



## **ECO SPA & POOL OWNERS MANUAL & INSTALLATION GUIDE**

**MODELS: ECO SPA 5.5-11 / ECO POOL 18-27**

### **IMPORTANT SAFETY INSTRUCTIONS ,INSTALLATION INSTRUCTIONS,USER INSTRUCTIONS**

As when installing or using any high voltage electrical appliance, basic safety precautions should always be followed. Under no circumstances should you attempt to clean, install, inspect, repair, disassemble or otherwise service this water heater without first shutting off all power to the unit directly at the breaker box.

**SERIOUS BODILY INJURY OR DEATH COULD OCCUR IF YOU IGNORE THIS WARNING.**

**THIS PRODUCT MUST BE INSTALLED BY A QUALIFIED ELECTRICIAN & PLUMBER IN ACCORDANCE WITH-** Article 680 of the National Electrical Code, NFPA 70 and with the requirements of the authority having jurisdiction and all applicable national, state, provincial, and local electrical codes.

**PLEASE READ THESE INSTRUCTIONS THOROUGHLY AND COMPLETELY PRIOR TO INSTALLATION & USE. FAILURE TO DO SO COULD CAUSE PROPERTY DAMAGE OR SERIOUS INJURY OR DEATH & VOID YOUR WARRANTY.**

**" IMPORTANTSAFETYINSTRUCTIONS "**

**READANDFOLLOWALLINSTRUCTIONSANDSAVETHESEINSTRUCTIONS.**

## ABOUT YOUR SPA/POOL HEATER

Congratulations on the purchase of your Spa/Pool Heater! You have purchased the most technologically- advanced Spa/Pool heater in the market today. Your ECOSMART Spa/Pool Heater is backed by the industry's most comprehensive warranty.

To get the best performance and energy savings from your Spa/Pool heater, it is important that it be installed in accordance with our instructions and the electrical and plumbing codes applicable to your area, and that you read this manual thoroughly for important operating instructions and tips.

At any time, if you have any questions, please contact your Authorized Dealer, or contact us directly at:

**ECOSMARTUS, L.L.C.**  
**3315 NW 167TH STREET, MIAMI GARDENS, FLORIDA 33056**  
**Toll Free: 1-877-474-6473**

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## 1-BEFORE YOU INSTALL THIS PRODUCT

**PLEASE READ THESE INSTRUCTIONS THOROUGHLY AND COMPLETELY BEFORE INSTALLATION AND BEFORE USE. FAILURE TO DO SO COULD CAUSE PROPERTY DAMAGE OR SERIOUS PERSONAL INJURY OR DEATH & VOID YOUR WARRANTY.**

By installing this product, you acknowledge the terms of the manufacturer's warranty and your Authorized Dealer's return policies. Spa/Pool heaters that have been installed cannot be returned. If you have any questions regarding the warranty or product return policies, please consult your Authorized Dealer prior to installation.

Open the box and carefully unpack the Spa/Pool heater. Inspect all components.

## 2. INSTALLATION LOCATION

Ecosmart heaters are designed for either indoor or outdoor use. Units must be mounted on a level base parallel to the ground. Allow 6" clearance at sides and at least 18" clearance at top and front for any maintenance or repairs. Secure the unit to the base via screws (not provided)

### **Recommended Clearances:**

Top 18 inches **CAUTION: Combustible materials should be kept at least 24 inches**

Sides: 6 inches away from your heater and the output hot water pipe.

## 3-WATER CONNECTIONS / PLUMBING DIAGRAM

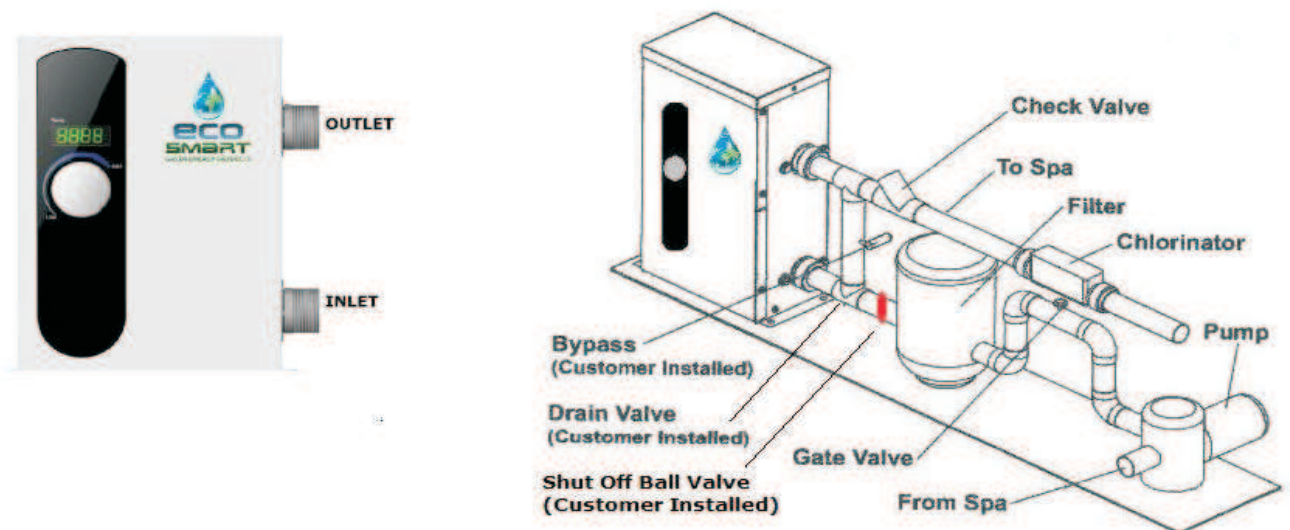
Please follow all plumbing instructions carefully. This product must be installed by a licensed and qualified plumber in accordance with all applicable national, state, provincial, and local plumbing codes.

### **IMPORTANT NOTES:**

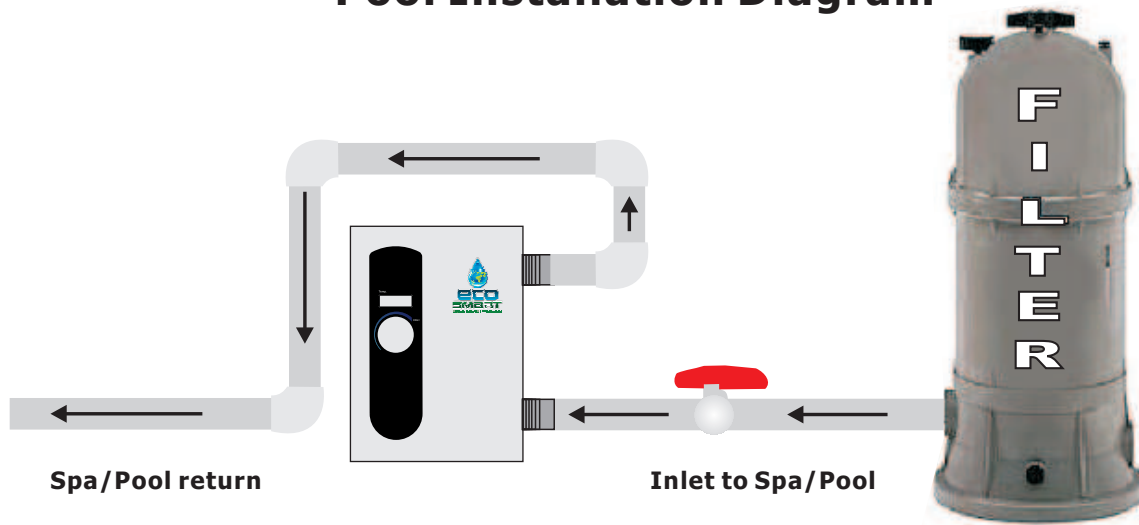
WHEN PREPARING THE CONNECTIONS GOING TO UNIT, MAKE SURE YOU DO NOT USE GLUE OR PUDDY. ANY GLUE OR PUDDY GOING INTO UNIT WILL DAMAGE THE FLOW SENSOR PERMANENTLY. PRIOR TO THE FINAL HOOK UP TO UNIT FLUSH ALL THE LINES TO CLEAR ANY DEBRIS IN LINE. NOTE: When using two speed pumps, do not install gate valve on inlet. No shut-off valves are to be installed in the piping between the spa heater outlet and the spa. If using an in-line chlorinator a check valve must be used. Any chlorinator valves that can cause return line blockage will VOID the warranty.

SPA/POOL HEATER MUST BE INSTALLED AFTER FILTER-Spa models are supplied with 1 1/2" NPT and Pool models with 2" NPT inlet and outlet plumbing connections. All models are rated 240V single phase. Units are Flow activated. No Hartford loop is required.

## Spa Installation Diagram



## Pool Installation Diagram



**SHUT OFF VALVE MUST BE INSTALLED AT INLET OF UNIT. ELECTRICAL AND PLUMBING CONNECTIONS MUST BE FOLLOWED TO MEET ALL LOCAL CODES AND REQUIREMENTS.**

After tightening both fittings at the water heater, RUN our pump to allow water to run through the Spa/Pool heater for at least 5-10 minutes. This process purges all the air from the water lines and MUST be performed prior to turning on the power at the unit. **FAILURE TO FOLLOW THIS STEP CAN CAUSE PERMANENT DAMAGE TO THE HEATING ELEMENTS.**

When any maintenance is performed on the Spa/Pool that may introduce air into the plumbing pipes, it is important to turn the power off to the Spa/Pool heater and purge the air out of the lines before allowing the unit to power up.

**DRY-FIRING of ELEMENTS:** caused by water voids when power is on. ALL air must be purged from system before any heat start-up. It is IMPORTANT to purge all air after cleaning or changing a cartridge filter. The filter casing acts as an air reservoir during this procedure, the circulation system must be on for at least 2 minutes before you turn power on.

**Water Flow-**Your Spa/Pool heater must have an adequate flow of water flow for proper operation. Adequate water flow removes the heat produced by the heater and transfers the heat to the Spa/Pool and prevents overheating. Low water flow usually results from dirty filter or improperly adjusted manual by-pass. Manual by-pass valves should be set so that the outlet temperature coming from the heater is 6-8 degrees F. above the Spa/Pool water after five (5) minutes of heater operation. This can be measured using a thermometer.

## 4. ELECTRICAL CONNECTIONS/ELECTRICAL DIAGRAM

**PLEASE READ THE SE INSTRUCTIONS THOROUGHLY AND COMPLETELY BEFORE INSTALLATION AND BEFORE USE. FAILURE TO DO SO COULD CAUSE PROPERTY DAMAGE OR SERIOUS PERSONAL INJURY, DEATH AND VOID YOUR WARRANTY.**

This product must be installed by a licensed and qualified electrician in accordance with Article 680 of the National Electrical Code, NFPA 70 and with the requirements of the authority having jurisdiction and all applicable national, state, provincial, and local electrical codes. As with all electrical appliances, under no circumstances should you attempt to install, repair or disassembled this water heater without first shutting off all power to the unit directly at the fuse or breaker box. **SERIOUSBODILY INJURY OR DEATH COULD OCCUR IF YOU IGNORE THIS WARNING**

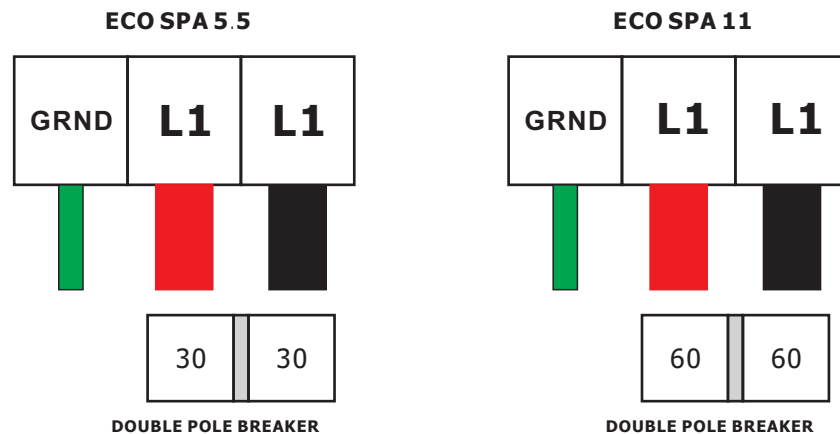
All wiring (wiregauge) and circuit protection (breakers) must comply with the U.S. National Electrical Code (NEC) in the U.S.A., or the Canadian Electrical Code (CEC) in Canada. Failure to do so could result in property damage and / or personal injury, and void your warranty. Note: the Canadian Electrical Code generally requires that all supply wires and corresponding circuit protection (breakers) used for hot water heating and hydronic heating applications be sized to a minimum of 125% of the maximum Current rating of the heater (see model specifications below for details).

Before installing this product, ensure that the home has sufficient electrical power available to handle the maximum amperage load of the applicable model. **ALL UNITS HAVE A 3 MINUTE TIME DELAY ONSTART.**

### Electrical specifications by model

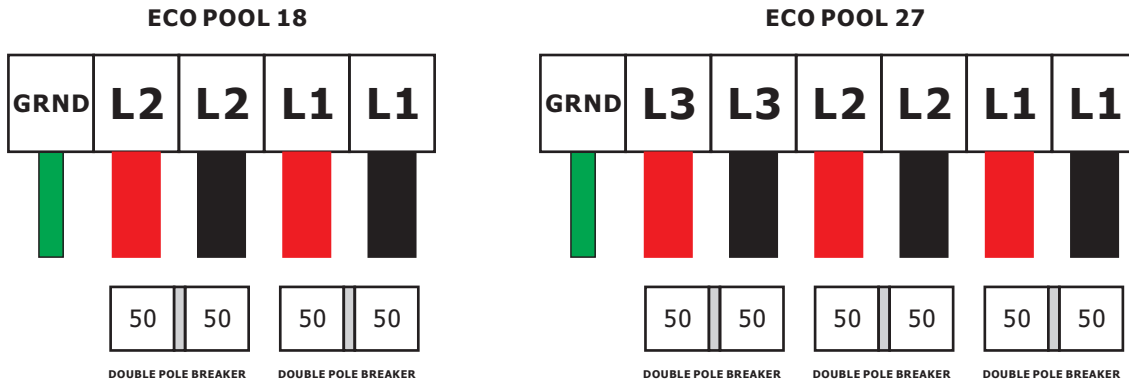
MODELS	ECO SPA 5.5	ECO SPA 11	ECO POOL 18	ECO 27
ELEMENTS	1	2	2	3
VOLTAGE	220-240	220-240	240 V	240 V
FREQUENCY / HZ	60	60	60	60
WPOWER INPUT (/KW)	5.5	11	18	27
EACH SUPPLY	5.5 KW	2 x 5.5 KW	2 x 9 KW	3 x 9 KW
REQUIRED RATING BREALER	30 AMPS	60 AMPS	2 X 50 AMPS	3 X 50 AMPS
RECOMMENDED HOUSE ELECTRICAL SERVICE	100 AMPS	150 AMPS	150 AMPS	200 AMPS

Wire connection to breaker / Model Eco Spa 5.5 Wire connection to breaker / Model Eco Spa 11



## Wire connection to breaker/Model Eco Pool 18

## Wire connection to breaker/Model Eco Pool 27



### Wire & Breakers specification based on the model being installed

<u>M O D E L S</u>	ECO SPA5.5	ECO SPA 11	ECO POOL 18	ECO POOL 27
<b>WIRES</b>				
Gauge	#10	#6	#8	#8
Sets	1	1	2	3
<b>BREAKERS</b>				
Quantity	1	1	2	3
Amperage	30	60	50	50
Type	DOUBLE POLE	DOUBLE POLE	DOUBLE POLE	DOUBLE POLE

A separate ground conductor for each incoming circuit is required.

**DOUBLE CHECK** the electrical connections to make sure they are correct and that all wire connections are tight and secure. Also confirm that the correct breaker size and wire gauge has been used and confirm that the unit has been connected to a ground in accordance with applicable codes.

## 5. HOW TO OPERATE YOUR SPA/POOL HEATER

Once your Spa/Pool heater has been installed and you are ready to begin enjoying it year round. You MUST make sure your pump timer is disengaged to allow it to run until desired temperature Setting is reached.

Your heater will ONLY heat your Spa/Pool when there is water running through it and ONLY when your Spa/Pool pump is working, if your Spa/Pool pump is not running your Spa/Pool heater will not turn on .

Your pool heater has a 3 minute build in TIME DELAY to protect it from air in the lines and elements burn out, when the unit senses water flow it will automatically activate (GREEN LED will turn on). When you initially start to heat your pool, you must run your pool pump without the timer. In order to reach your initial desire pool temperature you will need to run the pool heater for the required time.

## 6. DIGITAL CONTROL TEMPERATURE SETTING

TURN CONTROL KNOB TO SET YOUR DESIRED SPA/POOL TEMPERATURE. WHEN THE SET TEMPERATURE IS REACHED THE HEATER WILL RUN IDLE AND CONSUME NO ENERGY.

Digital Control Temperature Setting: All Ecosmart models come with a digital control temperature setting located in the front panel that can be easily set from 80°-104°F(26°- 40°C) in 1 degree intervals by a simple turn of the knob. The heater can also be turned OFF by pushing the control knob once and converted to Celsius by holding the knob in for 3 seconds.

**You just SET IT and FORGET IT**

## 7. IMPORTANT SAFETY INFORMATION



When using this electrical equipment, basic safety precautions should always be followed, including the following:

Pool water temperatures typically range from 78°F to 82°F. The American Red Cross recommends a temperature of 78°F for competitive swimming. However, this may be too cool for young children and the elderly, who may require a temperature of 80°F or higher.

1. READ AND FOLLOW ALL INSTRUCTIONS.
2. The water in a spa or pool should never exceed 104°F (40°C). A water temperature in excess of 104°F is considered unsafe for all persons. Lower water temperatures are recommended for extended use (exceeding 10-15 minutes) and for young children.
3. 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 pool water temperatures to 100 (38°C).
4. Before entering a spa or pool the user should measure the water temperature at several locations using an accurate thermometer since the tolerance of water temperature - regulating devices may vary as much as +/- 5F (3°C)
5. Alcohol, drugs or medication should not be used before or during spa or pool use since their use may lead to unconsciousness with the possibility of drowning.
6. 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 pool.
7. Persons using medication should consult a physician before using a spa or pool since some medication may induce drowsiness while other medication may affect heart rate, blood pressure and circulation.

Prolonged immersion in hot water may induce hyperthermia. Hyperthermia occurs when the internal temperature of the body reaches a level several degrees above normal body temperature of 98.6 F.

The symptoms include dizziness, fainting, drowsiness, lethargy and an increase in the internal temperature of the body. The effects of hyperthermia include: Unawareness of impending hazard, failure to perceive heat, failure to recognize the need to exit spa or pool, physical inability to exit spa or pool, fetal damage in pregnant women and Unconsciousness resulting in a danger of drowning.

8. SAVE THESE INSTRUCTIONS

Recommended level (s)	Fiberglass Spas	Fiberglass Pools	Other Spa and Pool Types
Water Temp	89-104°F (31-40 °C)	68-88°F (20-31°C)	68-104°F (20-40°C)
pH	7.3-7.4	7.3-7.4	7.6-7.8
Total Alkalinity (ppm)	120-150	120-150	80-120
Calcium Hardness (ppm)	150-200	200-300	200-400
Salt (ppm)	6000 Max	6000 Max	6000 Max
Free Chlorine (ppm)*	2-3	2-3	2-3
Total Dissolved Solids (ppm)	3000 Max	3000 Max	3000 Max

**WATER TREATMENT:**

For the protection of your spa and pool equipment and health, it is important that your water be chemically balanced

**CAUTION: Corrosive water VOIDS all warranties.\* Free Chlorine MUST NOT EXCEED 5 ppm.**

Occasional chemical shock dosing of your spa and pool should not damage the heater as long as the water is balanced.

**Automatic Chlorinators and Chemical Feeders:** All chemicals must be completely diluted into spa or pool water before being circulated through the heater. Chlorine tablets or bromine sticks should not be placed in skimmer. High chemical concentrations will result when the pump is not running.

Chlorinators must be feed downstream of the heater and have anti-siphoning device to prevent chemical backup into the heater when the pump is shut off.

**CAUTION:** High chemical concentrates from feeders and chlorinators that are out of adjustment will cause rapid corrosion to heater. This type damage is not covered under the warranty.

**For additional information or questions please call 877-474-6473 E-mail: [info@ecosmartus.com](mailto:info@ecosmartus.com) Do not return your heater to your Authorized Dealer. Please call our customer service dept.**

**Are you having problems with your water heater? Call TOLL FREE**

**877-474-6473      [E-mail:info@ecosmartus.com](mailto:info@ecosmartus.com)**

You may also contact your Authorized Dealer for assistance

