



Flohr Pools

Pre- delivery Electrical Tips

Free Flow Models

Tip 1

- Get the written instructions from the Manufacturer. PLEASE pay close attention to these.
- Top manufacturers are very particular with electrical requirements. Even the same manufacturer often has different requirements from one model to the next.
- Check the serial number and verify you have the correct directions for your hot tub. If someone tells you all hot tubs are the same, be cautious.

Tip 2

- Follow the NEC Code. Be advised that the Code calls for a disconnect within eyesight of the hot tub and may not be within 10 feet of the water.

Tip 3

- Use an electrician that is licensed and follows manufacturers hot tub requirements. A contractor that is licensed is a good sign that you can rely on the work that they perform. When they ask for the manufacturer requirements this sets them apart from most in their field.

Tip 4

- Your salesperson can make recommendations on licensed electricians in the area that are familiar with the electrical connections the model you have chosen requires. Please ask if you do not have an electrician that you are comfortable with.

Tip 5

- All wiring outside the home, should be in conduit.

*if there is a wiring issue upon start up of the spa (example the neutral and ground are not connected correctly) there will be a \$129 charge for Flohr Pools service department to make the correction.



***Congratulations on your decision to purchase a Freeflow spa.
Welcome to the growing family of Freeflow spa owners.***

Pre-Delivery Instructions

Please take the time to read this booklet carefully, as it will provide you with the information you will need to ensure the safe, secure, and timely installation of your new spa. The following sections are guidelines on how to prepare for delivery and set-up of your new spa. Specifically covered are site selection, delivery access, ground preparation, and electrical requirements.

Remember to carefully review the Owner's Manual that accompanies your spa, and to register the spa's warranty within 10 days of delivery at freeflowspas.com/owners-corner/. The Owner's Manual can be found in the Owner's Package which has been attached to the filter ring of your spa.

Watkins Manufacturing Corporation reserves the right to change features, specifications and design without notification and without incurring any obligation.

DATE PURCHASED: _____

DATE INSTALLED: _____

DEALER: _____

ADDRESS: _____

TELEPHONE: _____

In most cities and counties, permits will be required for the installation of electrical circuits or the construction of exterior surfaces (decks and gazebos). In addition, some communities have adopted residential barrier codes which may require fencing and/or self-closing gates on the property to prevent unsupervised access to a pool (or spa) by children under 5 years of age. Your spa is equipped with a locking cover that meets the ASTM F1346-91 Standard for Safety Covers and as a result, is usually exempt from most barrier requirements. As a general practice, your local Building Department will inform you of any applicable barrier requirements at the time a permit is obtained for the installation of an electrical circuit. Your dealer can provide information on which permits may be required.

Site Selection and Preparation

IMPORTANT: Site selection and preparation are your responsibility. Carefully read these instructions and consult your authorized dealer 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 the following:

- Always put your spa on a structurally sound, level (within ½" per 10') surface. A filled spa can weigh a great deal. Make certain that the location you choose can support the weight of your filled spa.
- Locate your equipment compartment, which houses all of the electrical components, in a place where 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 (230 volt converted models), or to the GFCI on the end of the power cord (110 volt models).
- Never let water get into the subpanel (230 volt converted models), or into the GFCI (110 volt models), or into the electrical outlet that your spa is plugged into.
- 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 four inches thick is suggested. The reinforcing rod or mesh in the pad should be attached to a bond wire. All spas may be installed onto a deck, provided that the load capacity of the deck is greater than the dead weight of the spa.

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 on back of this guide. 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 materials 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 to determine if more ventilation must be installed.

Your dealer can help you with local information such as zoning regulations and building codes.

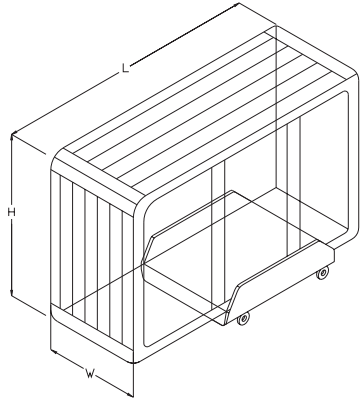
DELIVERY ACCESS

First, locate the dimensions of your spa on the following chart. The dimensions shown are the measurements of the spa in the vertical position, laid on its side.

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.

NOTE: It may be necessary to allow for additional over-head clearance if the spa will be rolled 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 your desired location.



<i>Model</i>	<i>Width W</i>	<i>Length L</i>	<i>Height H</i>
Monterey™	34"	7'3"	6'5"
Excursion®	33"	7'2"	6'5"
Azure™	33"	6'9"	5'3"
Aptos®	34"	6'6"	6'6"
Cascina®	32"	5'10"	5'2"
Tristar™	31"	6'	6'
Mini™	28"	6'	3'11"

Use Chart with Cart illustration above

How is your width clearance?

Check all gates

Protruding electric meters

Gas meters

A/C units

Do you have sufficient overhead clearance?

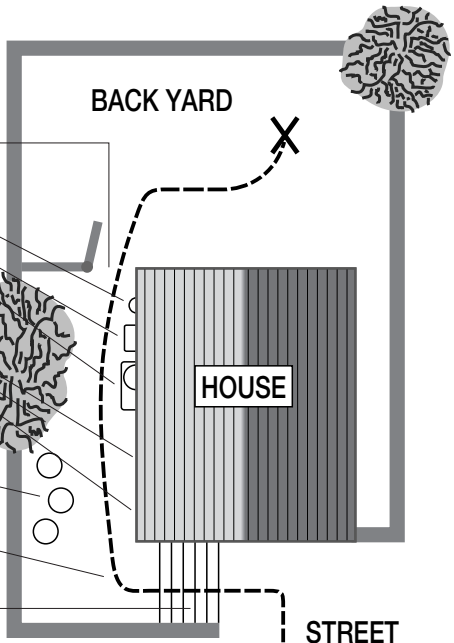
Check low roof eaves, overhanging branches, rain gutters

Is the path clear?

Move away branches, dog houses, firewood, etc.

If there is a 90° turn, can we clear it? (The spa will not bend)

No more than 6 consecutive stairs without a landing



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

If the spa has to be taken off of 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. It is run by a licensed and insured operator. For a charge, the crane operator will lift your spa over walls, buildings, or any other obstruction and place it as close to the installation site as possible. Crane delivery typically takes an average of 30 minutes to complete.

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

GROUND PREPARATION

Your spa has been engineered to perform on all kinds of common yard 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. Three foundation base pictures, shown at right, represent examples of alternatives to a concrete slab for spas installed without gazebos or other accessories.

***NOTE:** A reinforced concrete pad at least four inches thick or a deck that is able to withstand more than 115 lbs. per square foot is required.

INSTALLATION NOTES:

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.

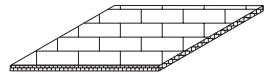
If you are interested in having a concrete slab, brick surface, or wood deck installed, your dealer should be able to suggest a qualified, licensed contractor.

NOTE: In order for the spa to operate properly and the internal plumbing to drain completely, you must ensure that the spa is leveled (within 1/2" per 10') after it has been installed. Do not shim you spa in any manner, as this could cause the cabinet to warp, thereby voiding the warranty.

FOUNDATIONS FOR SPAS WITH ACCESSORIES



CONCRETE PADS



BRICK SURFACES

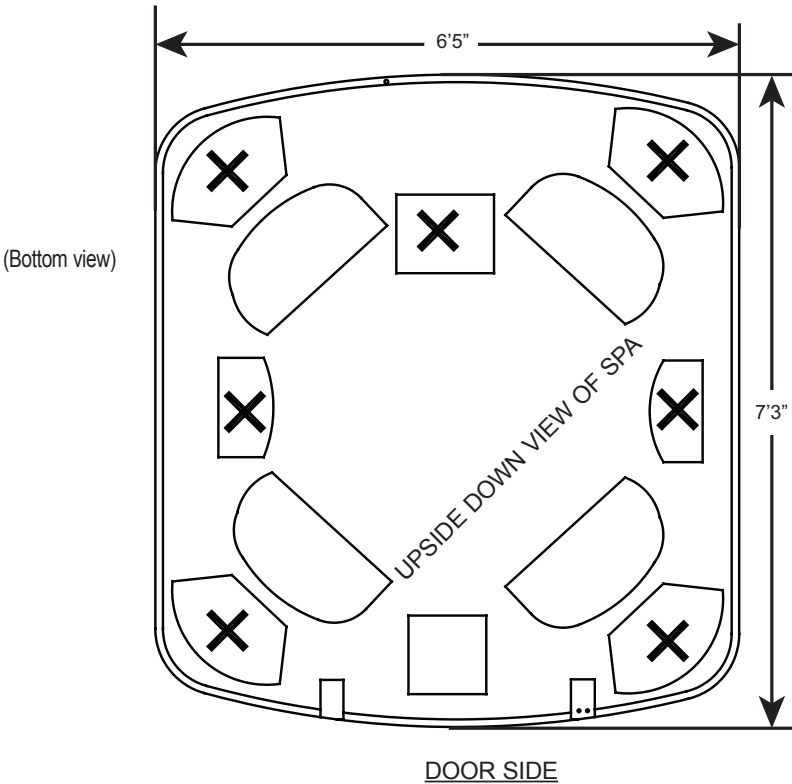
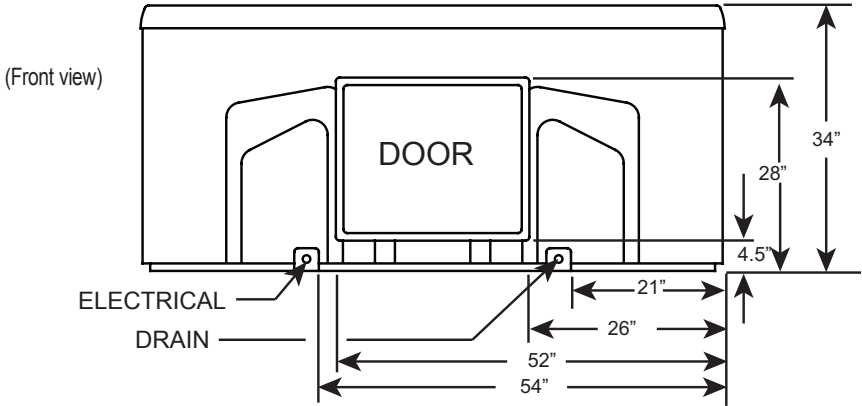


WOOD DECKING

MONTEREY

Dimensions

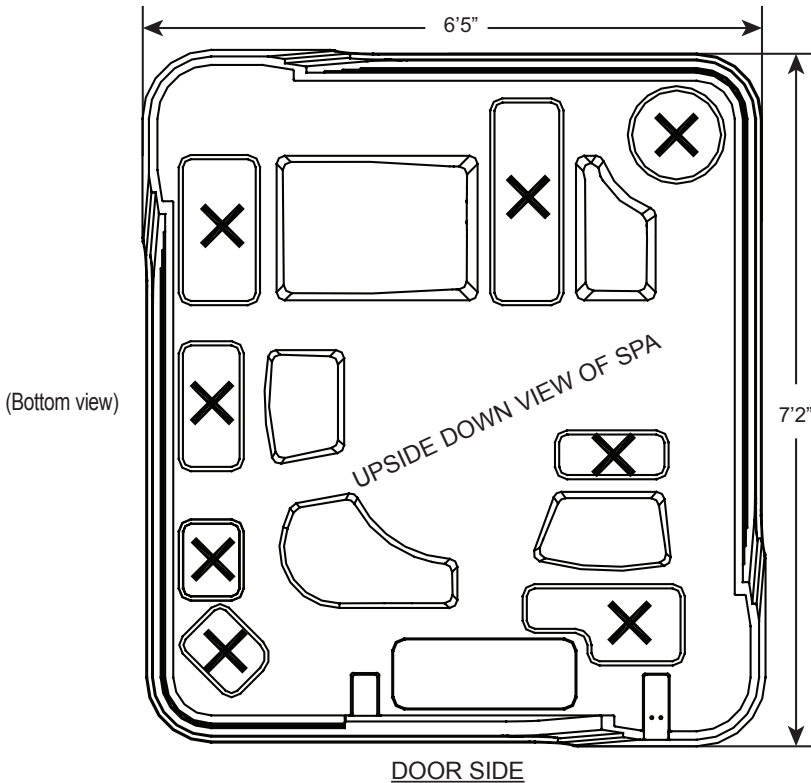
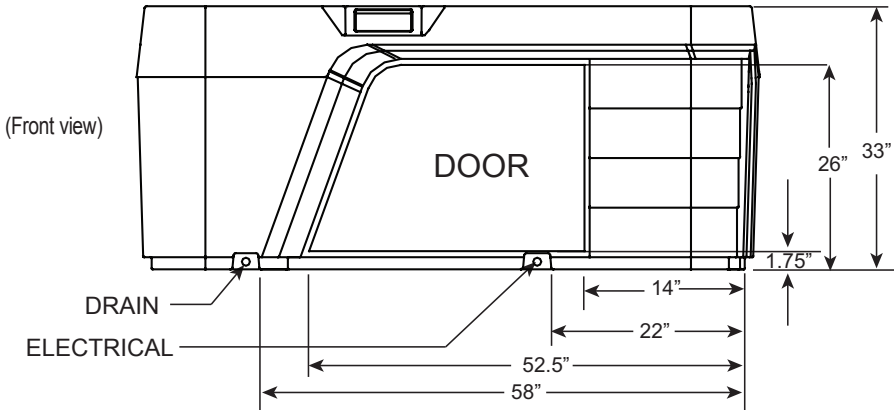
NOTE: All dimensions are approximate; measure your spa before making critical design or pathway decisions.



EXCURSION

Dimensions

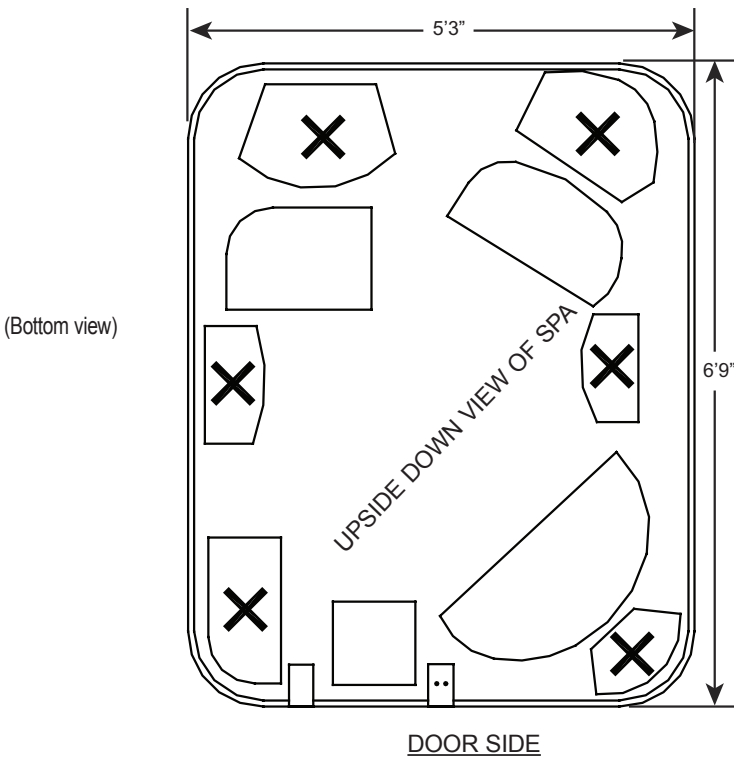
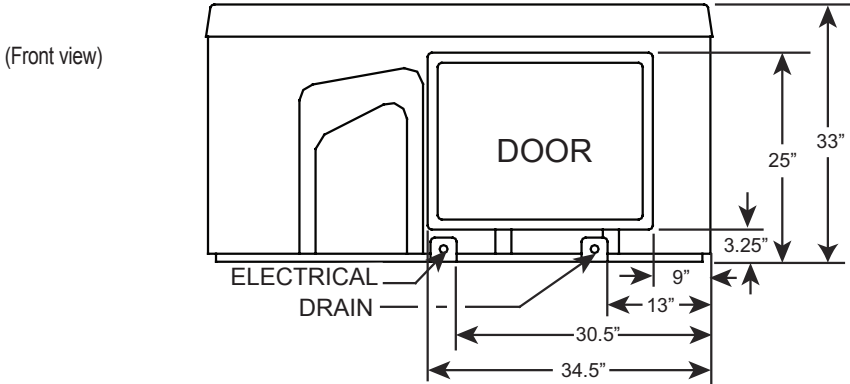
NOTE: All dimensions are approximate; measure your spa before making critical design or pathway decisions.



AZURE

Dimensions

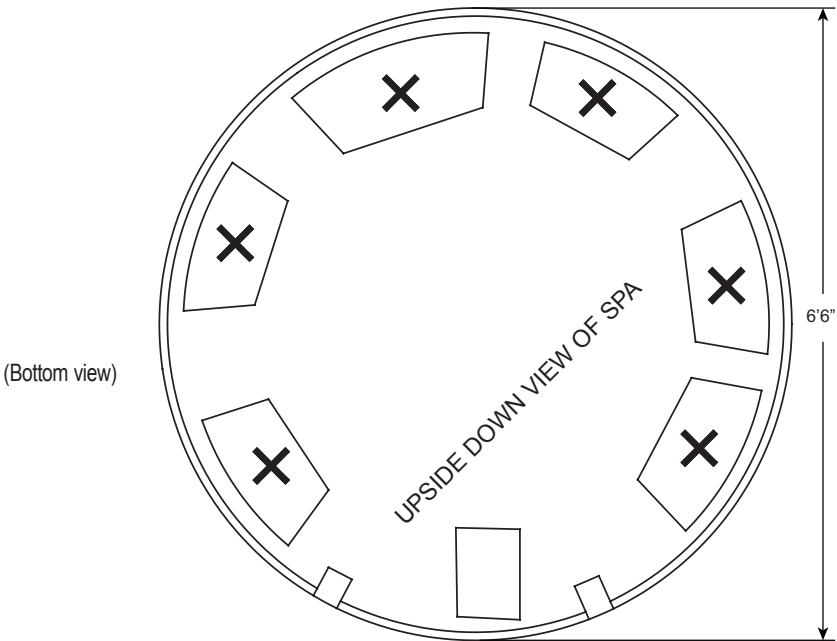
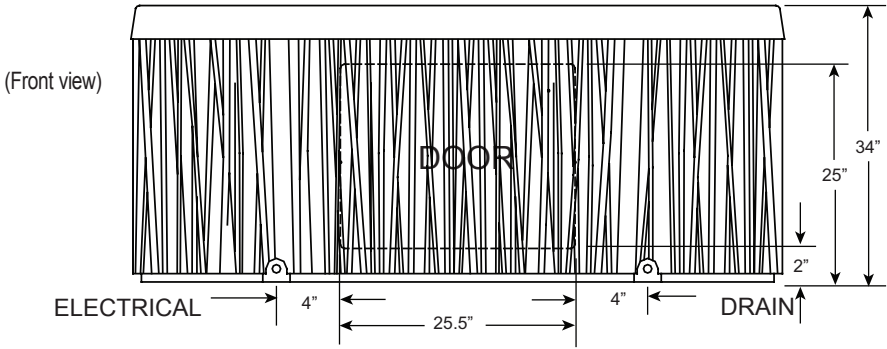
NOTE: All dimensions are approximate; measure your spa before making critical design or pathway decisions.



APTOS

Dimensions

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

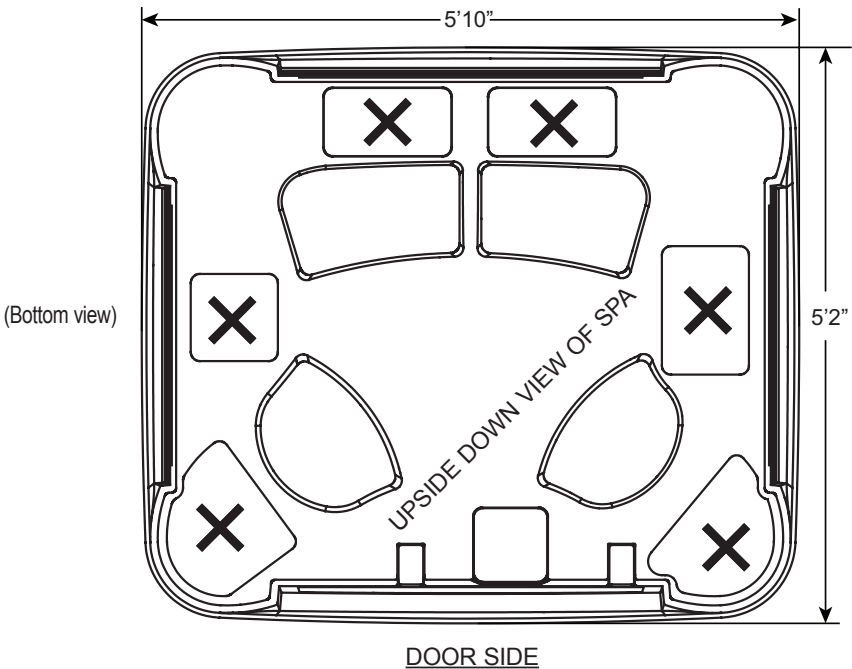
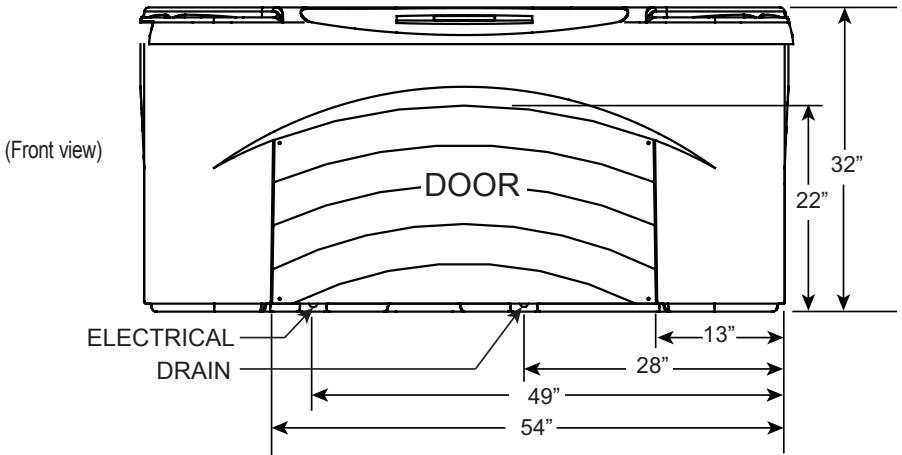


DOOR SIDE

CASCINA

Dimensions

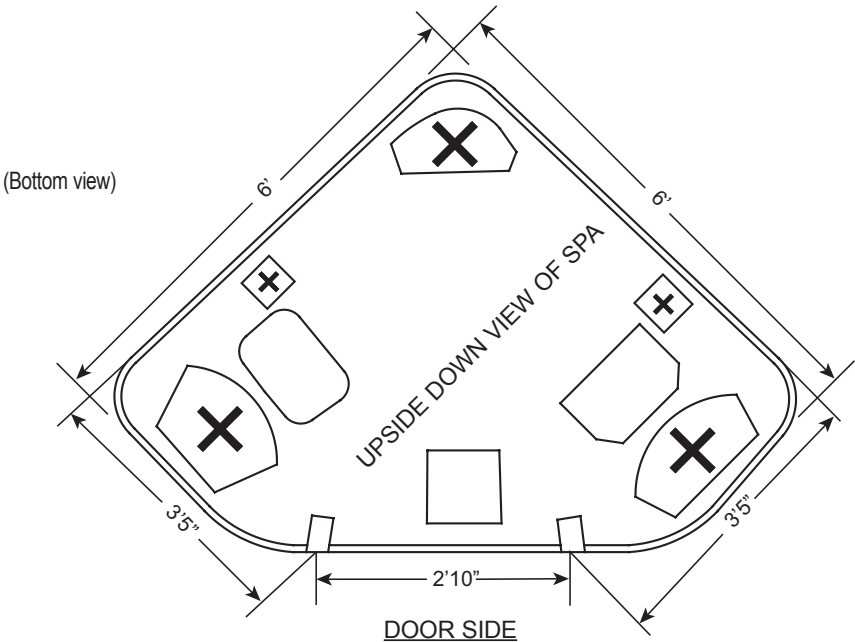
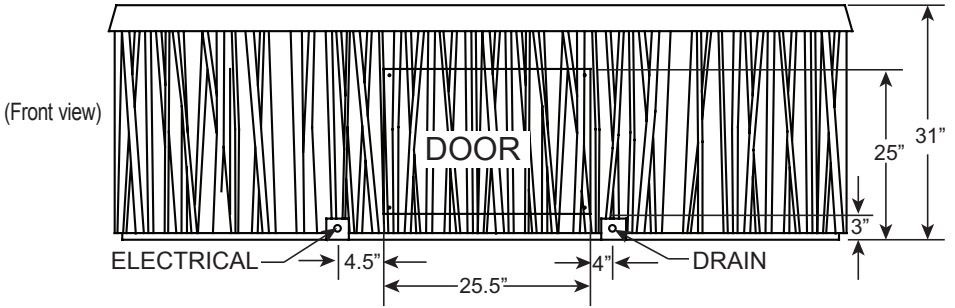
NOTE: All dimensions are approximate; measure your spa before making critical design or pathway decisions.



TRISTAR

Dimensions

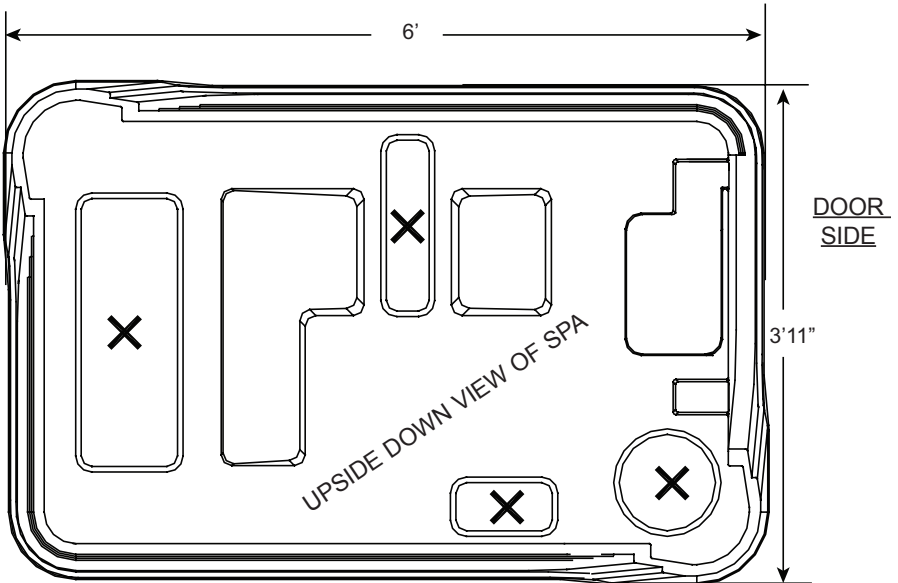
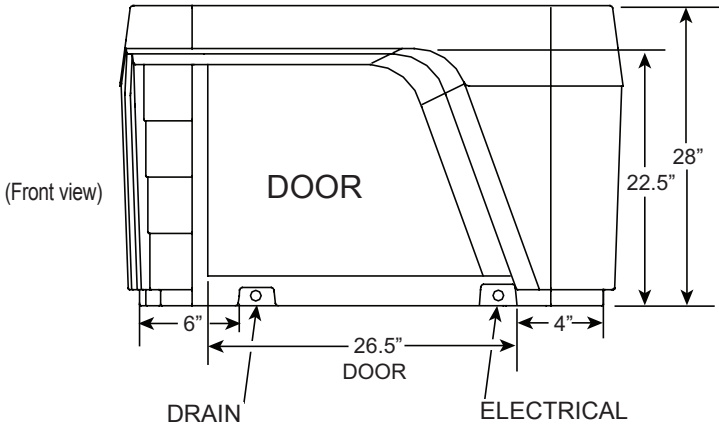
NOTE: All dimensions are approximate; measure your spa before making critical design or pathway decisions.



MINI

Dimensions

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



(Bottom view)

ELECTRICAL REQUIREMENTS

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 your dealer, **THIS IS YOUR RESPONSIBILITY.**

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

Freeflow spas are available as 110/230 volt convertible heating systems. These models come standard from the factory with 110 volt heating systems; however, with the addition of a subpanel and a control box wiring change, they can be converted to 230 volt operation. See the following sections for the electrical requirements for 110 volt operation, and 230 volt converted operation.

110 VOLT OPERATION REQUIREMENTS

It is highly recommended that the 110 volt spa be on a dedicated 15 amp, 110 volt circuit.

Each 110 volt model comes equipped with approximately 13 feet of usable power cord. (This is the maximum length allowed by ETL.) When the spa is installed, the power cord will come out of the bottom of the equipment compartment.

In addition to the dedicated 15 amp, 110 volt GFCI protected circuit, your spa requires a 15 amp single receptacle. This receptacle should contain an outdoor-rated, weather-resistant receptacle cover plate. The single receptacle and cover plate should be installed by your electrician prior to the delivery of your spa.

For your safety, when your electrician is installing the electrical outlet, it should be no closer than five (5) feet and no farther than ten (10) feet from the spa. (Reference National Electric Code 680-6a(1) and 680-41a.)

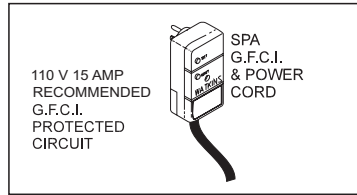
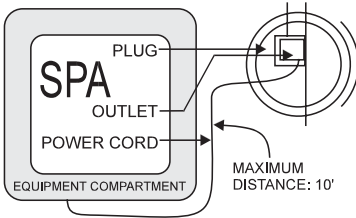
WARNING: Do not connect your spa to an extension cord!

The 110 volt GFCI switch and the receptacle must be protected from weather and landscape sprinklers—they should never get wet.

NOTE: If you require the services of a licensed electrician, your dealer should be able to suggest one for you.

Your spa has been carefully engineered to provide maximum safety against electric shock. Remember, connecting the spa to an improperly wired circuit will negate many of its safety features.

MINIMUM DISTANCE AFTER SPA INSTALLATION: 5'



230 VOLT OPERATION REQUIREMENTS

All models require a 40 amp, single phase, 230 volt circuit breaker in the main electrical service panel.

All 230 volt 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 Manufacturing Corporation **REQUIRES THE USE OF A SUBPANEL TO SUPPLY POWER AND PROTECT THE SPA.** The subpanel containing a GFCI breaker must be purchased separately and can be purchased from your dealer.

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.

Your electrician should mount the subpanel in the vicinity of the spa but it should not be closer than five (5) feet from 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 control box and then complete the wiring connections in the control box.

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

WARNING: Removing or bypassing the GFCI breakers in the subpanel at any time will result in an unsafe spa and will void the warranty.

WIRE SPECIFICATION NOTE: Long electrical runs may require a larger gauge feed wire than stated. All wiring must be copper to ensure adequate connections. Do not use aluminum wire.

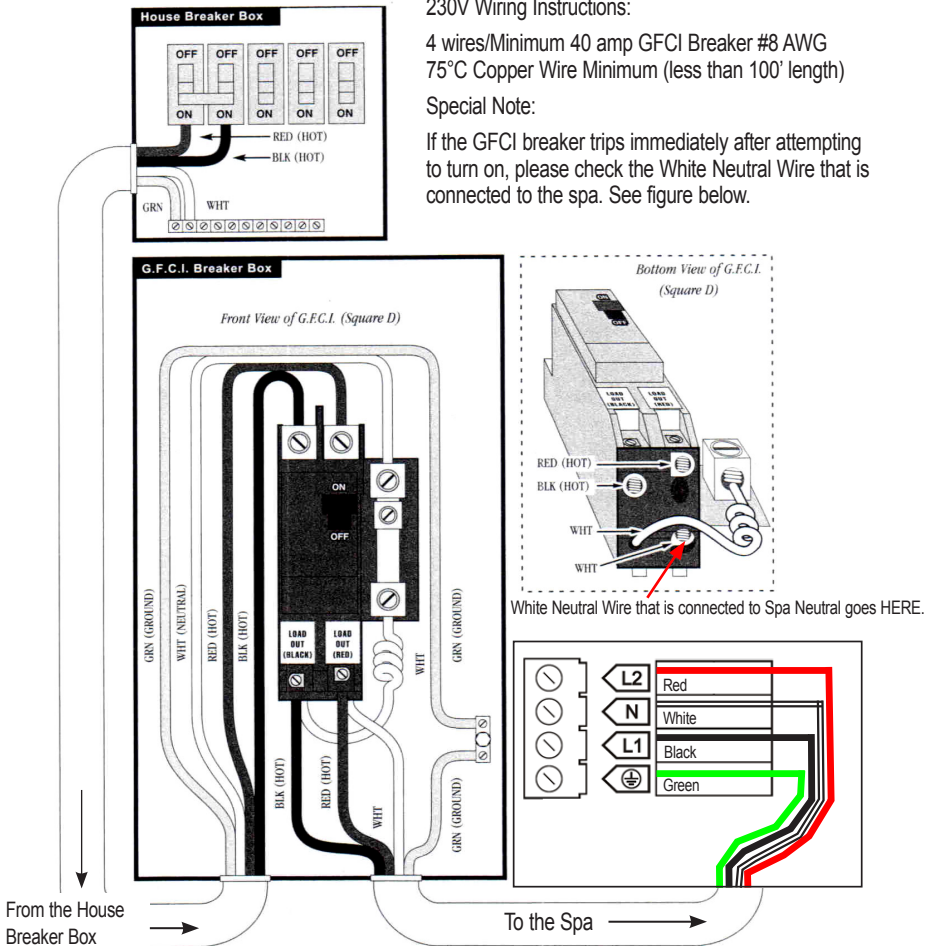
Refer to the Wiring Diagrams below for the electrical requirements of the 230 volt models.

230V Wiring Instructions:

4 wires/Minimum 40 amp GFCI Breaker #8 AWG
75°C Copper Wire Minimum (less than 100' 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. See figure below.



SERVICES AVAILABLE FROM YOUR SPA DEALER

Service

Cost

Pre-Delivery site inspection	_____	
Deliver spa to installation site	_____	
Unwrap spa and haul away packaging material	_____	
Set up	_____	
Fill the spa with water	_____	
Connect the spa to its power source (110 volt models)	_____	
Explain and test the spa's operation	_____	
• Jet system	• Set temperature control	• Control panel functions
Explain the safety features		
• GFCI	• Heater high limit	• Heater thermal cut-off
General spa operation & maintenance orientation	_____	
Water quality and maintenance orientation	_____	
Adjust the water's Total Alkalinity, Calcium Hardness and pH	_____	
Sanitize the water	_____	
Inspect the spa cover, place on spa	_____	
Review winterizing instructions	_____	
Review Owner's Manual	_____	
Follow-up call	_____	
In-store spa water analysis	_____	
TOTAL COST	_____	

ADDITIONAL PRODUCTS AVAILABLE FROM YOUR SPA DEALER

- Ozone System
- Cover Lifter
- Spa Step
- Filter

CONTRACTOR SUGGESTIONS

Name: _____

Telephone: _____

Name: _____

Telephone: _____

Spa Specifications

Spa Model	Footprint Dimension	Height	Effective Filter Area	Heater (Watts)	Water Capacity	Dry Weight	Filled Weight*	Dead Weight*	Electrical Requirements
MONTEREY	7'3" x 6'5"	34"	50 square feet	1,000 or 4,000	325 gallons	376 lbs.	4,312 lbs.	105 lbs per sq. foot	110 volt, 15 amp Recommended-GFCI protected circuit
EXCURSION	7'2" x 6'5"	33"	50 square feet	1,000 or 4,000	255 gallons	445 lbs.	3,447 lbs.	85 lbs per sq. foot	110 volt, 15 amp Recommended-GFCI protected circuit
AZURE	6'9" x 5'3"	33"	50 square feet	1,000 or 4,000	250 gallons	334 lbs.	3,119 lbs.	100 lbs per sq. foot	110 volt, 15 amp Recommended-GFCI protected circuit
APTOS	6'6" x 6'6" Round	34"	50 square feet	1,000 or 4,000	260 gallons	359 lbs.	3,402 lbs.	90 lbs per sq. foot	110 volt, 15 amp Recommended-GFCI protected circuit
CASCINA	5'2" x 5'10"	32"	50 square feet	1,000 or 4,000	215 gallons	276 lbs.	2,769 lbs.	105 lbs per sq. foot	110 volt, 15 amp Recommended-GFCI protected circuit
TRISTAR	6' x 6'	31"	50 square feet	1,000 or 4,000	205 gallons	302 lbs.	2,537 lbs.	80 lbs per sq. foot	110 volt, 15 amp Recommended-GFCI protected circuit
MINI	6' x 3'11"	28"	25 square feet	1,000 or 4,000	115 gallons	250 lbs.	1,559 lbs.	75 lbs per sq. foot	110 volt, 15 amp Recommended-GFCI protected circuit

CAUTION: Watkins Manufacturing Corporation suggests a structural engineer or contractor be consulted before the spa is placed on an elevated deck.

* **NOTE:** The "Filled Weight" and "Dead Weight" of the spa includes the weight of the occupants (assuming an average occupant weight of 175 lbs).

Watkins[®]

The Home Relaxation Specialists

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