



By: Fusion Pacific

The ORIGINAL Hard Cover Spa®



OWNER'S MANUAL

MODELS E1-E2-E3-E4-E5

**IMPORTANT SAFETY INSTRUCTIONS INSIDE.
READ ENTIRE MANUAL BEFORE INSTALLING SPA.
PLEASE SAVE THIS MANUAL FOR FUTURE REFERENCE.**

OWNER'S RECORD

Please record the following important information here for handy reference.

MODEL #: _____
 SERIAL #: _____
 DATE PURCHASED: _____
 PRICE PAID (BEFORE TAX): \$ _____
 DATE INSTALLED: _____
 DEALER NAME: _____
 DEALER ADDRESS: _____
 CITY _____ STATE _____ ZIP _____
 DEALER TELEPHONE: _____



FACTORY LIMITED WARRANTY

This warranty begins on date of delivery and it extends to the original purchaser of any model ECO SPA manufactured April 2019 or later. If your ECO SPA develops a defect that is covered under the terms of this warranty, it will be repaired by Fusion Pacific Inc. (FPI) or its authorized dealer. The original owner must register their product through our website at www.ecospas.com or mail their warranty card within thirty (30) days from purchase or taking delivery, whichever comes first, to activate this warranty.

LIFETIME STRUCTURAL

The structural integrity of the ECO SPA is warranted to be free of defects for lifetime. Should the ECO SPA structure develop a defect and not hold water within the warranty period, it will be repaired or replaced (at FPI's discretion) by FPI. Any related shipping charges are the responsibility of the Spa owner.

LIFETIME ECO-HARDCOVER WITH ATTACHED ARMS

The ECO-HARDCOVER WITH ATTACHED ARMS is warranted for Lifetime to be free from defect in materials and workmanship. Clamps are provided and should be used to better trap heat and keep the cover true to the spa. Should the ECO-HARDCOVER become inoperable due to a defect in materials or workmanship, it will be repaired or replaced (at FPI's discretion) by FPI. Any related shipping charges are the responsibility of the Spa owner.

3 YEARS PLUMBING

ECO SPA warranties all plumbing parts to be free from defects in material and workmanship for a period of three (3) years from original date of purchase. This limited warranty specifically covers leaks from wall fittings, jet fittings, internal plumbing, internal glue joints, drains, air controls, diverter valve and light lens. Jet damage caused by chemical extremes and/or chemical imbalances in the water is not covered by this warranty.

3 YEARS COMPONENTS

ECO SPA components, including top side control, spa control pack, pump, heater and, if so equipped, ozone unit, are warranted to be free of defects or leaks for a period of three (3) years from the OEM date of manufacturing. Defective components within three (3) years will be replaced or repaired (at FPI's discretion) by FPI. Component damage caused by chemical extremes and/or chemical imbalances in the water is not covered by this warranty.

1 YEAR PARTS

ECO SPA headrests/pillows, LED Lighting Systems and GFCI Power Cords are warranted to be free of defects for a period of one (1) year from the OEM date of manufacturing and will be replaced by FPI.

3 YEARS LABOR

ECO SPA will provide a 3-year labor warranty. Refer to your dealer for warranty service.

DISCLAIMER

FPI assumes no liability or responsibility for incidental, consequential or other damage including, but not limited to, removal of a deck or other custom fixture(s), transportation or shipping charges, telephone charges, rental of a like product during the time warranty service is being performed, travel, loss or damage to personal property and loss of revenue, use, time or inconvenience resulting from the loss of use of any ECO SPA covered by this warranty, as applicable by state laws. This warranty does not cover any spa that has been subject to misuse, neglect, negligence, accident, civil disturbance, acts of nature or that has been operated in a way contrary to the recommended operating instructions or that has not been installed as specified in the ECO SPA Owner's operating manual; this warranty does not cover any Spa that has been modified or altered, except with parts or options that are authorized by FPI and installed according to recommended installation instructions. This warranty also does not cover any problems caused by improper water chemistry, improper PH balance, improper wiring, use of extension cords or failure to provide an isolated electrical service. Not covered are electrical issues or other problems which are not from defects in manufacturing. This warranty does not cover any ECO SPA that is being used for commercial purposes or has been operated extensively on display or that has been left uncovered or without water for long periods of time.

TABLE OF CONTENTS

GENERAL INFORMATION

COVER, OWNER'S RECORD	PAGE 1
FACTORY LIMITED WARRANTY	PAGE 2
TABLE OF CONTENTS	PAGE 3
THANK YOU, HELPFUL HINTS	PAGE 4
IMPORTANT SAFETY INSTRUCTIONS	PAGES 5 – 7
INSTALLATION GUIDE	PAGES 8 - 9
SETTING UP AND FILLING YOUR NEW ECO SPA	PAGE 10
CARE AND MAINTENANCE INSTRUCTIONS	PAGES 11 - 12
AUTOMATED FEATURE FUNCTIONS	
POWER UP/BOOT SEQUENCE	PAGE 13
AUTOMATIC DRY-FIRE PROTECTION	PAGE 13
AUTOMATIC WATER TEMPERATURE REGULATION	PAGE 13
AUTOMATIC HEATER ELEMENT COOLDOWN	PAGE 13
AUTOMATIC SMART WINTER MODE	PAGE 14
FILTER CYCLE	PAGE 14
ECONOMY MODE	PAGE 14
UNDERSTANDING & USING YOUR ECO SPA TOPSIDE CONTROLLER	
WHAT THE ICONS IN THE WINDOW MEAN	PAGE 15
SPA FUNCTIONS – OFF MODE	PAGE 15
JETS, LIGHT, WARM & COOL BUTTONS	PAGES 15 - 16
PROGRAMMING – SETTING THE CLOCK	PAGE 16
PROGRAMMING – SETTING THE FILTER CYCLE	PAGE 17
PROGRAMMING – SETTING ECONOMY MODE	PAGE 17
PROGRAMMING – SETTING TEMPERATURE UNITS	PAGE 17
JET, COMPONENT AND EQUIPMENT OPERATING INSTRUCTIONS	
JET OPERATION – MASSAGE JETS	PAGE 18
AIR CONTROLS	PAGE 18
DIVERTER VALVE	PAGE 19
OZONE JET	PAGE 19
SUCTION FITTINGS	PAGE 19
LED MOOD LIGHTING SYSTEM	PAGE 19
TROUBLESHOOTING	PAGES 20 - 22
LOCATIONS OF CONTROLS, JETS & OTHER COMPONENTS	
MODEL E1	PAGE 23
MODEL E2	PAGE 24
MODEL E3	PAGE 25
MODEL E4	PAGE 26
MODEL E5	PAGE 27
WIRING FOR 110/220 VOLT OPERATION	PAGE 28
BREAKER SETTING	PAGE 28
MAINTENANCE LOG	PAGE 29

THANK YOU!

**Congratulations On Your Decision
To Purchase An
Easy-To-Operate And Easy-To-Maintain**



- **ECO SPAs** are built with simplicity of operation and easy maintenance in mind.
- **ECO SPA** uses superior quality materials and top-of-the-line components and controls to provide you with as trouble-free a hot tub experience as possible.
- Side panel removal allows easy access to all interior **ECO SPA** plumbing and equipment for easy maintenance or repair.
- Refer to the diagrams found on pages 23 - 27 to identify the locations of the components of your particular model **ECO SPA**.
- Most service calls can be handled over the phone with your dealer.
- Original spare or replacement **ECO SPA** parts are available by contacting your dealer. Please refer to the Owner's Record information that you recorded on the cover of this manual to assist your dealer in determining your needs.

HELPFUL HINTS

- The covers and Air Controls must be closed for the **ECO SPA** to heat up efficiently. Heating time can vary depending on ambient air temperature, but generally if operating on 110 Volts your **ECO SPA** will heat after fill-up at the rate of approximately 1.5° F per hour. If the spa is operating at 220 Volts heating time will improve considerably to a rate of approximately 3° - 6° F per hour depending on the model's size & water volume.
- While heating, condensation may develop and pool in various locations, especially underneath the body of the spa and on the undersides of the spa's covers which may drip down the sides of the spa when the covers are opened. This accumulated condensation can cause you to believe that the spa is leaking, but these seemingly apparent leaks should be observed for a few days with the **ECO SPA** not in use before proceeding with further investigation.
- All Jets should be wide open to provide better water circulation for proper heating and filtration when your **ECO SPA** is not in use.

IMPORTANT SAFETY INSTRUCTIONS

READ AND FOLLOW ALL INSTRUCTIONS

WARNING

Connect to a grounded, Grounding Type Receptacle Only.
To reduce the risk of electric shock, replace damaged cord immediately.
Do not bury the cord.

DANGER

To reduce the risk of injury to persons, do not remove Suction Fittings.
TO REDUCE THE RISK OF INJURY:

- The water in the spa or hot tub should never exceed 40° C (104° F). Water temperatures between 38° C (100° F) and 40° C (104° F) are considered safe for a healthy adult. **Lower water temperatures are recommended for extended use (exceeding 15-20 minutes) and for younger children.**
- Since 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 hot tub temperatures to 38° C (100° F).
- Before entering a spa or hot tub, the user should measure the water temperature with an accurate thermometer since the tolerance of temperature regulating devices may vary as much as plus or minus 3° C (5° F).
- The use of alcohol, drugs or medication before or during spa or hot tub use may lead to unconsciousness with the possibility of drowning.
- 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 hot tub.
- Persons using medication should consult a physician before using a spa or hot tub since some medication may induce drowsiness while other medication may affect heart rate, blood pressure, and circulation.

WARNING

The use of Alcohol, Drugs or medication can greatly increase the risk of fatal hyperthermia. Hyperthermia occurs when the internal temperature of the body reaches a level several degrees above the normal body temp plus or minus temperature of 98.6° F. The symptoms of hyperthermia include dizziness, fainting, drowsiness, lethargy and an increase in the internal body temperature. The affects of hyperthermia include (1) unawareness of impending hazard, (2) Failure to perceive heat, (3) Failure for the need to exit the Spa, (4) Physical inability to exit Spa, (5) Fetal damage to pregnant women, and (6) Unconsciousness resulting in a danger of drowning.

IMPORTANT SAFETY INSTRUCTIONS **READ AND FOLLOW ALL INSTRUCTIONS**

DANGER: RISK OF ELECTRICAL SHOCK

Do not permit any electric appliance such as a light, telephone, radio, or television within 5 feet of a spa or hot tub.

WARNING: CHILDREN SHOULD NOT USE A SPA OR HOT TUB WITHOUT ADULT SUPERVISION.

AVERTISSEMENT: NE PAS LAISSER LES ENFANTS UTILISER UNE CUVE DE RELAXATION SANS SURVEILLANCE.

WARNING: DO NOT USE A SPA OR HOT TUB UNLESS ALL SUCTION GUARDS ARE INSTALLED TO PREVENT BODY AND HAIR ENTRAPMENT.

AVERTISSEMENT: POUR EVITER QUE LES CHEVEUX OU UNE PARTE DU CORPS PUISSENT ETRE ASPIRES, NE PAS UTILISER UNE CUVE DE RELAXATION SI LES GRILLES DE PRISE D'ASPIRATION NE SONT PAS TOUTES EN PLACE.

WARNING: PEOPLE USING MEDICATIONS AND/OR HAVING ADVERSE MEDICAL HISTORY SHOULD CONSULT A PHYSICIAN BEFORE USING A SPA OR HOT TUB.

AVERTISSEMENT: LES PERSONNES QUI PRENNENT DES MEDICAMENTS OU ONT DES PROBLEMES DE SANTE DEVRAIENT CONSULTER UN MEDECIN AVANT D'UTILISER UNE CUVE DE RELAXATION.

WARNING: PEOPLE WITH INFECTIOUS DISEASES SHOULD NOT USE A SPA OR HOT TUB.

AVERTISSEMENT: LES PERSONNES ATTEINES DE MALADIES INFECTIEUSES NE DEVRAIENT PAS UTILISER UNE CUVE DE RELAXATION.

WARNING: TO AVOID INJURY EXERCISE CARE WHEN ENTERING OR EXITING A SPA OR HOT TUB.

AVERTISSEMENT: POUR EVITER DES BLESSURES, USER DE PRUDENCE EN ENTRANT DANS UNE CUVE DE RELAXATION ET E SORANT.

WARNING: DO NOT USE DRUGS OR ALCOHOL BEFORE OR DURING THE USE OF A SPA OR HOT TUB TO AVOID UNCONSCIOUSNESS AND POSSIBLE DROWNING

AVERTISSEMENT: POUR EVITER L'EVANOUISSEMENT ET LA NOYADE EVENTUELLE, NE PRENDE NI DROGUE NI ALCOOL AVANT D'UTILISER UNE CUVE DE RELAXATION NI QUAND ON S'Y TROUVE.

IMPORTANT SAFETY INSTRUCTIONS

READ AND FOLLOW ALL INSTRUCTIONS

WARNING: PREGNANT OR POSSIBLY PREGNANT WOMEN SHOULD CONSULT A PHYSICIAN BEFORE USING A SPA OR HOT TUB.

AVERTISSEMENT: LES FEMMES ENCEINTES, QUE LEUR GROSSESSE SOIT CONFIRMÉE OU NON, DEVRAIENT CONSULTER UN MÉDECIN AVANT D'UTILISER UNE CUVE DE RELAXATION.

WARNING: WATER TEMPERATURE IN EXCESS OF 40° C (104° F) MAY BE INJURIOUS TO YOUR HEALTH.

AVERTISSEMENT: IL PEUT ÊTRE DANGEREUX POUR LA SANTÉ DE SE PLONGER DANS DE L'EAU À PLUS 40° C (104°F).

WARNING: BEFORE ENTERING A SPA OR HOT TUB MEASURE THE WATER TEMPERATURE WITH AN ACCURATE THERMOMETER.

AVERTISSEMENT: AVANT D'UTILISER UNE CUVE DE RELAXATION MESURE LA TEMPÉRATURE DE L'EAU À L'AIDE D'UN THERMOMÈTRE PRÉCIS.

WARNING: DO NOT USE A SPA OR HOT TUB IMMEDIATELY FOLLOWING STRENUOUS EXERCISE.

AVERTISSEMENT: NE PAS UTILISER UNE CUVE DE RELAXATION IMMÉDIATEMENT APRÈS UN EXERCICE FATIGANT.

WARNING: PROLONGED IMMERSION IN A SPA OR HOT TUB MAY BE INJURIOUS TO YOUR HEALTH.

AVERTISSEMENT: L'UTILISATION PROLONGÉE D'UNE CUVE DE RELAXATION PEUT ÊTRE DANGÉREUSE POUR LA SANTÉ.

WARNING: DO NOT PERMIT ELECTRIC APPLIANCES (SUCH AS A LIGHT, TELEPHONE, RADIO, TELEVISION, ETC.) WITHIN 1.5 M OF THIS SPA OR HOT TUB.

AVERTISSEMENT: NE PAS PLACER D'APPAREIL ÉLECTRIQUE (LUMINAIRE, TÉLÉPHONE, RADIO, TÉLÉVISEUR, ETC.) À MOINS DE 1.5 M DE CETTE CUVE DE RELAXATION.

CAUTION: MAINTAIN WATER CHEMISTRY IN ACCORDANCE WITH THE CHEMICAL MANUFACTURER'S INSTRUCTIONS.

ATTENTION: LA TENEUR DE LEAU EN MATIÈRES DISSOUTES DOIT ÊTRE CONFORME AUX DIRECTIVES DU FABRICANT DES CHIMIQUES.

INSTALLATION GUIDE

Please Read and Understand All Instructions Before Operating Your

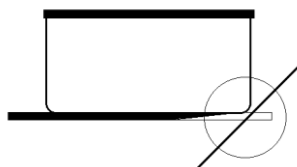


SELECTING THE INSTALLATION LOCATION

Your new **ECO SPA** is completely self-contained. It can be set up on a patio, deck, or indoors with special consideration.

- Your **ECO SPA** must be installed on a relatively smooth, solid, flat and level surface that will support 3,000 pounds. Concrete, bricks, pavers or wood deck are acceptable permanent surfaces. The majority of the weight of the spa is placed under the foot well area of the spa. This area must be firmly supported at all times.

DO NOT USE SHIMS, WEDGES, OR OTHER TYPES OF LEVELING DEVICES TO LEVEL THE SPA



- It is critical that you do not use shims, wedges or other types of leveling devices to level the spa. **100% CONTACT OF THE SPA'S FLOOR WITH THE SITE IS NECESSARY TO PREVENT LONG TERM DISTORTION OF THE SPA SHELL (BODY) WHICH COULD AFFECT THE FIT OF THE COVERS. IMPROPER INSTALLATION IN THIS MANNER MAY VOID YOUR WARRANTY.**
- Do not place your **ECO SPA** in an area where the water will puddle around it. Drainage of water away from the spa's power cord and electrical equipment compartment is necessary.
- Place your **ECO SPA** away from areas where debris or dirt may be tracked into it.
- Your **ECO SPA** should not be placed near or below electrical or telephone cables.
- Consider privacy and wind shielding. A sheltered environment can result in lower operating and maintenance costs.
- Leave a minimum of 24 inches of open space at each end of the spa to ensure that the cover will open and close properly.
- Leave adequate space around the spa to allow full access to the Control System and Pump access panels, Drain Cover and Power Cord cover plates. (See pages 23 - 27 of this manual for a diagram of where these are located on your particular **ECO SPA** model).
- The proper site of your **ECO SPA** should be an area that is **Not Accessible to Children**. Security fencing or Pool Yard gates should be in place to separate Children from the Spa.

- If you are going to operate your **ECO SPA** at 110 Volts your **ECO SPA** draws a maximum of 12 Amps operating at 110 Volts. A GFCI power cord is supplied with all 110 Volt models.
- Locate the round plate labeled POWER CORD on the outside bottom corner of the rear side of the spa, remove it and pull out the electrical cord with the attached GFCI unit that is located behind this plate. Assure that the cord will reach a grounded wall outlet of a 110 Volt 15 amp circuit without using an extension cord. **IF YOU MUST USE AN EXTENSION CORD, IT MUST BE GROUNDED (3-PRONG), AT LEAST 10 GAUGE AND AS SHORT AS POSSIBLE. USING AN INFERIOR EXTENSION CORD WILL LIKELY CAUSE A VOLTAGE DROP WHICH WILL CAUSE THE SPA'S CONTROLS TO MALFUNCTION AND COULD DAMAGE COMPONENTS.** *If there is not a 110 Volt 15 Amp grounded outlet close enough to the spa to do so you may want to consider contacting a Licensed Electrician to supply power to the Spa in a proper manner.*
- **Do not plug the power cord into the outlet until the spa is completely filled with water to the proper water level.**
- If you are going to operate your **ECO SPA** at 220 Volts you **ECO SPA** draws a maximum of 23 Amps if converted from standard 110V or 27 Amps if equipped with an upgraded 4hp pump. **You must hire a certified electrician to install a 220V, 50 Amp GFCI breaker** and to connect the wiring to your spa per all local and national codes. (See page 27 of this manual for instructions on how to convert your **ECO SPA** from 110V to 220V operation). **Ensure that the 220V breaker is disconnected until the spa is completely filled with water to the proper level.**

SPECIAL CONSIDERATIONS FOR INDOOR INSTALLATION




- Install your spa on water resistant, non-slip floor, preferably with a drain to remove the water that is splashed from the spa. Do not install on carpet or other material that will be damaged by moisture.
- Take into consideration the room humidity which will exist due to high temperatures. Providing natural or forced ventilation in the room will help maintain comfort and minimize moisture damage to the surrounding environment.
- Indoor second story installation above finished living space should be avoided due to the possibility of water and humidity damage.
- Allow full access to the spa equipment for service.

SETTING UP AND FILLING YOUR NEW



See Pages 23 - 27 for Model E1-E2-E3-E4-E5

Locations of Jets, Components & Equipment

1. Ensure that your **ECO SPA**'s electrical power cord is NOT plugged in or that power to the spa is turned OFF. **Do not turn on power to the spa until it is full to the proper water level.**
2. Check that your **ECO SPA** drain valve is closed and capped securely so as to prevent leaking.
3. Connect a **Pre-Filter** to your standard garden hose to ensure that you start out with cleaner water.
4. Open the spa covers, remove the filter cover tray-top, unscrew and **remove only 1 of the 2 filter cartridges, leaving the other in place to secure the filter cover housing.**
5. Make sure that the spa's 2 **Air Control** knobs are in the **OPEN** position and that the Diverter Valve is pointed to center.
6. Turn all **Jets** counter-clockwise to the full **OPEN** position. Doing so will minimize the amount of air in the water lines to help avoid causing a potential 'airlock' and will make priming the pump easier.
7. Fill your **ECO SPA** to an approximate water level of **2" above the top of the highest jet.** Once the spa is filled to this level, power can then be supplied to your **ECO SPA**.
8. Carefully re-install the filter cartridge and re-install the filter cover tray-top.
9. Plug in the GFCI unit of the 110 Volt power cord and depress the reset button on it or, if applicable, connect the power for 220 Volt operation.
10. Once the power is on, the pump should come on at High Speed for 1 minute to purge air from the water lines and verify adequate water flow and then it will shift down to Low speed. Meanwhile, the window of the Topside Control panel will display a series of codes, then a series of dashes (----) and finally settle on toggling between displaying Time and Temperature.
11. The  and  icons will be flashing in the window of Topside Control Panel indicating the spa is taking a water temperature reading and may be calling for heat.
12. The  icon will then show solid in the window of Topside Control Panel as the heater will automatically begin heating to the Temperature Set Point you programmed on your Topside Control Panel. (See **ECO SPA** Topside Controller Instructions on pages 15 - 17.)
13. Once the water temperature has reached at least 80°F (27°C) so that chemicals can dissolve properly you can now test and balance the pH Level of your water and sanitize it per the chemistry guidelines supplied by your dealer.
14. **ECO SPA** is not responsible for damage to the spa from improper or excessive chemical use. **ECO SPA** recommends that you read and understand the spa chemistry guidelines supplied by your dealer or consult with a local spa supply retailer.

CARE AND MAINTENANCE INSTRUCTIONS

HARD COVERS & SPA SURFACES

When not in use please keep your **ECO SPA** hard covers clamped down at all times, especially in extreme weather conditions. Consistent use of the clamps will help maintain the fit of the covers to the spa.

It is best and easiest to pull the covers open and down from the ends of the spa using the handles as this helps to maintain even weight balance.

Lifting the covers by one side or the other instead of pulling them open in this manner puts undue stress on the lifter arm(s) due to the unbalanced weight.



CLEANING YOUR ECO SPA

The high-grade resin from which your **ECO SPA** is constructed can easily be cleaned with a vinegar and water solution.

CLEANING THE FILTER CARTRIDGES



The filter cartridges should be rinsed and cleaned at least once every month or more frequently for high bather loads. You may wish to also soak excessively dirty cartridges overnight in a filter cartridge cleaner solution; if you do, be sure to rinse them out thoroughly before re-installing.

- Remove tray top to change filters
- Attach provided filter cleaner nozzle to your garden hose and rinse dirt and debris from the cartridge pleats thoroughly.
- To clean or replace filters, unscrew filter (counterclockwise). Replace it before replacing second filter.
- Do not tighten them excessively.
- Reinstall the Tray Top.
- Recommended filter replacement is the **Filbur FC-0359**. Some similar filters may not tighten down on the filter housing properly and, if so, the spacer washers provided with your spa should be used.

DRAINING YOUR SPA

Drain and refill your **ECO SPA** with fresh water to the recommended level as necessary. Depending on the frequency and length of your spa sessions and water quality management, you may have to do so more or less frequently.

Hint: once water chemistry becomes difficult to control and/or maintain properly, the water needs to be changed.

- Unplug or disconnect the **ECO SPA**'s electrical power supply. The **ECO SPA** must remain unplugged until re-filled with water.
- Remove the filters.
- Rotate the Air Controls to the fully OPEN position.
- Remove the cap from the **ECO SPA**'s Drain valve and connect it to a standard garden hose. Place the opposite end of the garden hose in the desired drainage area. Rotate the **ECO SPA**'s Drain Valve counterclockwise and then pull it out to open it and commence draining.

WINTERIZING

If your **ECO SPA** is to be transported or stored in temperatures 32° F (0° C) or lower, it is critical that your **ECO SPA** be fully winterized.

The **ECO SPA** must be fully drained and emptied. (See DRAINING YOUR SPA, above)

1. The Drain Valve must remain in the open position with the Drain Valve Cap removed and stored.
2. The Filter Cartridges must be removed, dried and stored.
3. Unscrew and remove the plug located at the bottom of the pump housing using the special wrench included with your spa's accessories. (Take care to leave the O-ring in place on the plug). The pump is located behind the panel with the louvered vent. (For the location of this panel on your spa, see the diagram of your model on pages 23 -27).



AUTOMATED FEATURE FUNCTIONS

POWER UP/BOOT UP DISPLAY SEQUENCE

Once power to your **ECO SPA** has been turned on, each of the following parameters initially appears in the Topside Controller Display for 2 seconds in this sequence:

Software Number



Software Revision



Low- Level Selection




AUTOMATIC DRY-FIRE PROTECTION

After the above sequence of parameters has appeared at power up, the Topside Controller's Display will show "--" and the pump starts on Low Speed for 2 minutes as the **ECO SPA's** System performs a flow check to verify a proper water flow rate to the heater of 18 GPM to protect the heater from firing prematurely ("dry fire"). Once proper water flow rate is verified, the current water temperature will then be shown in the display, toggling with the current time.

AUTOMATIC WATER TEMPERATURE REGULATION

Every 15 to 90 minutes the pump will come on at Low Speed to ensure accurate water temperature as well as to avoid heater activation in "dry fire" conditions (inadequate or absent water flow through the heater element). Over time, the system will "learn" your spa's water temperature variations and thus at what time interval it needs to check and adjust it.

After verifying water flow, pump activation on Low Speed and taking a water temperature reading, if the water temperature has fallen below the Set Point, the system automatically turns the heater on to reach and maintain water temperature at Set Point. Once the water temperature has reached the Set Point value plus 0.8° F the heater is turned off.

The Set Point icon  flashes when taking water temperature reading. To override this mode and immediately turn on the heater simply press the WARM button.


AUTOMATIC HEATER ELEMENT COOLDOWN

If the Heater has been On, the pump will continue to run on Low speed for 2 minutes to cool the heater element and help prolong its useful life. If the water temperature is below the desired set point, the pump will stay on Low speed to operate the heater until the desired temperature set point has been reached, and then run an additional 2 minutes to cool down the heater element.

AUTOMATIC SMART WINTER MODE




Our **Smart Winter Mode** function is preset at the factory to automatically protect your spa from the cold by turning on the pump several times a day to prevent water from freezing in the spa's plumbing system. You do not have to program this function and cannot alter it.


The  indicator appears in the display window when freezing temperature is detected and flashes when the pump is active.

FILTER CYCLE

The **FILTER CYCLE** is composed of the following parameters: Filter Start Time (**FS**), Filter Duration (**Fd**) and Filter Frequency (**FF**). A **FILTER CYCLE** consists of starting the pump on High speed for 1 minute to purge possible air bubbles from the water lines and then running the pump on Low speed for the remainder of the filter cycle duration, activating the Ozone Generator, if so equipped, and introducing Ozone into the water supply via the Ozone Jet to aid in sanitizing.

Factory Preset Defaults for the Filter Cycle are: Start Time: 12PM; Duration: 2 Hours; Frequency: 2 times per 24 Hours.

The  icon shows solid in the display window when the Filter Cycle is active and flashes when the Filter Cycle cannot activate or is suspended because the Jets are not on at Low speed.

Also, when your spa is in an active Filter Cycle you can suspend the Filter Cycle for 20 minutes by pressing any button on the Topside Control panel. The  icon will show flashing at this time and again show solid once the Filter Cycle has resumed activity.

ECONOMY MODE

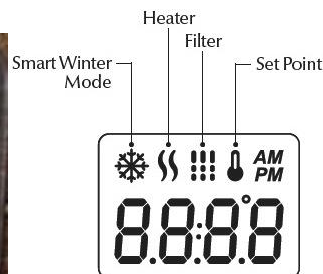


The **ECONOMY MODE** allows you to conserve energy during a certain period of the day or over a number of days by minimizing operation of the Heater by temporarily reducing the temperature set point of the spa by 20 °F (11 °C) during this programmed cycle.





The **ECONOMY MODE** is composed of the following parameters: Economy Program (**EP**), Economy Start Time (**ES**) and Economy Duration (**Ed**).

When the **ECONOMY MODE** is active, the display will toggle between the "Eco" message, the current time, and the current water temperature. Factory preset default for the Economy Mode is: EP, "0" (Disabled). When disabled, the Economy Start Time and Economy Duration settings are irrelevant.

UNDERSTANDING & USING YOUR ECO SPA TOPSIDE CONTROLLER



What The Icons In The Window Mean

-  **Smart Winter Mode:** appears only when the spa has automatically activated its Smart Winter Mode.
-  **Heater:** Flashes when taking a reading of the current water temperature or if calling for heat. Shows solid when the heater is on.
-  **Filter Cycle:** Shows solid when Filter Cycle is active. Flashes when Filter Cycle cannot activate or is suspended because the Jets are not on at Low Speed.
-  **Set Point:** Flashes when reading the spa's current water temperature; shows solid when displaying the desired water Temperature Set Point

SPA FUNCTIONS

OFF Mode



The **OFF Mode** allows you to temporarily stop all outputs including automatic functions such as Filter cycle, Heat request, Economy and Smart Winter mode for **30 minutes** to perform quick spa maintenance without having to disconnect the electrical power to your spa.

Press & hold the **JETS** button for **5 seconds** to enable the **OFF Mode**. Once the **OFF Mode** is active, the display will toggle between the "OFF" message, the Clock and the current Water Temperature. *The spa light will flash for a few seconds before the end of the 30 minutes to warn you that the system is about to resume its normal operation.*

Press the **JETS** button again once to exit the **OFF Mode** and restart the system before the expiration of the OFF Mode's 30 minute delay. When the system resumes its normal operation, the display shows "ON" for 3 seconds, then resumes toggling between the Clock and current Water Temperature.

JETS Button



Press the **JETS** button ONCE to turn Pump on at LOW Speed. The indicator light will be flashing red to indicate Low Speed. Press the **JETS** Button a SECOND time to switch the pump to HIGH Speed. The indicator light adjacent to the button will be lit solid red to indicate High Speed. Press the **JETS** Button a THIRD time to turn the pump OFF.

NOTE: A built-in timer automatically turns pump Off after 20 minutes of continuous operation to conserve energy as well as to safeguard against the spa possibly having been left operating unattended. Simply press the JETS button once again to resume operation.

LIGHT Button



Press the **LIGHT** button to turn On the spa's underwater Multi-Color LED Mood Light, if so equipped. The red indicator light adjacent to the button indicates that the Light is On.

Press the **LIGHT** button a second time to turn the light Off. Repeat this on/off operation to change the light's various colors. A built-in timer automatically turns light off after 2 hours of continuous use to conserve energy.

WARM & COOL Buttons



Use the **WARM** or **COOL** button to set your desired water temperature. For your health and safety, the temperature Set Point limit has been preset at the factory to not exceed 104°F (40°C). The temperature Set Point will be displayed for 2 seconds to confirm your new selection.

(The "Set Point" icon showing solid in the display at this time indicates that the display shows the desired temperature, NOT the current water temperature).

PROGRAMMING



PROGRAM Menu

The following **parameters** are set using the **PROGRAM Menu**:

- Clock
- Filter Cycle
- Economy Mode
- Temperature Units

Before accessing the **Program Menu**, be prepared with what you want your settings to be for each of these **parameters** because once in the **Program Menu** if there is no action taken for **10 seconds**, the system will exit the **Program Menu** without saving any changes and you'll have to start over.

While you are in the **PROGRAM Menu**, use the **WARM** or **COOL** button to adjust a parameter UP or DOWN as needed. Press the **LIGHT** button to jump to the next parameter. **Any changes made will be saved after confirmation of the last parameter only.**

To access the **PROGRAM Menu** press and hold the **LIGHT** button **FOR A FULL 5 SECONDS**.

SETTING THE CLOCK



Access the **PROGRAM Menu** by pressing and holding the **LIGHT** button for a **full 5 seconds**. The display will show the current clock setting with the **Hour** flashing. Observe whether AM or PM is displayed above the Hour digits and use the **WARM** or **COOL** button to adjust the Hour to the correct current time.

Press the **LIGHT** button to jump to view the next parameter, Minutes, flashing in the display, and use the **WARM** or **COOL** button to adjust the **Minutes** to the correct time.

Press the **LIGHT** button to jump to the next parameter, the **FILTER START** time (FS).

SETTING FILTER CYCLE START TIME



The display will show **FSXX**, "XX" representing the starting hour of the Filter Cycle. Observe whether AM or PM is displayed above the Hour digits and use the **WARM** or **COOL** button to adjust the Hour to the desired start time.

Press the **LIGHT** button to jump to the next parameter, **Filter Duration (Fd)**.

SETTING FILTER CYCLE DURATION



The display will show **FdXX**, "XX" representing the duration in hours of the Filter Cycle. Use the **WARM** or **COOL** button to adjust the duration. (24 = 24 Hours or Continuous Filtration; 0 = 0 Hours or No Filtration. It is NOT recommended to set this to 0).

Press the **LIGHT** button to jump to the next parameter, **Filter Frequency (FF)**.

SETTING FILTER CYCLE FREQUENCY



The display will show **FFXX**, "XX" representing the number of Filter Cycles desired per 24-hour period. Use the **WARM** or **COOL** button to adjust the Frequency.

Press the **LIGHT** button to jump to the next parameter, **Economy Mode (EP)**.

SETTING THE ECONOMY MODE



The display will show **EP X**, "X" representing the state of the Economy Program. (0 = Disabled, 1 = Enabled). Use the **WARM** or **COOL** button to Enable or Disable Economy Mode.

Press the **LIGHT** button to jump to the next parameter, **Economy Start Time (ES)**.

SETTING ECONOMY START TIME



The display will show **ES XX**, "XX" representing the hour at which the Economy Mode will become active. Observe whether AM or PM is displayed above the Hour digits and use the **WARM** or **COOL** button to adjust the Hour to the desired Economy Start time.

Press the **LIGHT** button to jump to the next parameter, **Economy Duration (Ed)**.

SETTING ECONOMY DURATION



The display will show **EdXX**, "XX" representing the Duration in hours of the Economy Mode. Use the **WARM** or **COOL** button to adjust the duration. (24 = 24 Hours or Continuous Economy)

Press the **LIGHT** button to jump to the next parameter, **Temperature Units**.

SETTING TEMPERATURE UNITS



Water temperature can be displayed in either Fahrenheit (°F) or Celsius (°C). The display will show F or C. Use the **WARM** or **COOL** button to change the setting as desired.

SAVING YOUR PROGRAM SETTINGS AND EXITING THE PROGRAM MENU

After setting the **Temperature Units**, press the **LIGHT** button one final time to save all parameter settings and exit the Program Menu. The display will return to its normal toggling of the current time and current water temperature.

JET, COMPONENT AND EQUIPMENT OPERATING INSTRUCTIONS

See Pages 23 - 27 for Model E1-E2-E3-E4-E5
Locations of Jets, Components & Equipment

JET OPERATION

Your **ECO SPA** is designed with a versatile jet system to allow you to select a wide variety of massage patterns and tailor your **ECO SPA** to your specific massage and hydrotherapy needs.

MASSAGE JETS



DIRECTIONAL JETS (2" or 3") produce a tight massage stream with that of 2" jets slightly more vigorous than that of larger 3" jets.

To adjust the flow of Directional Jets toward a particular part of your body, rotate the nozzle ("eyeball") of the jet to aim it in the desired direction.



ROTO (Rotational) **JETS** (3" or 4-3/8") provide a loose, swirling massage stream with 4-3/8" jets slightly 'softer' than that of smaller 3" jets.

To adjust the flow pressure of either a Directional or Roto Jet, turn the OUTER RING counter-clockwise to increase flow to a maximum and clockwise to decrease flow to a minimum or Off.

DO NOT FULLY DECREASE (CUT OFF) FLOW OF ALL OF THE JETS AT THE SAME TIME as this may cause your pump to malfunction and could cause your ECO SPA to leak.

AIR CONTROLS



The two **AIR CONTROLS** are used to introduce air into the water flow of the Massage Jets for more robust, vigorous massage.

Turn the Air Control knob counter-clockwise to the Open position to increase jet pressure, and clockwise to the Closed position to decrease jet pressure.

Note: When you are not using your **ECO SPA** and the covers are closed, ensure that the Air Control knobs are in the CLOSED position.

This will prevent air from entering the water stream to help to maintain your water temperature more efficiently when your **ECO SPA** is heating or in Filter Mode.

DIVERTER VALVE



The 3-position **DIVERTER VALVE** allows water to be diverted to a zone of jets, if desired. When the “Pointer Arrow” of the Diverter Valve is centered in the middle (pointed towards the inside of the spa) water flow is directed to all jets. Turning the Pointer Arrow of the Diverter Valve knob all the way to the right or all the way to the left diverts all water flow to a zone of jets on one side of the spa or the other resulting in more robust massage jet action from that zone of jets.

OZONE JET

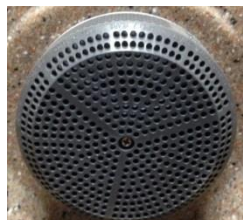


The special 2” **OZONE JET**, if so equipped, located low in the footwell area of each **ECO SPA**, has a fixed position nozzle; its jetstream cannot be aimed and its flow pressure cannot be adjusted like the massage jets.

Whenever the pump is running, this jet serves as a virtual foot massage jet.

However, its true purpose is to introduce Ozone into the water supply during an active **Filter Cycle**. Venturi action feeds Ozone from the Ozone Generator unit into this jet’s water supply and the Ozone jet in turn releases it into the water to aid in sanitizing by killing and breaking down certain organic materials.

SUCTION FITTINGS



Keep the **SUCTION FITTINGS** (located in the foot well area) of the **ECO SPA** unobstructed and free from debris at all times.

Do not remove the suction-fitting screen while the **ECO SPA** is connected to electrical power.

LED MOOD LIGHTING SYSTEM



The **LED LIGHTING SYSTEM** in your **ECO SPA**, if so equipped, provides you with a variety of colorful mood lighting options with its 9-LED 12 volt master bulb, ranging from solid colors to various multi-color sequence “light shows”. Push the **LIGHT BUTTON** once on the **TOPSIDE CONTROL PANEL** to turn the lighting system **ON** and once again to turn it **OFF**.

Each successive **ON-OFF** operation of the **LIGHT BUTTON** will change the lighting from one solid color to another and eventually to cycle through the ‘light show’ variations and then **Off**.

A built-in timer automatically turns off the **LED LIGHT** after 2 hours of continuous operation.

TROUBLESHOOTING

WARNING: SHOCK HAZARD

Spa systems contain live electricity.

Any work within spa systems should only be performed by qualified personnel.

The **GFCI power cord** must be tested to insure proper operation. To test, simply depress the button marked **TEST** on the GFCI unit. The unit should stop operating and the button marked **RESET** should pop up. Push the **RESET** button and the unit's pilot light will come on indicating that the unit is operating normally. IF THE INTERRUPTER DOES NOT PERFORM IN THIS MANNER, A GROUND CURRENT IS FOLLOWING INDICATING THE POSSIBILITY OF ELECTRIC SHOCK. DISCONNECT THE POWER UNTIL THE FAULT HAS BEEN IDENTIFIED AND CORRECTED.

NO POWER TO SPA (RUNNING ON 110 VOLTS)

If the spa is connected to a 110 Volt 15 Amp grounded outlet, test and reset the Power Cable GFCI. If this doesn't restore power to the spa, check the outlet's circuit breaker in the house's main electrical service panel.

If the spa is connected to a 110 Volt 15 Amp grounded outlet but this outlet circuit also serves other appliances besides the spa, it may cause the breaker for this circuit in the main house panel to trip. If this occurs, you may need to upgrade this outlet circuit to 20 Amps to handle the spa as well as the other appliances or add a dedicated outlet circuit for the spa. In either case, please consult your licensed electrician.

GFCI IS TRIPPING (RUNNING ON 220 VOLTS)

For a new 220 Volt installation or for an **ECO SPA** recently converted from 110 Volt to 220 Volt operation the problem is most likely with the wiring of the 220 Volt circuit's GFCI breaker. If GFCI trips instantly the problem is usually the neutral wire path in the GFCI. For an **ECO SPA** that has been installed and running satisfactorily for some time, the problem can be isolated by unplugging or disconnecting the Ozonator unit, Heater, Pump and Light from the Control System ("Pack") one at a time and resetting the GFCI each time to see if the spa stops tripping.

PUMP SURGES CONSTANTLY

This is caused by low water level. Check that the water level is 2" above the highest jet. Be sure you are using the correct closed-top Filter Cartridges.

JET LOW FLOW PROBLEMS

Check to be sure that the Jets are turned to the Open position (Counterclockwise) and that the Air Controls are in the Open position (Counterclockwise). Jets can be removed if necessary to check for blockage or for replacement by turning the Jet counterclockwise until you hear a "click". Then pull the Jet straight out of the Jet Body. Reinstall the Jet by pushing it into the Jet Body, making sure it's in the correct position with the square tab on the underside of the Jet face aligned to the slot in the Jet Body, and turn it clockwise.

TOPSIDE CONTROLLER ERROR MESSAGES

Should an error occur, the Topside Controller Display will show one of the following error messages, toggled with the clock and the water temperature:



The system does not detect sufficient water flow while the pump is running. Check for adequate water level. Check and clean the filters. Check and open water valves. If the problem persists, call your dealer or service supplier for technical assistance.



The water temperature in the spa has reached 108°F (42°C). DO NOT ENTER THE WATER! Open the spa's covers and allow the water to cool down to a lower temperature. If the problem persists, call your dealer or service supplier for technical assistance.



The system has shut the heater down because the temperature at the heater has reached 119°F (48°C). DO NOT ENTER THE WATER! Open the spa's covers and allow the water to cool down to at least 104°F (40°C), then shut power off and power up your spa again to reset the system. You may have to reset the correct time.



Temperature inside the spa skirt is too high, causing the internal temperature in the control system to increase above normal limits. Remove the panel that the control system is located behind to allow more airflow to attempt to cool the system and wait until error clears.



A problem is detected with the temperature probe. Call your dealer or service supplier for technical assistance.



An internal hardware error has been detected in the control system. Call your dealer or service supplier for technical assistance.

SPA WON'T HEAT UP

If operating on 110 Volts, your **ECO SPA** will only gain 1.5 degree per hour and will not heat with the pump on high speed. If operating on 220 volts, your **ECO SPA** will gain from 3 to 6 degrees per hour and will heat with the pump on low or high speed. Turn the Air Controls to Off and close the covers for most efficient heating. Allow proper warm up time. Check for error messages in the Topside Controller display. **Check to see that your ECO SPA is not in Economy Mode.**

SPA RUNS CONSTANTLY

Allow up to 24 hours for initial warm up. Check that the Filter Cycle is set to operate at your desired start times and duration. Check the Topside Controller display for Error Codes.

PUMP RUNS BUT DOES NOT MOVE WATER

This condition is most likely caused by an 'airlock', essentially an air bubble around the pump's impeller preventing the pump from getting 'traction' on the water supply.

See the correct procedure for filling your **ECO SPA** on page 10 to help prevent an airlock from developing while filling the spa.

An airlock may also develop if the pump is operated with an inadequate water level, particularly below the tops of the filter cartridges.

To disperse an airlock:

- Try 'burping' the spa by pushing the Jets button 3 times to turn the pump on Low speed, then on High Speed, then Off and repeat this sequence of pushes on the Jets button several more times or until you see air bubbles coming from a jet or jets which indicate air being released from the water supply.
- Another way to 'burp' the spa is to: Turn off power to the spa. Wearing a rubber glove may help to get a firm enough grip to hand-loosen the collar nut of the Diverter Valve 1 full turn counter-clockwise. Leave it this way about 3-5 minutes. You should hear some air escaping through the collar. Then, re-tighten the collar nut, return power to the spa and start the pump.
- If this then doesn't succeed in getting water flowing normally again, turn off power to the spa and remove the access panel with the louvered vent to expose and gain access to the pump. Use channel-lock pliers to loosen the upper pump union no more than 1 turn to allow air to bleed for 3-5 minutes, then re-tighten the union, return power to the spa and start the pump.

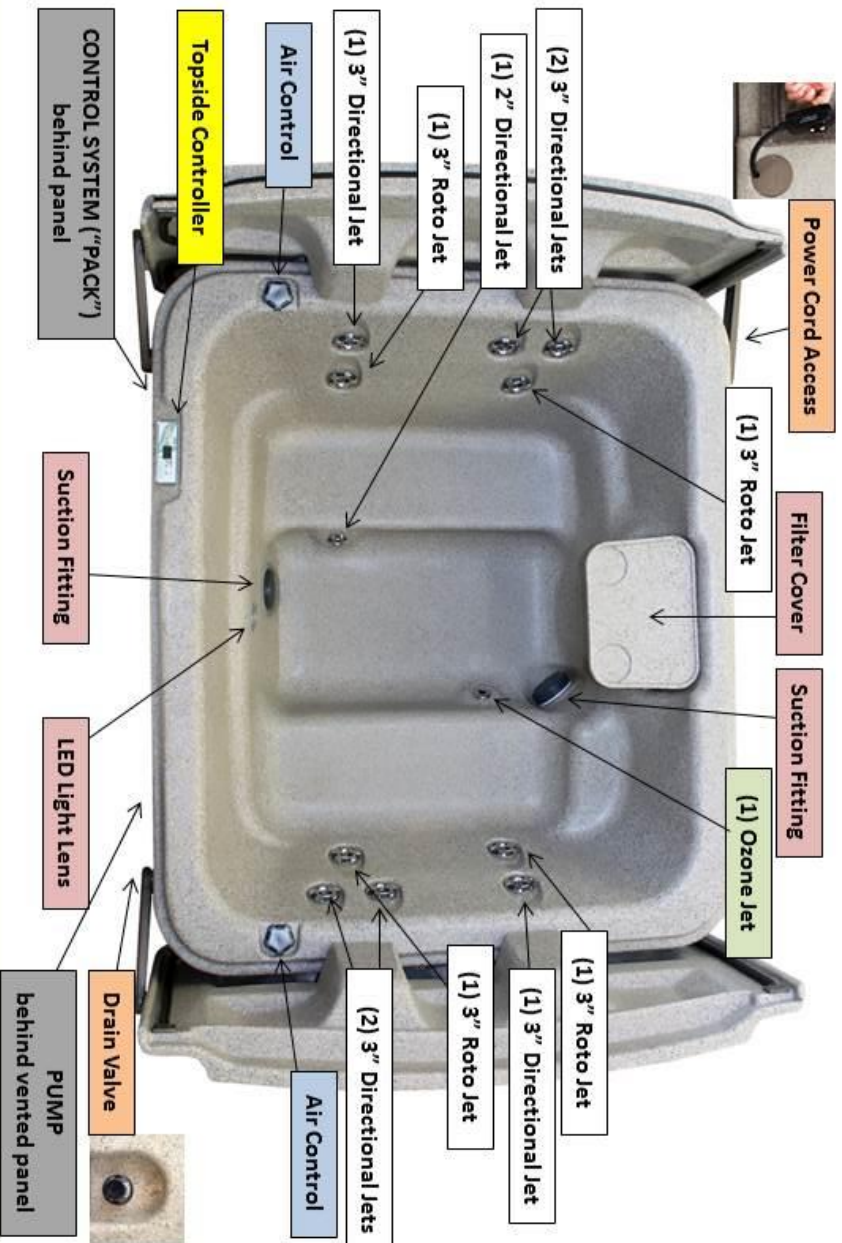


SPA APPEARS TO BE LEAKING

Unless there is a distinct and definite decrease in the spa's water level that can't be explained otherwise, make sure visible water is not from condensation, lid run off or overflow of the tub from displacement caused by spa occupants. Make sure the drain valve is closed and capped securely. Remove access panels to inspect further for leak.



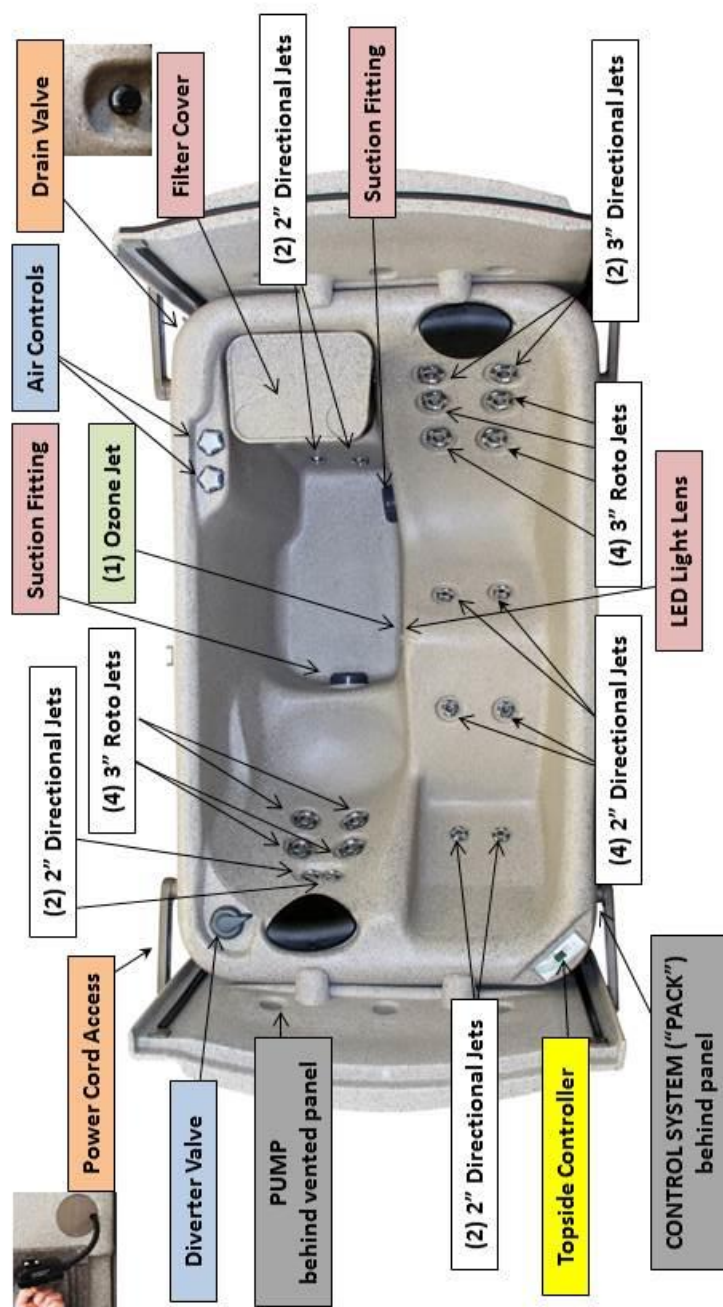
Model E1 Controls, Jets & Other Components



12 JETS: (6) 3" Directional, (4) 3" Roto, (1) 2" Directional, (1) Ozone Jet (non-adjustable, non-removable)



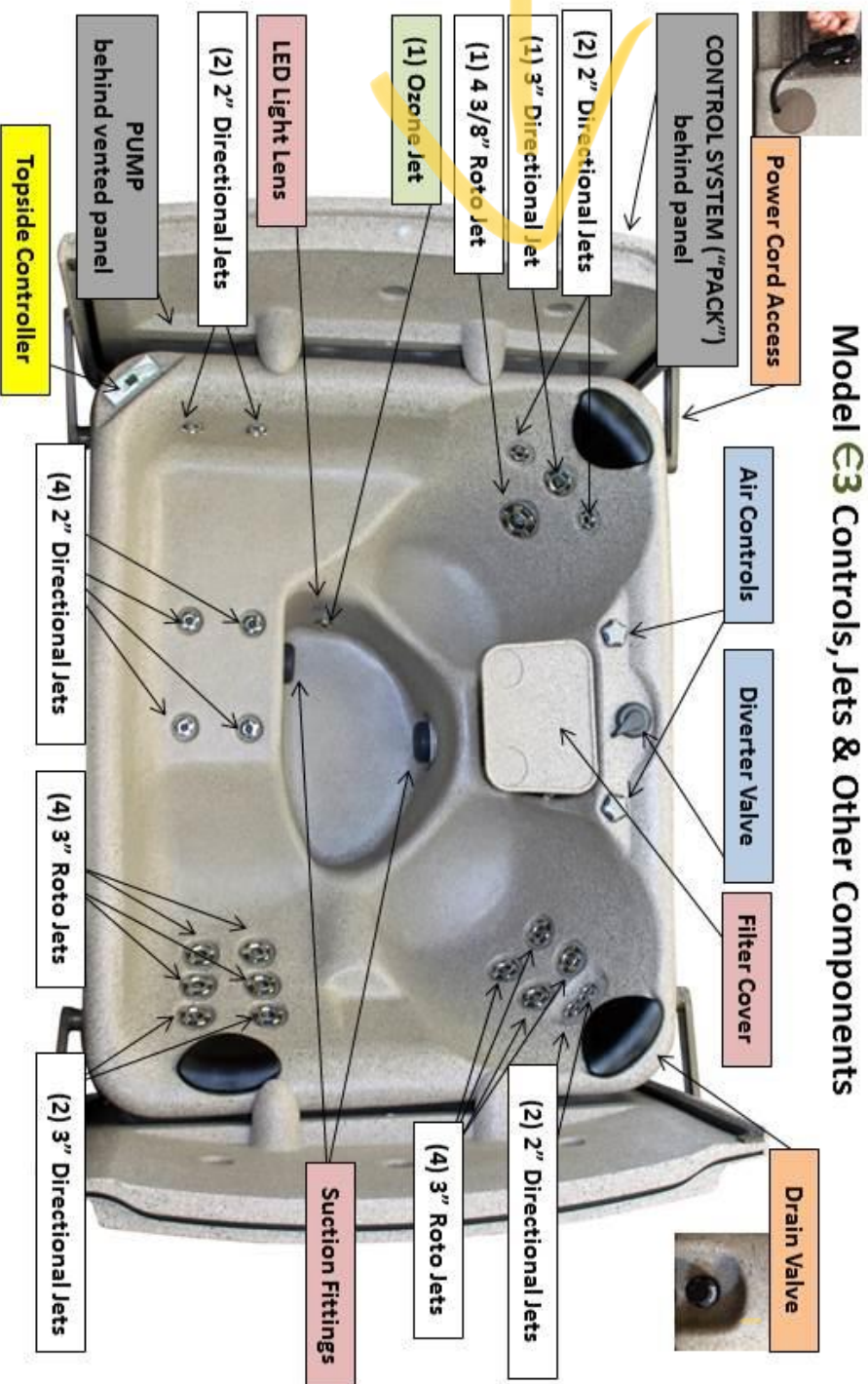
Model €2 Controls, Jets & Other Components



21 JETS: (10) 2" Directional, (8) 3" Roto, (2) 3" Directional, (1) Ozone Jet (non-adjustable, non-removable)



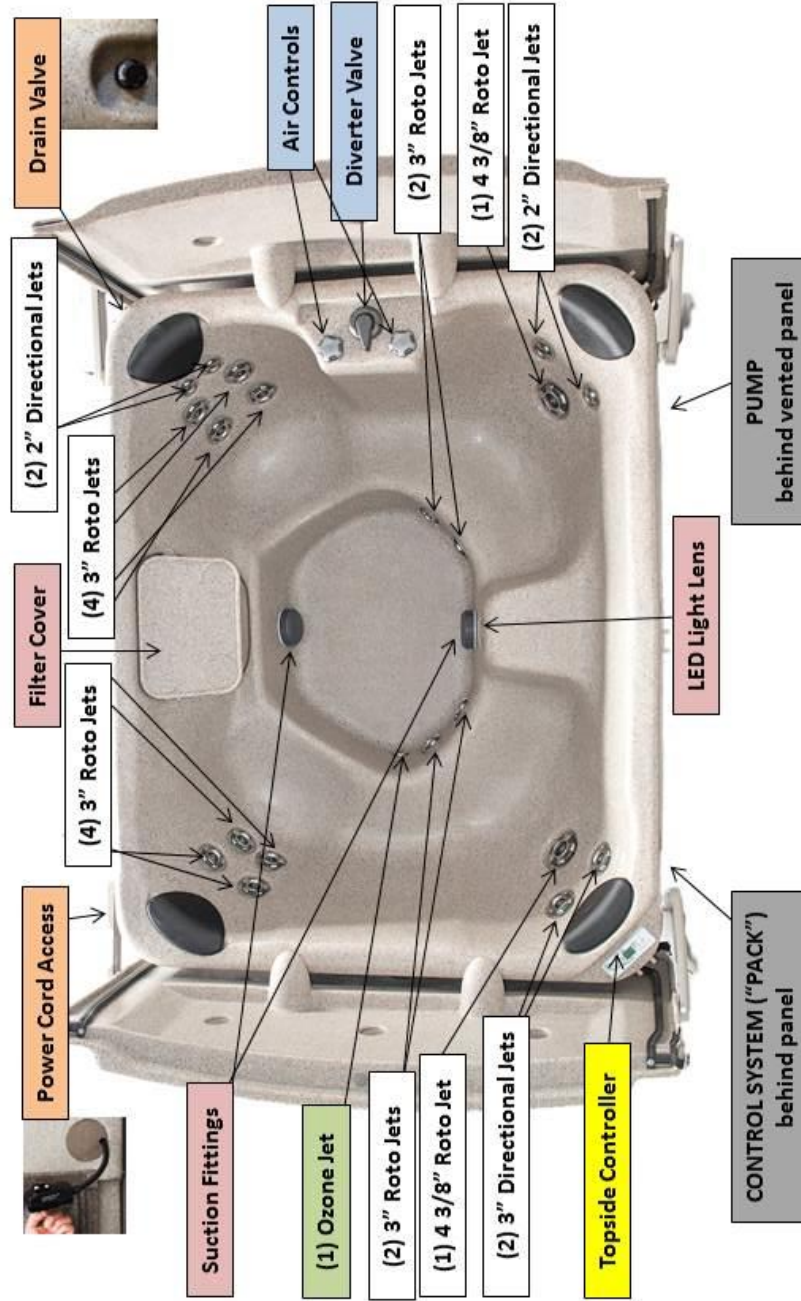
Model E3 Controls, Jets & Other Components



23 JETS: (10) 2" Directional, (8) 3" Roto, (3) 3" Directional, (1) 4 3/8" Roto, (1) Ozone Jet (non-adjustable, non-removable)



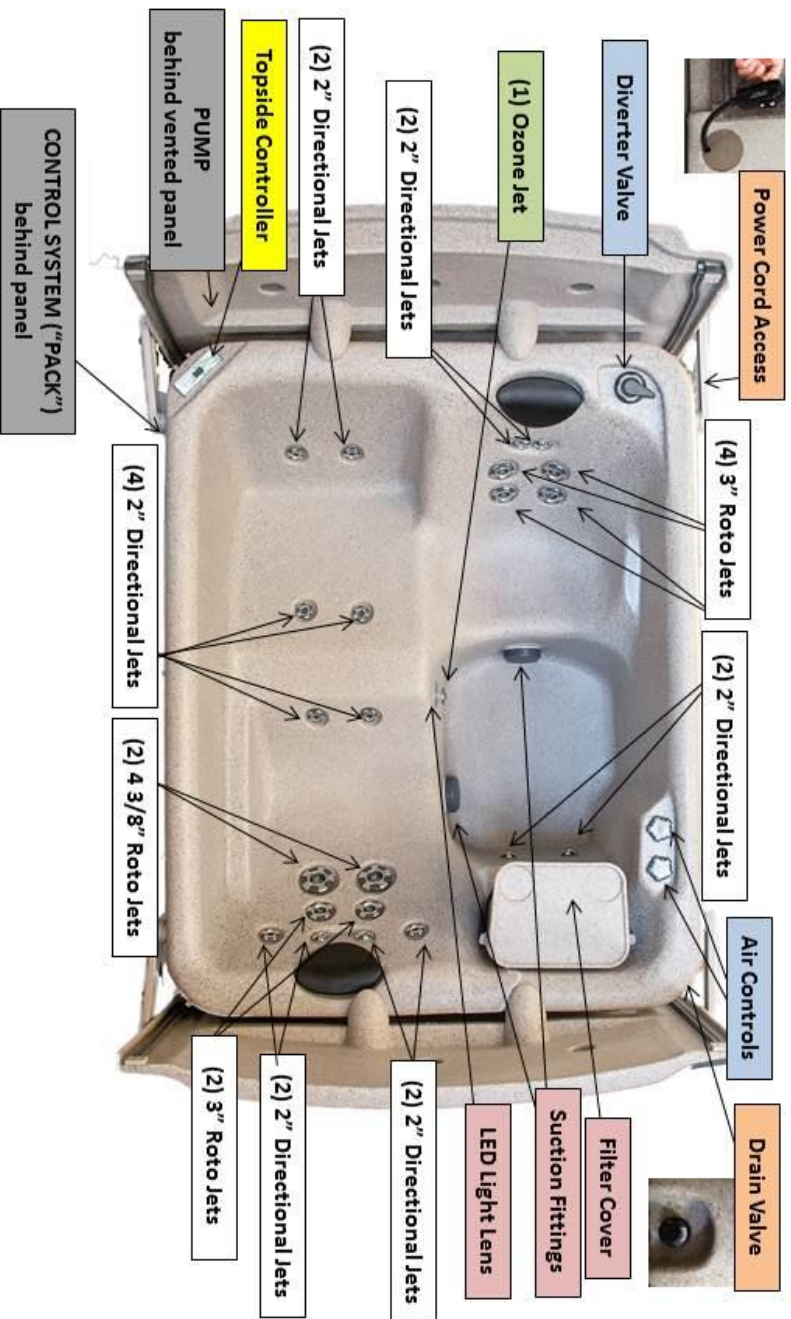
Model €4 Controls, Jets & Other Components



21 JETS: (4) 2" Directional, (12) 3" Roto, (2) 3" Directional, (2) 4 3/8" Roto, (1) Ozone Jet (non-adjustable, non-removable)



Model ES Controls, Jets & Other Components



23 JETS: (14) 2" Directional, (6) 3" Roto, (2) 4 3/8" Roto, (1) Ozone Jet (non-adjustable, non-removable)

WIRING CONNECTIONS FOR 110 VOLT OPERATION

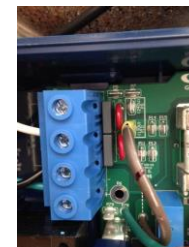
POWER CONNECTIONS

If your **ECO SPA** is wired for 110 Volt operation, the Control System ('Pack') power terminal block 3 wiring connections should look like this:



HEATER CONNECTION

For the heater to operate at 1 kW on 110 Volts the brown jumper wire's yellow-jacketed spade lug is correctly and completely connected from P12 to P10 like this:



WIRING CONNECTIONS FOR 220 VOLT OPERATION

POWER CONNECTIONS

Wired for 220 Volt operation, your **ECO SPA's** Control System power terminal block 4 wiring connections should look like this:



HEATER CONNECTION

For the heater to operate at 4 kW on 220 Volts the brown jumper wire's yellow-jacketed spade lug is correctly and completely connected from P12 to P9 like this:



BREAKER SETTING

It's important to specify the rating of the GFCI being used to ensure safe & efficient power management by the Control System and avoid GFCI breaker tripping.

To access the Breaker Setting menu, press and hold the **LIGHT** button for at least a full **30 seconds**. After 5 seconds, the Program menu parameters will appear in the display during this time until the display stops on the factory breaker setting of **b.16** if your **ECO SPA** was set at the factory for **110 Volt** operation.



If your **ECO SPA** was set at the factory to operate on **220 Volts** the breaker setting will read **b.40**. If you are converting your **ECO SPA** from 110 Volt to 220 Volt operation, use the **WARM** or **COOL** button to adjust the value from **b.16** to **b.40**. Press the **LIGHT** button once to set the rating and exit this task.



The settings values displayed by the system correspond to 80% of the GFCI's maximum amperage capacity. This allows 'headroom' to protect the system equipment from current "spikes."

GFCI	b
20A	16
50A	40
60A	48

[illegible]



By: Fusion Pacific

The ORIGINAL Hard Cover Spa®

Warranty Activation Card

To enjoy the full benefits of your ECO SPA warranty,
please fill out the form below completely
and mail it with copy of your sales receipt or purchase agreement
within 30 days of original installation date to:

ECO SPAS
17129 KOALA ROAD
ADELANTO, CA 92301

PURCHASED BY:		SPA INFORMATION					
NAME:		MODEL					
ADDRESS:		E1	E2	E3	E4	E5	
CITY:	STATE:	PACKAGE:					
ZIP:	PHONE:	<input type="radio"/> STANDARD (110V/1.5HP Pump)					
E-MAIL ADDRESS:		<input type="radio"/> PERFORMANCE (220V/4HP Pump/+12 Jets)					
ORIGINAL INSTALLATION LOCATION:		DATE OF PURCHASE:					
ADDRESS:		PRICE (BEFORE TAX): \$					
CITY:	STATE:	SERIAL #:					
PURCHASED FROM:		DATE OF ORIGINAL INSTALLATION:					
STORE/DEALER NAME:							
ADDRESS:		INSTALLED BY (CIRCLE ONE):					
CITY:	STATE:	CONSUMER				DEALER	
		CONTRACTOR					
ZIP:	PHONE:						
THIS CARD MUST BE MAILED TO ECO SPAS WITHIN 30 DAYS OF DELIVERY TO ACTIVATE WARRANTY. OR REGISTER ONLINE AT WWW.ECOSPAS.COM							