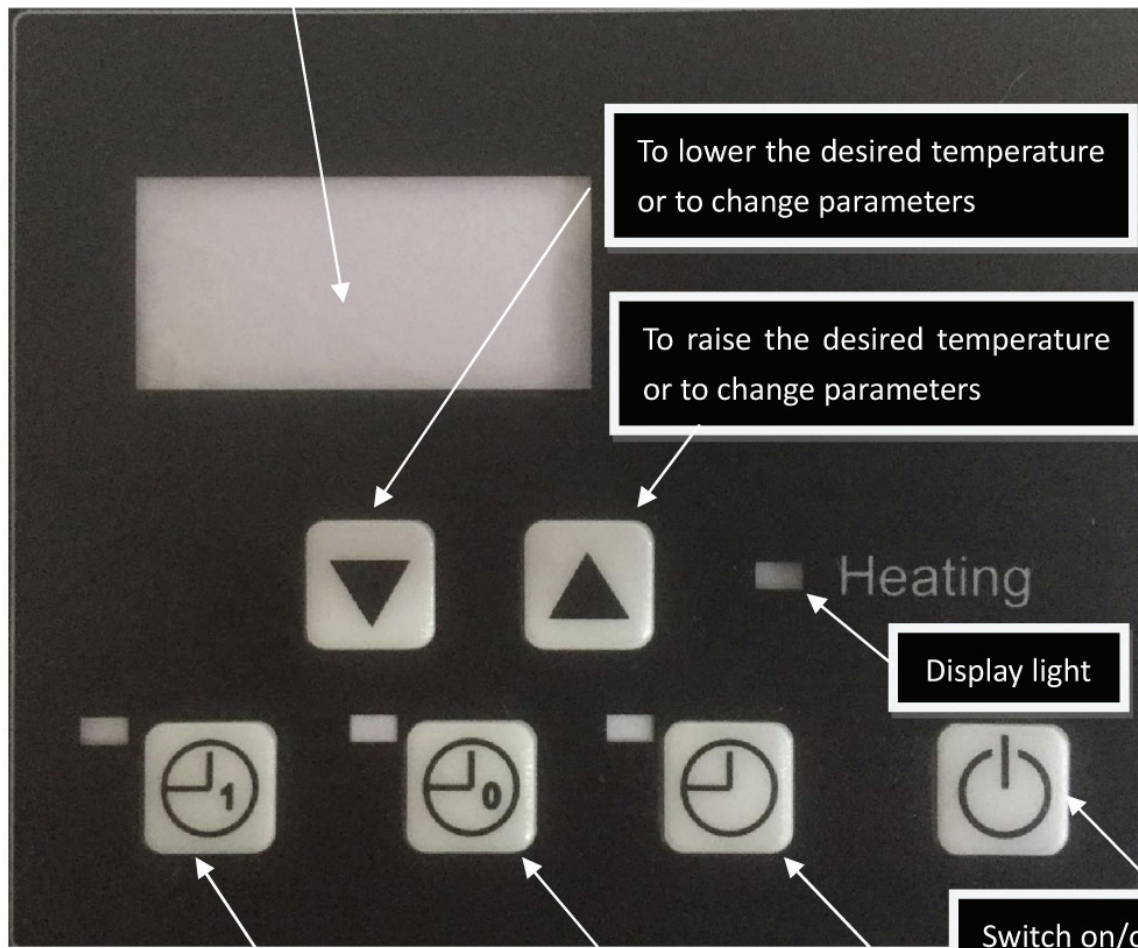


SERVICE ANALYZER CONTROL

- The control panel is factory set to display the temperature in Fahrenheit degrees, it can also be displayed as degree centigrade.

PANEL DESCRIPTION

Temperature and parameter display screen



To lower the desired temperature or to change parameters

To raise the desired temperature or to change parameters




Display light

Switch on/off

Timer which sets and adjusts the running time with the "▽" and "△" button. Long press it for 10s to change "°F" or "°C" display.

Timer which sets and adjusts the shutdown time with the "▽" and "△" button.

Clock setting and adjusting with the "▽" and "△" button. Long press the key for 10s to check the temperature parameters by related temperature sensor

Long press the  button for 10s to examine the running parameters, change the item with the  and  button to check the measure value.

PARAMETER TABLE


(** Display the Measure Value)

ITEM	DISPLAY	MEANING	RANGE
0	0***	Inlet Water Temperature	-9 — 99°C
1	1***	Discharge Temperature	-0 — 127°C
2	2***	Coil Temperature	-9 — 99°C
3	3***	Suction Temperature	-9 — 99°C
4	4***	Ambient Temperature	-9 — 99°C
5	5***	Valve Opening Degree	0 — 50°C

- **For Example:** Display “026.5”, it means the inlet water temperature is 26.5 °C
Display” 146.5”, it means discharge temperature is 46.5 °C

OPERATION


- **To Increase the Temperature**

Proceed as explained above using the up arrow  to increase the temperature setting 0.5 degree at a time.




- **To Lower the Temperature**

Proceed as explained above using the down arrow .




- **To Display the Temperature in °F or in °C**

Long press the  key for 10s to switch




- **To Set Running Time**

Press the  key to enter setting mode, adjusting the value with the up arrow key  and the down arrow key .

- **To Set Shutdown Time**

Press the  key to enter setting mode, adjusting the value with the up arrow key  and the down arrow key .

- **To Set the Clock**

Press the  key to enter setting mode, adjusting the value with the up arrow key  and the down arrow key .

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. The meaning of Display Codes are as follows:

CODES MEANING TABLE

CODE	DESCRIPTION
P1	Inlet Water Temp • Sensor Failure
P2	Discharge Temp • Sensor Failure
P3	Coil Temp • Sensor Failure
P4	Suction Temp • Sensor Failure
P5	Ambient Temp • Sensor Failure
P7	Ambient Temp • Too Low Protection
P8	Anti-freeze Protection
P9	Liquid Impact Protection
E1	Highest Pressure Fault
E2	Lowest Pressure Fault
E3	Water Flow Fault
E4	Power/Phase Fault
E6	Highest Temperature Fault
E8	Communication Fault

TROUBLESHOOTING

The pool heater is not running

Heat Pump control set to OFF → Turn the heat pump on

Desired water temperature is reached → Unit will automatically restart when the water temperature goes below the set temperature

Main breaker is tripped → Reset main breaker and restart heat pump

Filter is dirty, restricting the water flow → Backwash and clean filter

The fan is running, but the compressor is not

The Heat Pump is in protectin mode → In this case, there may be a delay before restarting

The unit is on defrost cycle → The compressor will automatically start again a few minutes until it has stopped three times continuously

There is no display and the fan is no running but the compressor is running

→ Ask your electrician to verify your heat pump's power supply by checking over the L1/L2/L3 connections in the unit's service box

There is water around the unit

While your 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 heater; cover your pool as often as you can with the solar cover

→ Evaporator restricted due to improper location

Evaporator is dirty



Clean it by running tap water over the coil without additional nozzle attachment. Do not use pressurized water as it can damage the coil and void warranty

Restricted water flow



Adjust water flow. Check by-pass

IMPORTANT

If your pool heater does not operate for reasons other than those mentioned above, please contact Consumer Assistance Center to obtain the proper authorization for the warranty to apply.

INITIAL STARTUP

- 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 circulates freely 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 “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 just condensation.

REQUESTING ASSISTANCE OR SERVICE

- 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. 15-16) and “Warranty” (pp. 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.
- When asking for help, please provide a detailed description of the problem, your heater’s complete model and serial number, and the purchase date. 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.

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 winter cover is also offered by your retailer.



HEAT PUMP

POOL HEATER LIMITED WARRANTY

Blue Torrent Heat Pump is warranted to be free of defects in materials and workmanship for a period of two **years for parts and one year for labor**.

This warranty is applicable to the original location and owner only and is not transferable.

The compressor component has a five **5 year limited warranty** with parts and labor warranted the first **two years. Years 3, 4, 5 parts only are covered.**

The titanium tube component of the heat exchanger has a ten **(10) year warranty**. Our company will void this warranty due to improper pool chemistry. This warranty is valid only if the product is installed according to the specifications of our company.

This Warranty does not include refrigerant or other expendable materials, or services such as inspection, maintenance, or unnecessary service calls due to erroneous operational reports, external valve position, or electrical service. It also does not include the repair of damage due to negligence, accident, freezing, installation in corrosive environments or atmospheres, conditions beyond the normal intended use of the unit, or acts of God.

This Warranty is void if the product is repaired or altered in any way by any persons or agencies other than those authorized by our company, and is in lieu of all other warranties, expressed or implied, written or oral. There are no implied warranties of merchantability or fitness for a particular purpose that apply to this product. This warranty applies to the continental USA.

At its option, we will replace or repair any part that proves defective if such parts are returned to our factory, freight collect, within the warranty period. It is agreed that such replacement or repair is the exclusive remedy available from our company. Unless authorized by our company and performed by a factory authorized service center, our company is not liable for any labor involved in the removal of defective parts or the installation of replacement parts. Our company is not liable for damages of any sort whatsoever, including incidental and consequential damages. Parts returned and services performed under terms of this warranty must be approved by our company. All parts returned under terms of this warranty will be repaired or replaced and returned transportation charges prepaid, by best and most economical means.

ALL WARRANTY CLAIMS MUST BE HANDLED DIRECTLY WITH THE DEALER WHERE THE PRODUCT WAS PURCHASED. A SALES RECEIPT IS REQUIRED TO VERIFY PROOF OF PURCHASE