



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.

" IMPORTANT SAFETY INSTRUCTIONS "

READ AND FOLLOW ALL INSTRUCTIONS AND SAVE THESE INSTRUCTIONS.

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.

3.WARRANTY REGISTRATION: To be covered under the Ecosmart U.S. L.L.C. Manufacturer's Limited Lifetime Warranty Buyer must register product within thirty (30) calendar days of receipt of Product using the Warranty Registration Card included with the product, this warranty may be submitted via mail to ECOSMART U.S. L.L.C. located at 3315 NW 167 STREET, MIAMI GARDENS, FLORIDA 33056. THIS IS A TWO (2) YEAR MANUFACTURER'S WARRANTY THAT CONVEYS BENEFITS TO THE ORIGINAL PURCHASERS, SUBJECT TO THE TERMS AND CONDITIONS SET FORTH HEREIN. Keep Product documents in a safe and secure location. Buyer obligation under the terms of purchase and sale require that Warranty Registration must be returned within the prescribed timeframe (within 30 calendar days) and retain all proof of purchase, installer receipts for warranty in order to protect Buyer's rights and obtain Manufacturer's Limited Warranty benefits. The warranty resides with the buyer with proof of purchase; not simply with an individual in possession of a product. If the product is to be installed in new construction at a date later than 30 days from the date of receipt, send further information in advance of thirty (30) day deadline when known so we may update your warranty record.

FURTHER LIMITATIONS AND EXCLUSIONS AFFECTING YOUR WARRANTY:This warranty is void if the product is not installed in accordance with relevant, local electrical and plumbing codes and in accordance with the installation instructions specified by the manufacturer. Local codes will override manufacturer's instructions at the time of installation and if additional installation parts are required, the costs will be the responsibility of buyer.

4.If,within (30) days of purchase and prior to installation, the buyer finds that the purchased unit is not suitable for their demands Buyer must return the unit to the ECOSMART office. Buyer is responsible for any charges that may be incurred to complete the return. A buyer is eligible for a full refund or credit ONLY if the returned unit is received by ECOSMART within thirty (30) calendar days of receipt AND has been inspected by ECOSMART and found to be in the same condition as when purchased. Only when these two conditions are met will a buyer receive a refund or replacement unit. Ecosmart U.S., LLC will not accept the return of any product without prior written approval from Ecosmart U.S., LLC and the issuance of a Return Merchandise Authorization Number clearly marked on the outside packaging of the return shipment.

AFTER (30) CALENDAR DAYS FROM RECEIPT OF PRODUCT THERE WILL BE NO RETURNS OR WARRANTY WITHOUT RECEIPT OF WARRANTY REGISTRATION BY ECOSMART US. BUYER ACCEPTS ALL SALES AS FINAL. ANY ALTERATION TO THE PRODUCT VOIDS ALL WARRANTIES. Ecosmart U.S. L.L.C. IS NOT RESPONSIBLE FOR ANY OTHER CHARGE OR EXPENSE INCURRED, OTHER THAN THE ORIGINAL PURCHASE PRICE OF THE PRODUCT. Ecosmart U.S. L.L.C. shall not be liable for consequential, special, incidental or contingent expenses or damages arising directly or indirectly from any defect in or of the Product; nor will Ecosmart U.S. L.L.C. be liable for any water damage arising directly or indirectly from the use of the Product or from the failure of or defect in any component part or connecting plumbing. Ecosmart U.S. L.L.C. and Buyer agree to the above terms in their entirety and accept all sales as final without recourse to a credit card company or other financial institution and hereby agree to stipulations and specifications defined within Manufacturer's Limited Warranty.

5.Warranty Procedure for service: Have a licensed electrician determine the exact issue that requires repair. please note that technical support is available for qualified technicians only (licensed electricians and/or plumbers). Technical support that involves potentially dangerous electrical conditions is not available to unqualified persons. When contacting Ecosmart Service Center, please be sure that the technician has a copy of the original Warranty Registration and has reviewed the "Installation Manual" that was supplied with the product. Ecosmart Technical Assistance, at its sole discretion, will determine the best method for repair. Methods of repair include, but are not limited to, replacement of specific part of product or replacement of whole unit. If a whole unit requires replacement under the terms of this Manufacturer's Warranty, the original unit must be returned to the ECOSMART office. Buyer must secure the cost of return delivery and replacement unit with a valid U.S. credit card. Credit Card Authorization Forms are available upon request. If the replaced unit arrives at the Ecosmart office within ten (10) calendar days of shipment of new unit and is found to comply within the specifications of this Manufacturer's warranty then the credit card will be issued a credit, otherwise, Buyer will be charged amount of replacement unit and shipment cost as agreed upon within Credit Card Authorization Form. If Ecosmart Technical Assistance determines a component requires repair or replacement under the terms of this Manufacturer's Limited Warranty, the part will be shipped via standard ground delivery at customers expense.**If faster shipping service is desired, the Buyer must select and pay for same.**

ECOSMART US LLC, 3315 N.W 167TH STREET, MIAMI GARDENS, FLORIDA 33056, TEL: 305-623-7900 FAX: 305-623-7923.

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

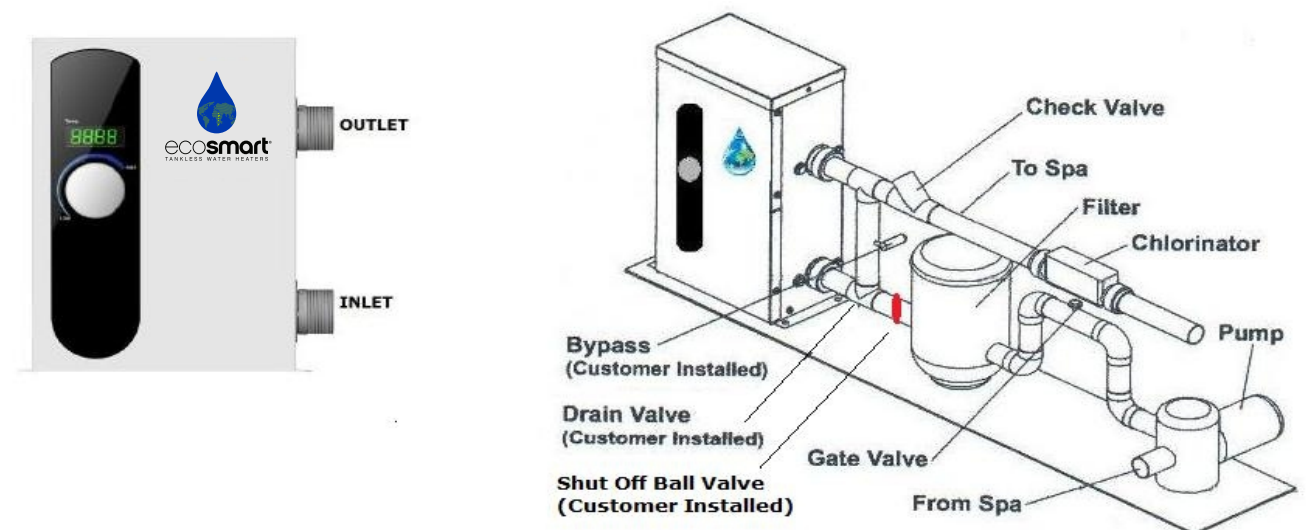
Please follow all plumbing instructions carefully. This product must be installed by a licensed and qualified plumber in accordance with all applicable national, state, provincial, and local plumbing codes.

IMPORTANT NOTES:

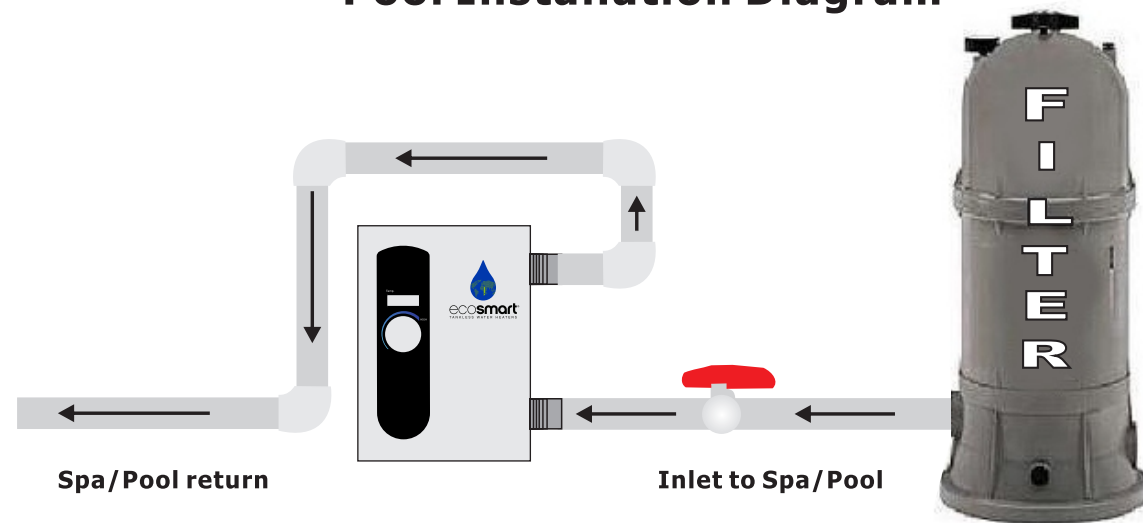
WHEN PREPARING THE CONNECTIONS GOING TO UNIT, MAKE SURE YOU DO NOT USE GLUE OR PUDDY. ANY GLUE OR PUDDY GOING INTO UNIT WILL DAMAGE THE FLOW SENSOR PERMANENTLY. PRIOR TO THE FINAL HOOK UP TO UNIT FLUSH ALL THE LINES TO CLEAR ANY DEBRIS IN LINE. NOTE: When using two speed pumps, do not install gate valve 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 11/2" 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.

ECOSMART US LLC SPA & POOL 2 YEAR LIMITED WARRANTY

MODELS ECO SPA 5.5 & 11 ECO POOL 18 & 27

MANUFACTURES WARRANTY

1. **PRODUCT WARRANTY:** Ecosmart U.S. L.L.C. warrants to the original purchaser at the original address or the authorized transferee of such purchaser (collectively, the "Buyer") Ecosmart Tankless Water Heater and its components to be free from defects in materials and workmanship, under normal use and service from the date of installation, provided that the product is installed within thirty (30) days from date of receipt and installed by a licensed electrician and plumber (specific proof required) and maintained in accordance with products written instructions. The product warranty will be in effect upon receipt of the Warranty Registration by Ecosmart U.S. offices. The Warranty Registration is included in the Operating and Maintenance Manual supplied with each new product and must be fully completed and submitted via fax, mail or website within (30) days of receipt of Product. Incomplete Warranty Registrations will not be accepted. Product Warranties are void without receipt of Warranty Registration within (30) days of receipt of product.

SUCH WARRANTIES DO NOT COVER:

- Product failure caused by liming, sediment buildup, chemical corrosion, chlorine/chloride corrosion, or freezing.
- Product failure caused by the failure to remove air from system prior to or during operation.
- Heating Elements
- Product misuse, tampering or misapplication, accidental damage, improper installation or the application of improper voltage.
- Damage, malfunction or failures from misuse or neglect, including but not limited to, freeze-ups, operating the heater with cabinet door off, having flow restrictions or obstructions between heater outlet and the spa/pool, or not having a proper chemical balance (PH level must be between 7.5 and 7.8 and total alkalinity between 100 and 150 PPM. Total dissolved solids (TDS) must be no greater than 3000 PPM)
- Use of any attachment, including energy saving device not authorized by the manufacturer.
- Performance problems caused by improper sizing of the heater or electric service voltage, wiring, grounding or fusing.
- Damage malfunctions or failures resulting from (or due to) connected system control devices.
- Damage malfunctions or failures from abuse, acts of nature, accident, fire, flood, freeze, lightning or the like.
- Costs incurred for shipping, delivery, handling and/or administrative charges.
- Labor charges of any kind.

THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR PATENT OR OTHER INTELLECTUAL PROPERTY RIGHT INFRINGEMENT.

2. **LIMITATION OF REMEDIES AND DAMAGES:** Ecosmart U.S.L.L.C. liability and Buyer's exclusive remedy hereunder will be limited solely to repair or replacement of product under warranty by Ecosmart Service Center with respect to any claim made within the applicable Warranty. Ecosmart U.S. L.L.C. reserves the right to accept or reject any such claim in whole or in part. Ecosmart U.S. L.L.C. will not accept the return of any product without prior written approval from Ecosmart Service Center and the issuance of a Return Merchandise Authorization Number clearly marked on the outside packaging of the return shipment. ECOSMART U.S LLC WILL NOT BE LIABLE, UNDER ANY CIRCUMSTANCES, FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES, INCLUDING BUT NOT LIMITED TO LABOR COSTS OR LOST PROFITS RESULTING FROM THE USE OF (OR INABILITY TO USE) THE PRODUCTS OR FROM THE PRODUCTS BEING INCORPORATED IN OR BECOMING A COMPONENT OF ANY OTHER PRODUCT OR GOODS.

Ecosmart US LLC. 3315 NW 167th Street Miami Gardens, Florida 33056 TOLL FREE: 877-474-6473

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 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

You may also contact your Authorized Dealer for assistance

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

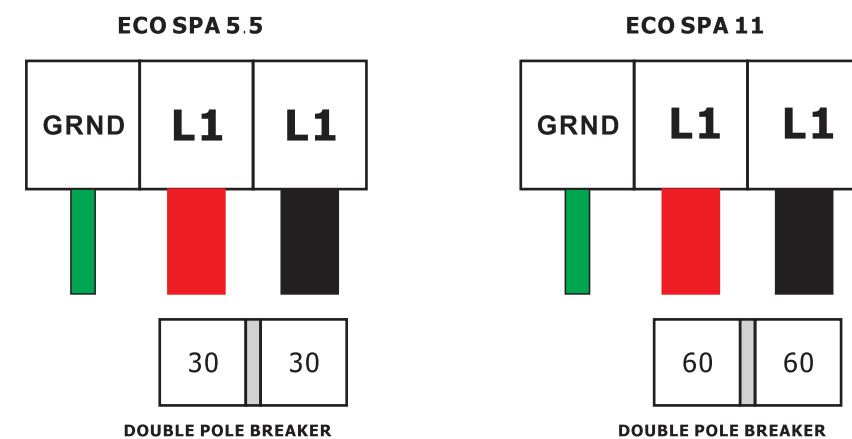
All wiring (wire gauge) and circuit protection (breakers) must comply with the U.S. National Electrical Code (NEC) in the U.S.A., or the Canadian Electrical Code (CEC) in Canada. Failure to do so could result in property damage and / or personal injury, and void your warranty. Note: the Canadian Electrical 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 ON START.**

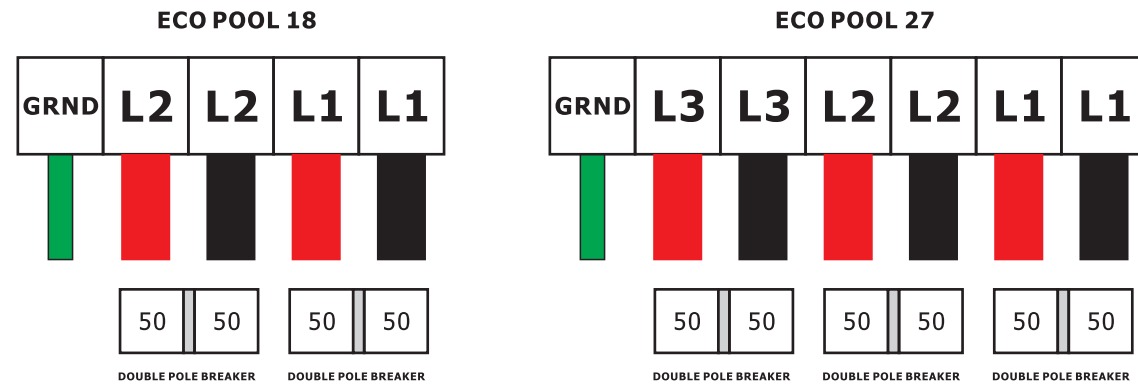
Electrical specifications by model

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	2x5.5 KW	2x9 KW	3 x 9KW
REQUIRED RATING BREAKER	30AMPS	60 AMPS	2 X 50AMPS	3 X 50AMPS
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

MODELS	ECOSPA5.5	ECOSPA 11	ECO POOL 18	ECO POOL 27
WIRES				
Gauge	#10	#6	#8	#8
Sets	1	1	2	3
BREAKERS				
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°-105°F(26°- 41°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 105°F (41°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