



Limelight Beam 230 Volt Converted

WELCOME TO WARM WATER!

We appreciate your business and look forward to providing you with years of relaxation and enjoyment. To ensure a seamless delivery of your new hot tub, please use these documents in preparation for the delivery of your new hot tub. Provided below are additional specifications for proper electrical setup.

Electric Installation

There are many ways that a hot tub can be wired **depending** on the exact model and/or brand that you purchase. This means that pre-existing wiring and electrical setups are not sufficient **unless** it is the exact same setup and model, **assuming**: 1) the manufacturer has not made any changes to the tub, and 2) the existing wiring is still in excellent condition. **Electrical disconnect breakers must always be replaced when installing a new tub.** You will find the electrical schematics for your new hot tub further in this booklet. Wiring schematics should be given to your electrician to ensure proper wiring of your hot tub.

115V hot tubs have a cord with a GFCI end and **10 ft of usable cord**. The 20AMP receptacle box must be installed within **10 ft** of the hot tub prior to delivery and the hot tub must be the only appliance powered on that circuit.

GFCI end and attached cord



220V hardwired hot tubs need a “whip” (a flexible or hard **¾” conduit** containing wires as specified on your tub wiring schematic) from your subpanel to the electrical cutout on the hot tub. **You or your electrician MUST add additional length in wiring from the opening, or where the electrical cutout is shown as an entry point on the hot tub, PLUS the width and height to the equipment compartment for the final connection to be made.** EX. Grandee with back corner entry requires approximately 15’ of wiring to electrical board. There is an electrical board inside the equipment compartment where the wires are meant to be connected and installed to run the hot tub (**wires don’t just go into the electrical opening**). This ensures that your electrician will have enough slack to connect the wires inside the hot tub. Too long is better than too short (the excess can be wound up in the equipment compartment). If the wires are too short your electrician will have to run an entire new set of wires for the hot tub to run properly and we will not be able to start your hot tub on delivery. Please have your electrician reach out to your local store or salesperson for any clarity needed.



WHIP

PLEASE NOTE (common error): The neutral wire in the subpanel needs to be attached to the breaker, NOT onto the grounding bar. The hot tub may not start, or the breakers may trip if the neutral wire is not connected properly.

PER WATKINS MANUFACTURING – To ensure you will have an opportunity to use your spa soon after delivery, it is very important that the required electrical service has been installed. Unless otherwise stipulated by Allen Pools and Spas, **THIS IS YOUR RESPONSIBILITY.**

IMPORTANT: All electrical circuits must be installed by a qualified, licensed electrician.
You can NOT run a hot tub on an extension cord.



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Considering converting your Hot Tub from 110V to 220V?

Currently the hot tub models that can be converted from 110V to 220V are: Prodigy 2022 and prior, Jetsetter, Beam, Pace, Stride, SX, TX, and all FreeFlow hot tubs. Review the Pros and Cons to see if converting the electrical of your hot tub is a good option for you. Please contact your salesperson if you would like to convert to 220V.

110 V, 20A GFCI Cord
115V 15 A GFCI Cord
110V Plug N' Play

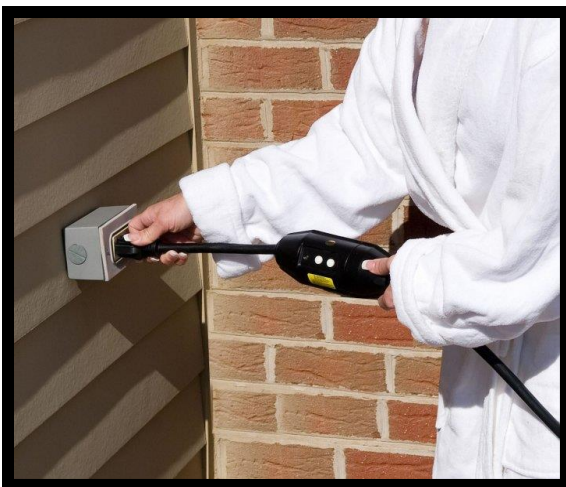
Pros

- Ease of installation.

Cons

- Hot tub heater does not operate when jets are in use. Can lose 2-3 degrees per hour depending on the ambient temperature. (110V averages 24hrs to heat depending on size)

Example of 110V- 15A:



220V 50A Subpanel

Pros

- Hot tub heats 4X quicker than 110V (110V averages 24hrs.)
- Jets and heater operate at the same time. No temperature loss while using hot tub.

Cons

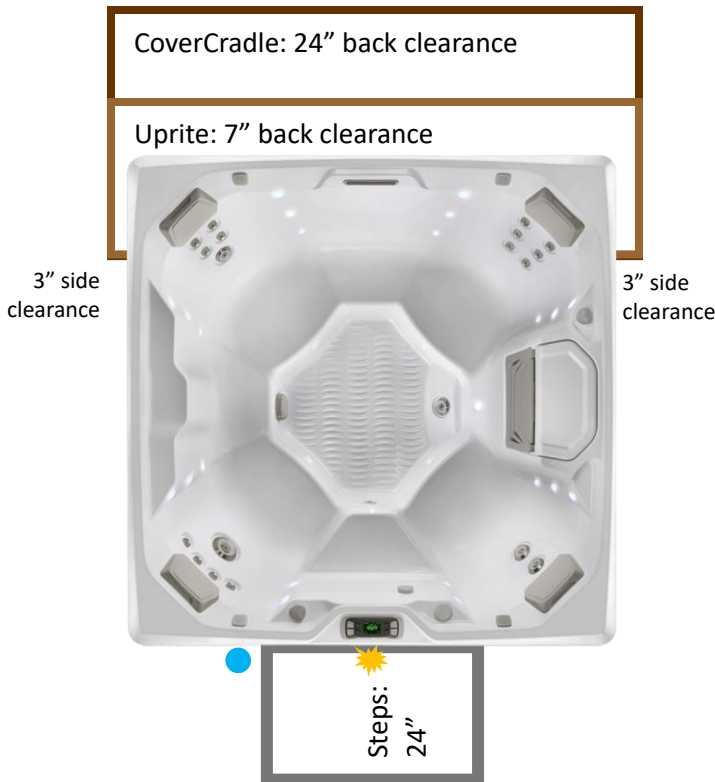
- Higher installation cost.
- Requires additional programming on installation of hot tub.

Example of 220V:





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Shell: Alpine White
Cabinet: Sable

Drain 

Electrical Access 

Seating Capacity	4 People
Dimensions	6'8" x 6'8" x 3" / 2.03 m x 2.03 m x 0.84 m
Water Capacity	295 Gallons / 1,115 Litres
Weight	700 lbs/320 kg dry; 3,860 lbs/1,750 kg filled

19 Jets (all with stainless steel trim)

- 1 XL Dual Rotary Jet
- 2 Standard Single Rotary Jets
- 2 Standard Directional Jets
- 14 Directional Precision® Jets

Water Care System FreshWater® Salt System Ready

Effective Filtration Area 100 sq. ft., top loading (2x 50 sq ft, 78373)

Energy Efficiency FiberCor® Insulation; Certified to the APSP 14 National Standards and the California Energy Commission (CEC) in accordance with California Law

Jet Pump 115 V Wavemaster® 9000; One-speed:
2.2 HP Continuous Duty
5.2 HP Breakdown Torque

Heater No-Fault® 4,000 W / 230 V

Control System IQ 2020® with LCD control panel 230 V / 50 amp, 60 Hz (includes G.F.C.I. protected sub-panel)

Entertainment System Optional Wireless Entertainment

Cover 3.5" to 2.5" tapered, 1.5 lb. density foam core, with hinge seal

Cover Lifter CoverCradle®, CoverCradle II®, or Uprite®

Steps Everwood® - Espresso, Coastal Grey, Sable
Polymer – Ash, Espresso

Lighting – Interior 30 Raio® multi-color LED points of light

Lighting – Exterior Multi-color lighting with timer

Shell Colors



Cabinet Colors



Cover Color





SITE SELECTION AND PREPARATION

IMPORTANT: Site selection and preparation are your responsibility. Carefully read these instructions and consult Allen Pools and Spas if you have any questions.

You probably have a spot picked out for your new spa, whether it's indoors or outdoors, on a patio or on a deck. Just make sure you check off each of the following:

- ☐ **Always put your spa on a structurally sound, level surface WITHOUT pitching or shimming.** A filled spa can weigh a great deal. Make certain the location you choose can support the weight of your filled spa.
- ☐ Locate your spa away from any reflective surface or glass. The heat generated by some types of double-pane windows and reflective surfaces can cause serious damage to the exterior of the spa, including the siding and cover.
- ☐ Locate your equipment compartment, which houses all the electronic components, in a place where the water will drain away from it. Allowing water into the equipment compartment can damage the electronics or may result in tripping your house's circuit breaker.
- ☐ Leave yourself easy access to the circuit breakers in the subpanel.
- ☐ Never let water get into the subpanel. Your spa's subpanel is rain tight when installed correctly with the door closed.
- ☐ Leave access to the equipment compartment for periodic spa care and maintenance.

OUTDOOR AND PATIO INSTALLATION

No matter where you install your new spa, it's important that you have a solid foundation to support it. Structural damage to the spa resulting from incorrect installation or placement on an inadequate foundation is not covered under the spa's limited warranty.

If you install the spa outdoors, a reinforced concrete pad at least 4" thick is recommended. The reinforcing rod or mesh in the pad should be attached to a bond wire (see your Owner's Manual). All Hot Springs spas may be installed onto a deck, provided that the load capacity of the deck is greater than the dead weight of the spa (see Deck Installation).

DECK INSTALLATION

To be certain your deck can support your spa, you must know the deck's maximum load capacity. Consult a qualified building contractor or structural engineer before you place the spa on an elevated deck or indoors. To find the weight of your spa, its contents, and occupants, refer to the Spa Specification chart located further into these instructions. This weight per square foot must not exceed the structure's rated capacity, or serious structural damage could result.

INDOOR INSTALLATION

Be aware of some special requirements if you place your spa indoors. Water will accumulate around the spa, so flooring material must provide a good grip when wet. Proper drainage is essential to prevent a build-up of water around the spa. When building a new room for the spa, it is recommended that a floor drain be installed. The humidity will naturally increase with the spa installed. Water may get into woodwork and produce dry rot, mildew, or other problems. Check for airborne moisture's effects on exposed wood, paper, etc. in the room. To minimize these effects, it is best to provide plenty of ventilation to the spa area. An architect can help determine if more ventilation must be installed.

Allen Pools and Spas can assist you with finding sources for local information such as zoning regulations and building codes.

DELIVERY ACCESS

First, note the dimensions of your spa below. The dimensions are the measurements of the spa in the vertical position, laid on its side as shown in the drawing below.

Next, contact your dealer to find the height and width added by the delivery cart which the dealer will use to deliver your new spa. Use the height of the cart plus the dimension shown as H to determine the vertical clearance required to pass the spa and cart. Use the width of the cart, or dimension W, whichever is greater, to determine the maximum width of clearance necessary. Use the length dimension L when making any sharp turns to determine the minimum clearance required.

NOTE: It may be necessary to allow for additional over-head clearance if the spa (with cart) will be pushed up or down an incline or moved up or down a short flight of stairs.

Use the information below to determine the requirements for access to you desired location.

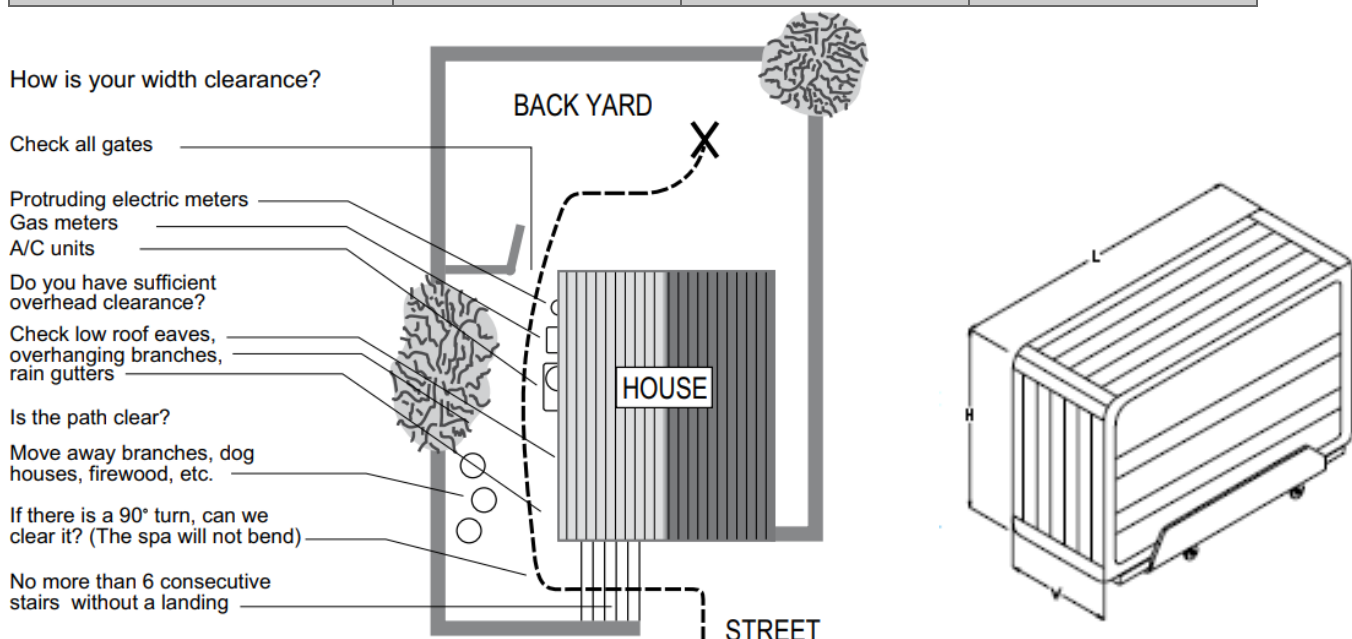
It may be necessary to remove a gate, part of a fence, or other moveable obstructions to roll the spa to its installation site. About 10% of the time, a crane is the only way to install the spa by lifting it to its final destination.

If the spa must be taken off the cart to go over a wall (either because the entry area is too narrow, the eaves are too low, the corner is too tight, or the stairway is too steep), a crane will be required. Don't be alarmed!

The crane has a truck-mounted boom which can fit right in your driveway. Crane operators are licensed and insured. For a charge, the crane operator will lift your spa over walls, buildings, or any other obstructions and place it as close to the installation site as possible. The Hot Spring spa delivery personnel will supervise the crane delivery and complete spa installation.

NOTE: if your spa delivery requires the use of a crane, you may be required to pay for the services at the completion of the delivery.

MODEL	WIDTH W	LENGTH L	HEIGHT H
Beam (BMI)	33"/84 cm	80"/203 cm	80"/203 cm





Limelight Beam 230 Volt Converted

GROUND PREPARATION

Your Hot Spring spa has been engineered to perform on several kinds of surfaces. While a concrete slab is best for long-term use*, other foundations are acceptable so long as a level base is prepared prior to delivery.

NOTE: Have a reinforced concrete pad at least 4 inches (10 cm) thick or a deck that can withstand the pounds per square foot listed in the Spa Specification section.

INSTALLATION NOTES:

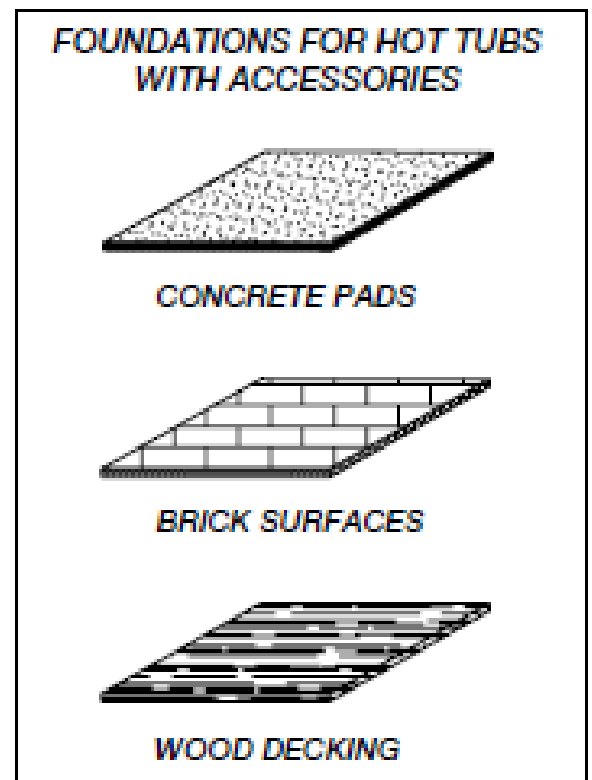
- If brick or wood decking is selected for the spa foundation, it should be placed and leveled below the entire spa to maintain even distribution of the spa weight.
- It is important to note that if bricks are used to distribute the weight of the spa there may still be a tendency to settle unevenly, resulting in an unlevel spa.
- Remember, placing the spa around grass or dirt may increase the amount of debris which is inadvertently brought into the spa on the user's feet.

If you are installing a deck or a gazebo for your spa, a solid foundation becomes mandatory. Placing them on any surface other than a single level pad could create problems with their installation. Pictured at right are a few of the recommended surfaces.

As a homeowner, it is your responsibility to provide a suitable, level foundation for your spa. Keep in mind that most delivery crews are not equipped to level and prepare spa sites.

If you are interested in having a concrete slab, brick surface, or a wooden deck installed, your Hot Spring dealer should be able to suggest a qualified, licensed contractor.

NOTE: For the spa to operate properly and the internal plumbing to drain completely, you must ensure that the spa surface is level before installation. Shimming or point leveling is NOT supported or recommended by the manufacturer.



BEAM (BMI) SPECIFICATIONS

FOOTPRINT	HEIGHT	HEATER	WATER CAPACITY	DRY WEIGHT	FILLED WEIGHT*	DEAD WEIGHT*	ELECTRICAL REQUIREMENTS
6'8" X 6'8" 203 cm X 203 cm	33" 84 cm	4000 Watts	295 gallons 1,115 litres	700 lbs 320 kg	3,860 lbs 1,750 kg	110 lbs/ft ² 540 kg.m ²	230 volt, 50 amp

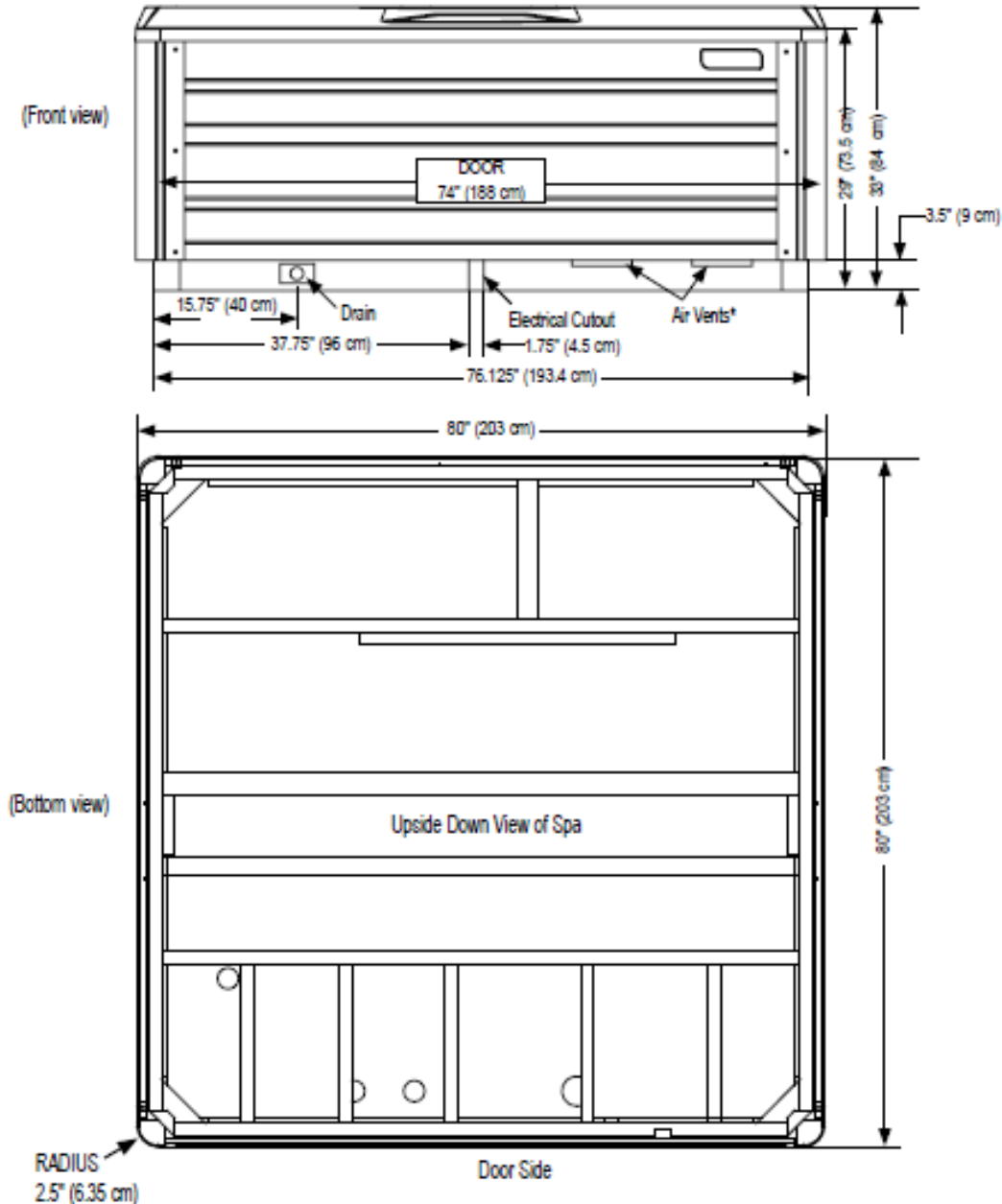
*NOTE: "Filled Weight" and "Dead Weight" include the weight of 4 adults at 175 lbs (80 kg) each

BEAM™ (Model BMI & BMII)

Dimensions

NOTE: All dimensions are approximate; measure your spa before making critical design or pathway decisions.

Configuration and location may change without notice.



NOTE: Watkins Wellness recommends that the **BEAM** be installed on a minimum 4" (10 cm) thick reinforced concrete pad or structurally sound deck that is able to support the "dead weight" found in the spa specification chart.

WARNING: The BEAM must not be shimmed in any manner.

***Do not block Air Vents**



ELECTRICAL REQUIREMENTS

To ensure you will have an opportunity to use your spa soon after delivery, it is very important that the required service has been installed. Unless otherwise stipulated by your dealer, **THIS IS YOUR RESPONSIBILITY.**

IMPORTANT: All electrical circuits must be installed by a qualified, licensed electrician.

230 VOLT OPERATION REQUIREMENTS

230 volt models require a 50 or 70 amp, single phase, 230 volt circuit breaker in the main electrical service panel. All 230 volt Hot Spring spas must be wired in accordance with applicable local and national electrical codes, all electrical work must be done by a licensed electrician.

NOTE: WATKINS WELLNESS REQUIRES THE USE OF A SUBPANEL TO SUPPLY POWER AND PROTECT THE SPA. On the **BEAM 230 V** model, the 50 amp subpanel containing the GFCI breakers is included with the spa.

A licensed electrician should install a four-wire electrical service (two line voltages, one neutral, one ground) from the main electrical service panel to the subpanel, and from the sub-panel to the spa per the appropriate wiring diagram as illustrated below.

The grounding conductor must be at least #10AWG. Your electrician should mount the subpanel in the vicinity of the spa but it should not be closer than 5 feet (1.5 m) to the spa water edge (NEC 680-38 to 41-A-3).

INSTALLATION NOTE: After the spa has been installed by the dealer's delivery crew, your electrician can connect the conduit from the subpanel to the spa's IQ 2020 Control Box and then complete the wiring connections in the control box.

NOTE: Complete step-by-step Installation and Wiring Instructions for all 230 volt Hot Spring models are included in the Owner's Manual and with each subpanel, which can be obtained from your dealer.

WIRE SPECIFICATION NOTE: Long electrical runs may require a larger gauge feed wire than stated. We recommend that a maximum voltage drop of 3% be used when calculating the larger wire size.



ADVANTAGE TO HAVING YOUR SPA CONVERTED

- In the 115 volt configuration, either the heater, or the jet pump can operate, but they can't work at the same time. In the 115 volt system, as long as the jet pump is activated, the heater will not turn on. On the other hand, when the spa is converted to operate in the 230 volt configuration, the heater and jet pump can operate simultaneously.
- The heater will operate at 1000 watts when the spa is configured as a 115 volt cord-and-plug connected model, and at 4000 watts when the spa is configured as a 230 volt connected model heating your spa water faster.

115/230 VOLT CONVERTIBLE MODEL

The **BEAM** (model BMI) can be converted to 230 volt operation with the addition of a subpanel and a control box wiring change. Consult your dealer before attempting to convert from 115 volt operation to 230 volt operation. Any damage to the spa from improper conversion is not covered under the warranty.

230 VOLT CONVERTED BEAM (MODEL BMI)

HOT SPRING spas must be wired in accordance with all the applicable local electrical codes. All electrical work should be done by an experienced, licensed electrician. We recommend the use of appropriate electrical conduit, fittings, and wires for all circuits.



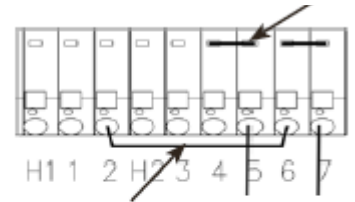
Refer to the following instructions to convert from a 115 volt to a 230 volt

IMPORTANT: Converting the spa to 230 volt operation will require both an **authorized HOT SPRING service agent and a qualified electrician.**

Required Part: A Subpanel (230 volt convertible) available from your HOT SPRING dealer.

1. Disconnect the power cord from the house receptacle.
2. Open the equipment compartment door.
3. Remove the screws from the front of the spa.
4. Open the control box cover.
5. Identify Terminal block located in the lower left-hand corner inside the control box.
6. Refer to illustration, Step 1. Remove the 2-pin jumper attached to terminals 4 and 5.
7. Refer to illustration, Step 1. Remove the wire jumper from terminals 2 and 6.
8. Refer to illustration, Step 2. Remove the power cord wires from terminal block 5, 7, and GRD (not illustrated).
9. Unscrew the power cord strain relief and remove the power cord from the access hole in the control box.

Step 1: Remove the Terminal Block Power Jumper using needle nose pliers from Terminal 4-5. Remove wire jumper from 2 and 6.



Step 2: Remove the three power cord wires from terminal block 5, 7, and GRD. Leave Terminal Block Power Jumper 6-7 in place.



WARNING: DO NOT ALLOW PLIERS TO CONTACT ANY ELECTRONIC COMPONENTS INSIDE THE CONTROL BOX.

Converting from 115 volts to 230 volts changes the voltage supplied to the heater from 115 volts to 230 volts. The jet pump will continue to operate at 115 volts.

Have your licensed electrician wire subpanel from a 50A Main Service, then from subpanel into the spa's control box using the following illustration or use the wire diagram on the inside of the control box lid.

IMPORTANT: The subpanel must be placed within sight of the spa, at a minimum distance of 5 feet (1.5 m) away.

WIRING CONNECTIONS

IMPORTANT: Fill the spa with water before turning on the power. Once your spa has been filled with water, turn it on and test all the circuit breakers.

Each circuit breaker should be tested prior to each use. Here's how:

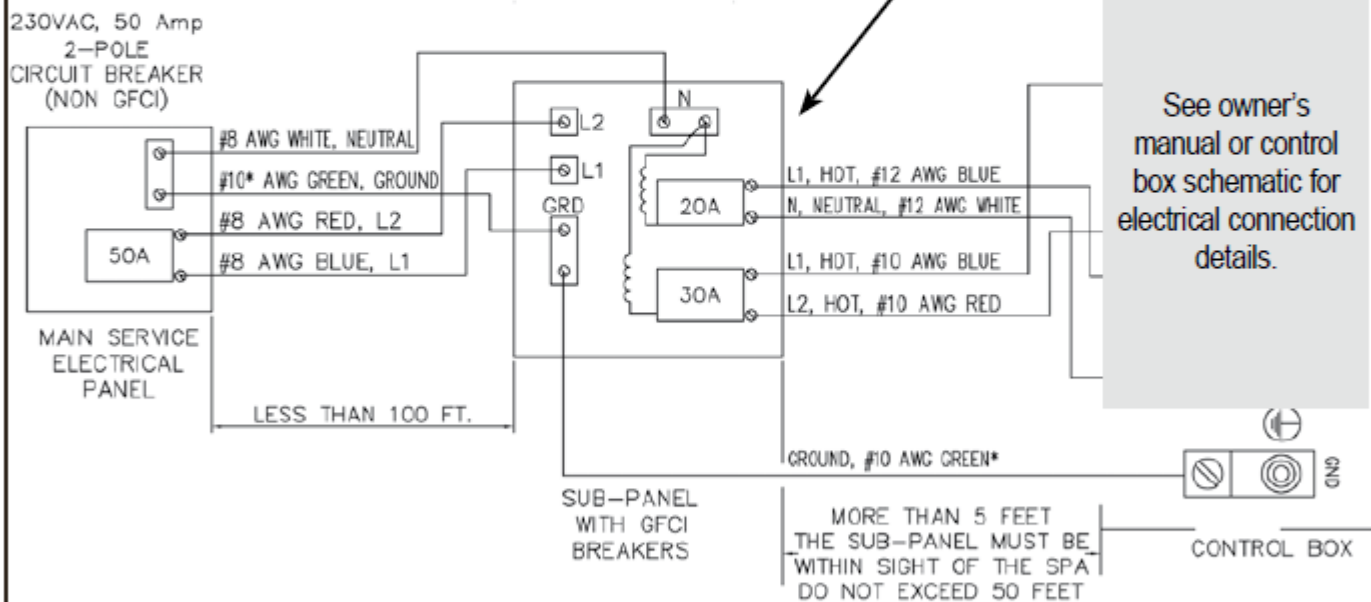
1. Push the "TEST" button on each GFCI breaker, and observe it click off.
2. Wait 30 seconds, then push the breaker switch to the OFF (down) position (to ensure that it has completely disengaged), then push the breaker switch to the ON (up) position. If you don't wait 30 seconds, the spa's power indicator may continue to blink- try again.

If any of the GFCI breakers fails to operate in this manner, your spa may have an electrical malfunction, and you may be risking electrical shock. Turn off all circuits and do not use the spa until the problem has been corrected by an authorized service agent.

IMPORTANT: Service Technician must reconfigure spa using the soft jumpers to allow spa heater to run concurrent with jet pump.

BEAM (Model BMI) 230 volt converted model

IMPORTANT! The exact physical location of the terminals on the GFCI breaker will vary between manufacturers. Connecting the hot wire to the neutral terminal will cause irreversible damage to the control box.



** Refer to NEC 250-122 (table)

NOTE: The wire connections to GFCI breakers are for reference only. Always ensure the white neutral wire is connected to the load neutral of the 20 amp breaker.

*AVAILABLE FROM DEALER.

IMPORTANT: ALL WIRING SHOULD BE COPPER.