

**FREEFLOW SPAS®**  
**in Augmented  
Reality**



## Freeflow Spas in Augmented Reality User Guide

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### Freeflow Spas in Augmented Reality



### Specifications:

- **Power Requirements:** 115 Volt Cord-Connected Models, 230 Volt Converted Models
- **Recommended Spa Water Levels:**
  - **Free Available Chlorine (FAC):** 3.0-5.0 ppm
  - **Total Alkalinity:** 40 – 120 ppm
  - **Water pH:** 7.2 – 7.8
  - **Calcium Hardness:** 75-150 ppm

### Product Usage Instructions

#### Safety Information:

Read and follow all safety instructions provided in the manual to avoid risks to children, electrocution, injury, and hyperthermia.

#### Avoiding the Risk to Children:

- **Danger:** Follow all safety instructions to prevent risks to children.
- **Warning:** Take precautions to avoid dangers.
- **Do:** Always supervise children near the spa.
- **Don't:** Leave children unattended in or around the spa.

#### Avoiding the Risk of Electrocution:

Risk of electrocution exists with the spa. Follow the instructions carefully to avoid this risk.

#### Avoiding the Risk of Injury:

To reduce the risk of injury, do not remove the floating weir, basket, and filter while the spa is running. Also, be aware of health problems affected by spa use.

#### Avoiding the Risk of Hyperthermia:

Avoid alcohol, drugs, or medication while using the spa to reduce the risk of fatal hyperthermia.

### Important Spa Instructions:

- **Do:** Read and apply all important spa information provided in the manual.
- **Don't:** Ignore any safety guidelines or instructions.

## **SAFETY INFORMATION**

### **READ AND FOLLOW ALL INSTRUCTIONS AVOIDING THE RISK TO CHILDREN**

- **DANGER:**

- **RISK OF CHILD DROWNING.** Extreme caution must be exercised to prevent unauthorized access by children. To avoid accidents, ensure that children cannot use a spa unless they are supervised at all times. **WARNING:**
- To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.
- To reduce the risk of injury, lower water temperatures are recommended for young children. Children are especially sensitive to hot water.

- **DO:**

- Make sure you always lock the child resistant locks after using the spa for your children's safety. Every spa is equipped with a locking cover that meets the ASTM F1346-91 Standard for Safety Covers.
- Test the water temperature with your hand before allowing your child to enter the spa to be sure that it's comfortable. Children are especially sensitive to hot water.
- Remind children that wet surfaces can be very slippery. Make sure that the children are careful when entering or exiting the spa.

- **DON'T:**

- Allow children to climb onto the spa cover.
- Allow children to have unsupervised access to the spa.

## **AVOIDING THE RISK OF ELECTROCUTION**

### **Risk of Electrocution**

- Connect only to a grounded source.
- Do not bury the power cord. A buried power cord may result in death or serious personal injury due to electrocution if direct burial-type cable is not used, or if improper digging occurs.
- A ground terminal (pressure wire connector) is provided on the control box inside the unit to permit connection of a minimum No. 10 AWG (6 mm<sup>2</sup>) solid copper bonding conductor between this point and any metal equipment, metal water pipe, metal enclosures of electrical equipment, or conduit within 5 feet (1.5 m) of the unit as needed to comply with local requirements.

### **WARNING:**

- To reduce the risk of electrical shock, replace a damaged cord immediately. Failure to do so may result in death or serious personal injury due to electrocution.
- Your 115 volt spa is provided with a Ground Fault Circuit Interrupter for user and equipment protection. To ensure proper operation of this important safety device, test according to the following instructions per electrical

configuration.

### **115 VOLT, CORD-CONNECTED MODELS:**

- The GFCI is located at the end of the power cord. Before each use, with the unit operating, push the TEST button. The unit should stop operating and the GFCI power indicator will go out. Wait 30 seconds and then reset the GFCI by pushing the RESET button. The GFCI power indicator will turn on, restoring power to the spa. If the interrupter does not perform in this manner, there may be an electrical malfunction and with it, the possibility of an electric shock.
- Disconnect the power until the problem has been corrected. NOTE: This will reset the filter cycle.

### **230 VOLT, CONVERTED MODELS:**

- A ground terminal is provided on the control box. To reduce the risk of electric shock, connect this terminal to the grounding terminal of your electrical service or subpanel with a continuous green, insulated copper wire. The wire must be equivalent in size to the circuit conductors supplying the equipment. In addition, a bonding terminal (pressure wire connector) is provided on the outside of the control box for bonding to local ground points. To reduce the risk of electric shock, this connector should be bonded with a No. 8 AWG (8.4 mm<sup>2</sup>) solid copper wire to any metal ladders, water pipes, or other metal within 5 feet (1.5 m) of the spa to comply with local requirements. The means of disconnection must be readily accessible, but must be installed at least 5 feet (1.5 m) from the spa.
- Your spa requires a suitably rated circuit breaker to open all ungrounded supply conductors.
- Your spa must have a ground fault circuit interrupter in an electrical subpanel. Before each use of the spa and with the unit operating, push the TEST button on the breaker. The switch should click over to the "Trip" position. Wait 30 seconds and reset the GFCI breaker by switching it completely off and then completely on. The switch should then stay on. If the interrupter does not perform in this manner, it is an indication of an electrical malfunction and the possibility of an electric shock. Disconnect the power until the fault has been identified and corrected.

**IMPORTANT:** Failure to wait 30 seconds before resetting the GFCI may cause the spa's Power Indicator (on the control panel) to blink. If this occurs, repeat the GFCI test procedure.

### **DANGER: RISK OF ELECTRICAL SHOCK**

- Install spa at least 5 feet (1.5 m) from all metal surfaces. A spa may be installed within 5 feet (1.5 m) of a metal surface if each metal surface is permanently connected by a minimum No. 10 AWG (6 mm<sup>2</sup>) solid copper conductor attached to the wire ground connector on the terminal box that is provided for this purpose if in accordance with National Electrical Code.
- Do not permit any electrical appliances, such as a light, telephone, radio, or television within 5 feet (1.5 m) of a spa. Failure to maintain a safe distance may result in death or serious personal injury due to electrocution if the appliance should fall into the spa.
- Install your spa in such a way that drainage is away from the electrical compartment and from all electrical components.

### **DO:**

- Be sure your spa is connected to the power supply correctly – use a licensed electrical contractor.
- Disconnect the spa from the power supply before draining the spa or servicing the electrical components.
- Test the Ground Fault Circuit Interrupter before each use.

#### **DON'T:**

- Use the spa with the equipment compartment door removed.
- Place electrical appliances within 5 feet (1.5m) of the spa.
- Use an extension cord to connect the spa to its power source. The cord may not be properly grounded and the connection is a shock hazard. An extension cord may cause a voltage drop, which will cause overheating of the jet pump motor and motor damage.
- Attempt to open the electrical control box. There are no user serviceable parts inside.

#### **RISKS TO AVOID DANGER: RISK OF INJURY**

- DO NOT sit in the filter compartment area. Sitting in this area can cause: a) Restriction of Filter Pump suction/vacuum. b) Damage to components.
- Both can result in bodily harm. Should damage occur to components in this area, replace immediately!
- To reduce the risk of injury to persons, DO NOT remove floating weir, basket, and filter located in the filter compartment while the spa is running.
- The suction fittings in the spa are sized to match the specific water flow created by the pump. Never replace a suction fitting with one rated less than the flow rate marked on the original suction fitting.
- There is a danger of slipping and falling. Remember that wet surfaces can be very slippery. Take care when entering or exiting the spa.
- Never operate spa if the suction fittings are broken or missing.
- People with infectious diseases should not use the spa.
- Keep any loose articles of clothing or hanging jewelry away from rotating jets or other moving components.

#### **Increased side effects of medication**

- The use of drugs, alcohol or medication before or during spa use may lead to unconsciousness with the possibility of drowning.
- Persons using medications should consult a physician before using a spa; some medication may cause a user to become drowsy, while other medication may affect heart rate, blood pressure, and circulation.
- Persons taking medications which induce drowsiness, such as tranquilizers, antihistamines or anticoagulants should not use the spa.

#### **Health problems affected by spa use**

- Pregnant women should consult a physician before using spa.
- 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 spa.

#### **Unclean water**

- Keep the water clean and sanitized with correct chemical care. The recommended levels for your spa are: Free Available Chlorine (FAC): 3.0-5.0 ppm Total Alkalinity: 40 – 120 ppm Water pH: 7.2 – 7.8 Calcium Hardness: 75-150 ppm
- **IMPORTANT:** Turn jet pump on for at least ten minutes after adding ANY spa water chemicals into the filter compartment.
- Clean the filter cartridge monthly to remove debris and mineral buildup which may affect the performance of the hydromassage jets, limit the flow, or trip the high-limit thermostat which will turn off the entire spa.

### **AVOIDING THE RISK OF HYPERTHERMIA**

Prolonged immersion in hot water can result in HYPERTHERMIA, a dangerous condition which occurs when the internal temperature of the body reaches a level above normal 98.6°F (37°C). The symptoms of hyperthermia include unawareness of impending hazard, failure to perceive heat, failure to recognize the need to exit the spa, physical inability to exit the spa, fetal damage in pregnant women, and unconsciousness resulting in a danger of drowning.

### **WARNING:**

The use of alcohol, drugs, or medication can greatly increase the risk of fatal hyperthermia in hot tubs and spas.

### **TO REDUCE THE RISK OF INJURY:**

- The water in the spa should never exceed 104°F (40°C). Water temperatures between 100°F (38°C) and 104°F (40°C) are considered safe for a healthy adult. Lower water temperatures are recommended for extended use (exceeding 10 minutes) and for young
- children. Extended use can cause hyperthermia.
- Pregnant or possibly pregnant women should limit spa water temperatures to 100°F (38°C). Failure to do so may result in permanent injury to your baby.
- Do not use spa immediately following strenuous exercise.

### **AVOIDING THE RISK OF SKIN BURNS:**

- To reduce the risk of injury, before entering a spa the user should measure the water temperature with an accurate thermometer.
- Test the water with your hand before entering the spa to be sure it's comfortable.

### **SAFETY SIGN**

A SAFETY SIGN is included in the owner's package. The sign, which is required as a condition of Product Listing, should be permanently installed where it is visible to the users of the spa.

### **IMPORTANT SPA INSTRUCTIONS**

The following contains important spa information, and we strongly encourage you to read and apply them.

### **DO:**

- Use and lock the cover when the spa is not in use, whether it is empty or full.
- Follow the Spa Care and Maintenance recommendations stated in this manual.
- Use only approved accessories and recommended spa chemicals and cleaners.

## DON'T:

- Leave the spa exposed to the sun without water or the cover in place. Exposure to direct sunlight can cause solar distress of the shell material.
- Roll or slide the spa on its side. This will damage the siding.
- Lift or drag the cover by using the cover lock straps; always lift or carry the cover by using the handles.
- Attempt to open the electrical control box. There are no user serviceable parts inside. Opening of the control box by the spa owner will void the warranty. If you have an operational problem, carefully go through the steps outlined in the Troubleshooting section. If you are not able to resolve the problem, contact your authorized dealer. Many problems can easily be diagnosed over the telephone by an Authorized Service Technician.

## YOUR FREEFLOW SPAS QUICK START GUIDE

**IMPORTANT** Failure to read the Owner's Manual and follow its instructions may result in unsafe operation, permanent damage to your hot tub, and/or personal harm.

### Getting Started with Your Freeflow Spa

Congratulations on your purchase of a new Freeflow spa! We are excited to welcome you to our hot tubing family. This Quick Start Guide is intended to help you set up your hot tub quickly and easily. Use the camera on your smartphone to scan the QR code on the right or visit [www.freeflowspas.com](http://www.freeflowspas.com) to find a digital copy of your full owner's manual, including the safety and electrical guides

## SCAN ME



## COMPONENT LEGEND



Filter



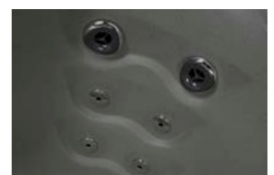
Filter Compartment



Drain



Door Panel



Jets

### STEP 1: FILL IT UP!

Do not plug-in or turn on the connected breaker before completely filling your hot tub with water. Before you can start soaking, you've got to add some water. Here's how to achieve the perfect water level.

1. Remove filter and insert the hose into the filter compartment.
2. Turn on the water and begin to fill your spa.
3. Fill until the water is 1" above the highest jet, but not more than 6" below the top of the spa. Replace filter after filled.



**HOT TUB TIP:** Remove the door panel to check inside the equipment compartment for water leaks while filling the tub. If there's a leak or if anything doesn't go according to plan, contact the dealer you purchased from, or reach out to us. We're here to help.

### **STEP 2: POWER IT UP!**

Put the 'hot' in 'hot tub' with electricity! Ahhh, there's nothing better than a warm water massage! 115 Volt: Plug the GFCI cord into the designated wall outlet. In about 24 hours, you'll be ready to soak! 230 Volt: Turn on the breaker in the spa subpanel after a licensed electrician installs power. In just 6-8 short hours, you'll be relaxing in warm water.

### **HOT TUB TIP:**

Your hot tub will automatically heat to 100°F at startup. Use the +/- buttons to adjust the temperature. After 5 seconds, the current temperature will appear, climbing each degree until it hits that perfect temp.

### **STEP 3: CLEAN IT UP!**

Stay safe while hot tubbing! Follow these directions to protect yourself and your hot tub.

1. Buy chemicals from your local hot tub store or the dealer you purchased the spa from to help sanitize your tub and balance pH, total alkalinity, and calcium hardness of your water.
2. Get that jet pump going at high speed and leave the jets running for 15 minutes before adding in your chemicals.
3. Break out the test strips to check your levels. Based on the results, add chemicals as needed until your water is balanced and safe to soak in. Levels too high? Too low? Check your Owner's Manual for next steps.

### **FINALLY, RELAX IT UP!**

Congratulations! Your tub is filled up, your water is balanced, and the temp is just right. Now comes the fun part. Step in, relax, and unwind!

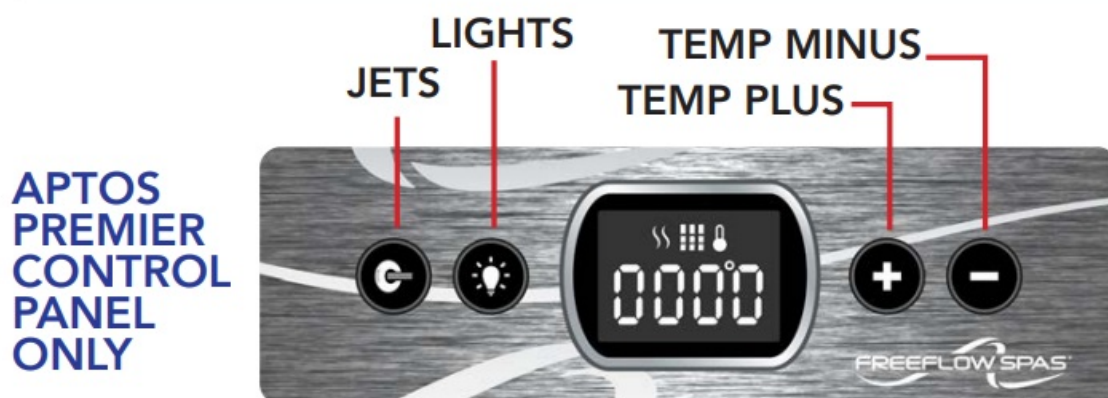
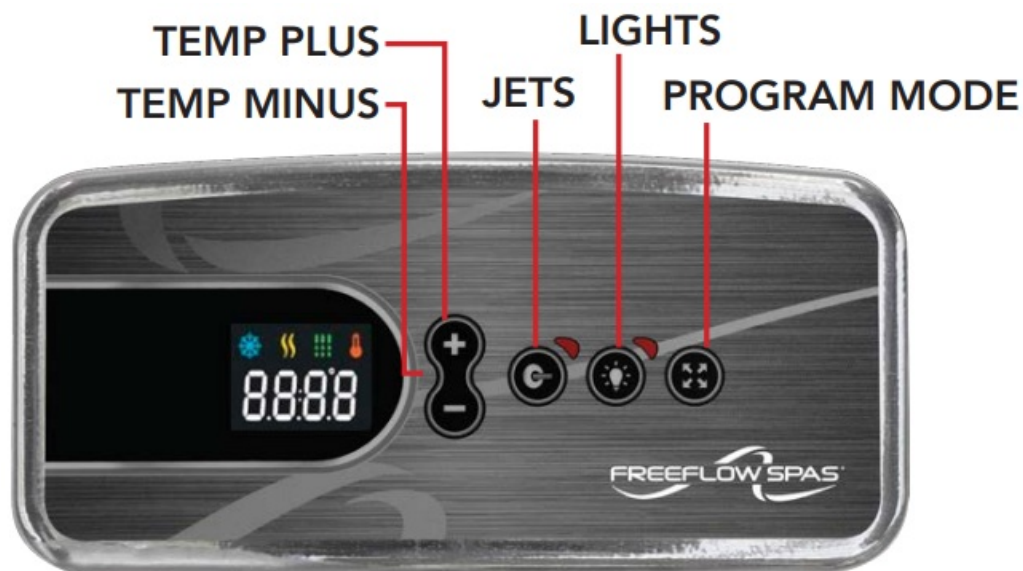
### **HOT TUB TIP:**

Your hot tub temperature maintains itself with a sensor. Keep your hot tub plugged in and turned on with the cover secured, so you can enjoy your hot tub whenever you're ready!

### **HOT TUB TIP:**

Refer to our control panel cheat sheet below!





#### **HOT TUB TIP:**

Don't forget to shock your tub weekly! Add your sanitizer of choice (bromine or chlorine – the granular kind) and potassium monopersulfate (MPS) shock, making sure that your high-speed pump is activated. Run the jets for 15 minutes, with the cover off, to circulate the water and clean every inch of the tub.

#### **RECOMMENDED RANGES**

**Total Alkalinity:** Between 80-120 PPM\*



**Calcium Hardness:** Between 50-150 PPM



**Sanitize:** Between 3-5 PPM



**pH Level:** Between 7.2 and 7.8



Parts Per Million

#### YOUR HOT TUB INFO

Collect the following information and keep it in a safe place.

- Date Purchased:
- Purchased From:
- Spa Model:
- Serial Number:
- Phone Number

#### ELECTRICAL REQUIREMENTS

##### **DO NOT POWER THE SPA WITHOUT FIRST FILLING WITH WATER! DANGER – RISK OF ELECTRIC SHOCK**

Installations that do not conform to the following procedures and requirements may expose users to electric shock. Non-conforming installations will not be covered under warranty. If installed in the United States, the electrical wiring of this spa must meet the requirements of the National Electric Code (NEC) and any applicable state or local codes. The electrical circuit must be installed by an electrical contractor and approved by a local building electrical inspection authority.

1. Installations within 5 feet (1.5 m) of any metal surfaces must ground the metal surfaces to the hot tub. Use an 8 AWG solid copper wire and attach it to the grounding lug on the control box, located in the equipment compartment
2. Only a licensed electrician may install power to the spa.
3. Power supply installation must include a suitably rated ground fault circuit interrupter (GFCI) as required by NEC. The circuit breaker must be dedicated and should not be shared with any other appliances. It must be labeled and easily accessible to users.
4. The electrical supply for the spa must include a suitable rated switch or circuit breaker to open all ungrounded

supply conductors to comply with the National Electric Code. The disconnecting means must be readily accessible to the spa's occupant but installed at least 5 feet from the spa water.

5. 230V Power supply lines must be hard wired into the control box. DO NOT use extension or plug-type cords of any kind. The use of a shut-off box near the hot tub is also recommended. This box provides a quick and convenient method to shut off power to the hot tub for emergencies and maintenance.
  6. Supply lines must be properly sized as per the NEC. A ground line must be provided that is as large as the largest current carrying conductor, but no less than 8 AWG. Use copper wiring only.
  7. Please open the front cover of the control box, and follow the instructions and wiring diagram printed on the backside.
  8. All 115 V powered models must use the provided 15 foot (4.5 m) GFCI cord and be plugged directly into a dedicated grounded wall outlet between 6' (1.8 m) and 10' (3 m) from the spa.
  9. CAUTION, 230V POWERED SPAS – These spas must be hard wired to your household electrical service box only. Do not use an extension cord or any other disconnect-able power cord. The use of an extension cord or a disconnect-able power cord is highly dangerous and will void all warranties!
- Wire size must be appropriate per NEC and/or local codes.
  - Wire size is determined by length of run from breaker box to spa and maximum current draw.
  - THHN copper core wire is recommended.
  - All wiring must be copper to ensure adequate connections. Do not use aluminum wire.



Equipment access is below the topside control panel on most spas.

### **CONFIGURING SYSTEM SELECTING THE VOLTAGE FOR YOUR SPA**

Your spa is designed to operate at either 115V 15 amp; 115V 30 amp, or 230V 50 amp circuit.

- When the spa is setup for 115V, the heater will provide approximately 1000 watts of heat only when the pump is operating in LOW speed and the thermostat is calling for heat (NOTE: The heater does not operate when the pump is on high speed).

- When the spa is connected to 115V 30 amp, the heater will provide approximately 1000 watts of heat when the pump is operating in LOW or HIGH speed and the thermostat is calling for heat.
- When the spa is connected to 230 volts, the heater will provide approximately 4000 watts of heat when the pump is operating in LOW or HIGH speed and the thermostat is calling for heat.
- All electrical connections must be made in accordance with the wiring information contained on the electrical control box cover and the NEC.

### 115 VOLT INSTALLATION (CORD CONNECTED)

Spas come with a factory-installed power supply GFCI cord and are to be plugged into a grounded type 115 volt, 15 amp receptacle. No other electrical appliance or fixture can be used on this circuit.

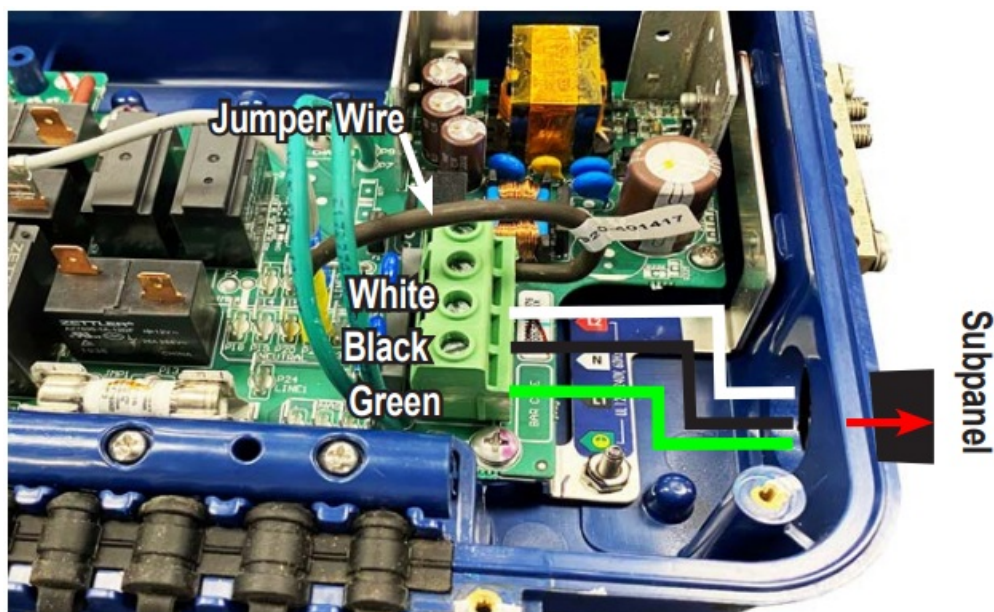
**IMPORTANT:** Under NO circumstances should an extension cord be used. Use of an extension cord will seriously degrade the performance of the equipment and can create an electrical hazard.

### 115 VOLT 30 AMP OR 230 VOLT 50 AMP (PERMANENTLY CONNECTED FIELD CONVERSION)

- A 115 volt, 30 amp configuration requires a 30 amp GFCI Subpanel (not included).
- A 230 volt, 50 amp configuration requires a 50 amp GFCI Subpanel (not included).

Either one of these installation requires a licensed electrician.

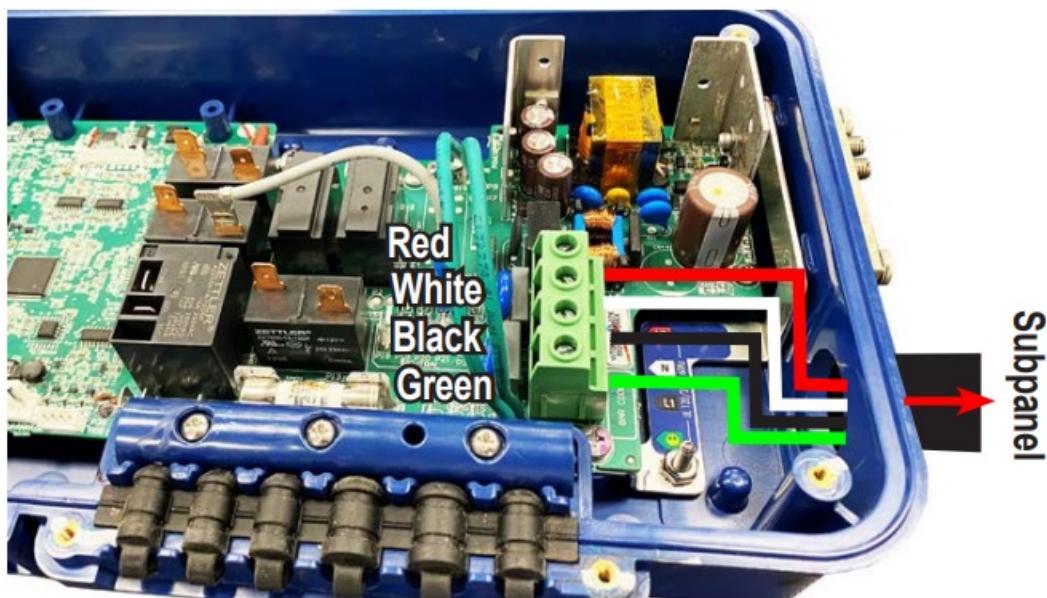
### Field Converted 115V 30 Amp Control Box



To convert, remove the cord from the terminal block and replace with White, Black and Green #10 wires and connect to 30 amp GFCI Subpanel.

### Field Converted 115/230V Control Box





To convert, remove the cord and jumper wire from the terminal block and connector. Place Red, White, Black and Green #8 wires onto terminal block and connect other end to 50 amp GFCI Subpanel

**IMPORTANT:** After powering up the spa (for 5 minutes) on 115V 30 amp or 230V 50 amp field conversions, a program configuration is required. Press and Hold JETS button for 30 seconds to access the Low Level (LL) settings on the control panel. Use the +/- button to change the setting from LL1 Factory Default (non concurrent heat and high speed) to LL2 (concurrent Heater and High Speed pump) configuration. Press the MODE button within 25 seconds to save the new program setting.

## ELECTRICAL WIRING DIAGRAM FOR 230V USE

It is recommended that a licensed electrician install the power to your spa in accordance with the National Electric Code and/or any local electrical codes in effect at the time of installation.

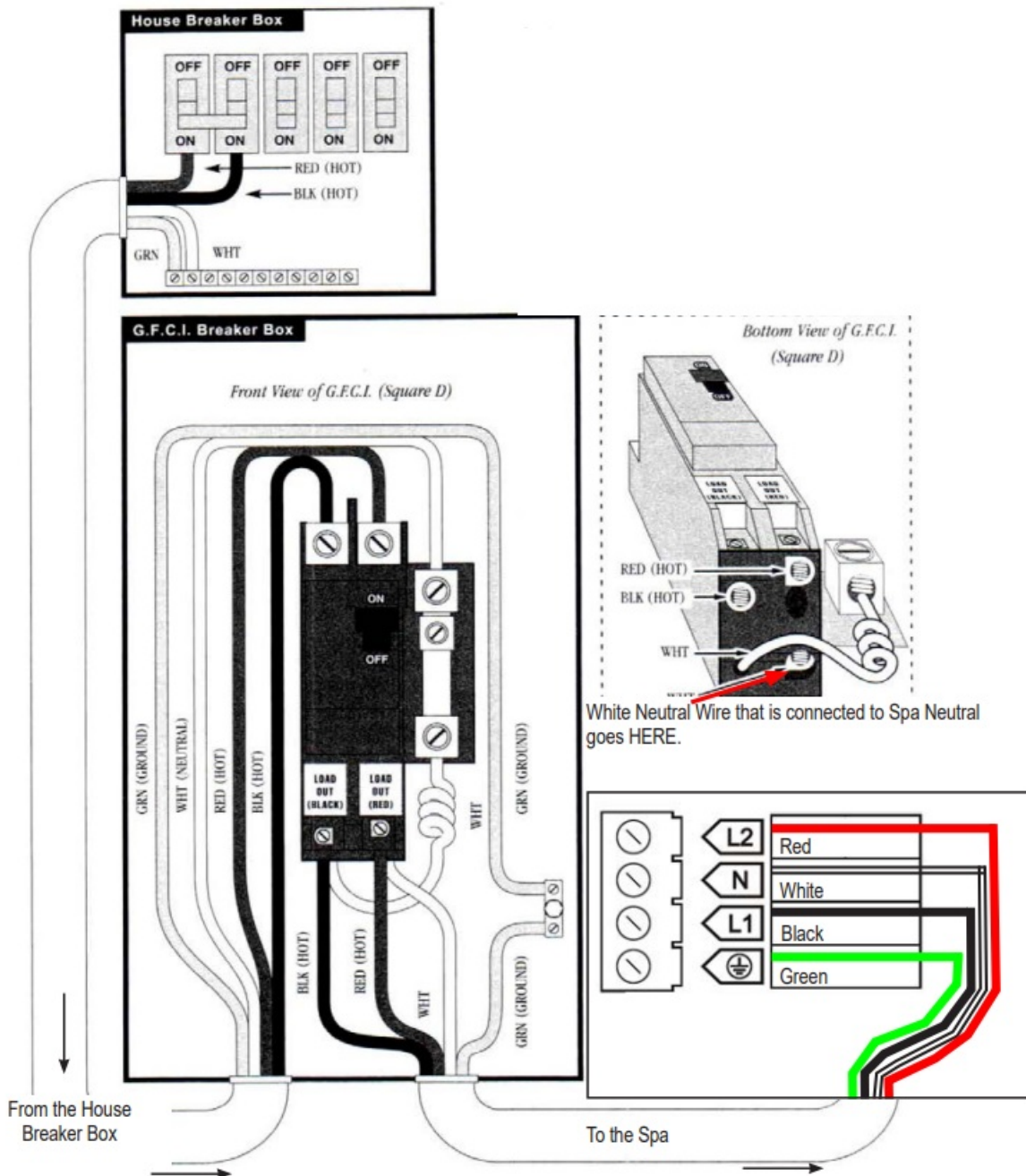
Power supply installation must include a properly rated GFCI circuit breaker. The circuit must be dedicated and should not be shared with any other appliances. The power supply must be hard wired into the power pack.

### 230V Wiring Instructions:

4 wires/Minimum 50 amp GFCI Breaker #8 AWG 75°C Copper Wire Minimum (less than 100'/30 m length)

### Special Note:

If the GFCI breaker trips immediately after attempting to turn on, please check the White Neutral Wire that is connected to the spa.



## CUSTOMER SERVICE

- [888-772-4359](tel:888-772-4359)
- [AHSService@WatkinsMFG.com](mailto:AHSService@WatkinsMFG.com)

## FAQ

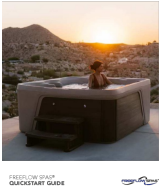
### What should I do if I encounter a water leak while filling the hot tub?

If you notice a water leak while filling the tub, contact the dealer you purchased from or reach out to customer service for assistance.

### How can I reduce the risk of injury while using the spa?

To reduce the risk of injury, avoid removing certain components while the spa is running and be aware of potential health issues related to spa use.

## Documents / Resources



## [FREEFLOW SPAS Freeflow Spas in Augmented Reality](#) [pdf] User Guide

Freeflow Spas in Augmented Reality, Freeflow, Spas in Augmented Reality, Augmented Reality

## References

- [User Manual](#)

### [Manuals+](#), [Privacy Policy](#)

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