



# Pre-Delivery Guide

240V / 60Hz Installation

230V / 50Hz Installation

For spas sold after January 1, 2014  
in the United States, Canada, and International

**VELOCITY SPAS™**

Redefining HIGH-drotherapy.

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Due to continuous improvement programs, all models, operation, and/or specifications are subject to change without prior notice.

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### CONTACT INFORMATION

For customer service, please contact your authorized dealer immediately. If you need additional information and/or assistance, contact:

**LMS Customer Service Department**  
**1462 East Ninth Street**  
**Pomona, CA 91766.**

Toll Free: 1-800-225-7727  
Fax: 1-909-629-3890



# Preparing for Your New Portable Spa

## Pre-Delivery Checklist

Most cities and counties require permits for exterior construction and electrical circuits. In addition, some communities have codes requiring residential barriers such as fencing and/or self-closing gates on property to prevent unsupervised access to the property by children. Your dealer can provide information on which permits may be required and how to obtain them prior to the delivery of your spa.

Before Delivery	
	Plan your delivery route
	Choose a suitable location for the spa
	Lay a 5 - 8 cm concrete slab
	Install dedicated electrical supply
After Delivery	
	Place spa on slab
	Connect electrical components

## Planning the Best Location

### Safety First

Do not place your spa within 10 feet (3 m) of overhead power lines.

### Consider How You Will Use Your Spa

How you intend to use your spa will help you determine where you should position it. For example, will you use your spa for recreational or therapeutic purposes? If your spa is mainly used for family recreation, be sure to leave plenty of room around it for activity. If you will use it for relaxation and therapy, you will probably want to create a specific mood around it.

### Plan for Your Environment

If you live in a region where it snows in the winter or rains frequently, place the spa near a house entry. By doing this, you will have a place to change clothes and not be uncomfortable.

### Consider Your Privacy

In a cold-weather climate, bare trees won't provide much privacy. Think of your spa's surroundings during all seasons to determine your best privacy options. Consider the view of your neighbors as well when you plan the location of your spa.

### Provide a View with Your Spa

Think about the direction you will be facing when sitting in your spa. Do you have a special landscaped area in your yard that you find enjoyable? Perhaps there is an area that catches a soothing breeze during the day or a lovely sunset in the evening.

### Keep Your Spa Clean

In planning your spa's location, consider a location where the path to and from the house can be kept clean and free of debris.

Prevent dirt and contaminants from being tracked into your spa by placing a foot mat at the spa's entrance where the bathers can clean their feet before entering your spa.

### Allow for Service Access

Make sure the spa is positioned so that access to the equipment compartment and all side panels will not be blocked.

Many people choose to install a decorative structure around their spa. If you are installing your spa with any type of structure on the outside, such as a gazebo, remember to allow access for service. It is always best to design special installations so that the spa can still be moved, or lifted off the ground.

## Preparing a Good Foundation

Your spa needs a solid and level foundation. The area that it sits on must be able to support the weight of the spa, with water and the occupants who use it. If the foundation is inadequate, it may shift or settle after the spa is in place, causing stress that could DAMAGE YOUR SPA SHELL AND FINISH.

**Damage caused by inadequate or improper foundation support is not covered by the warranty. It is the responsibility of the spa owner to provide a proper foundation for the spa.**

Place the spa on an elevated 3 to 4" / 30 cm concrete slab. Pavers, gravel, brick, sand, timbers or dirt foundations are **not** adequate to support the spa.

We strongly recommend that a qualified, licensed contractor prepare the foundation for your spa.

If you are installing the spa indoors, pay close attention to the flooring beneath it. Choose flooring that will not be damaged or stained.

If you are installing your spa on an elevated wood deck or other structure, it is highly recommended that you consult a structural engineer or contractor to ensure the structure will support the weight of 150 pounds per square foot (732 kg / m2).

To properly identify the weight of your new spa when full, remember water weighs 8.33 lbs. per gallon, or 1 kg per liter. For example, an average 8' spa holds approximately 500 gallons, or 1892 liters, of water. Using this formula, you will find that the weight of the water alone is 4,165 lbs, or 1892 kg. Combined with the dry weight of the spa you will note that this spa will weigh approximately 5,000 lbs, or 2267 kg, when full of water.



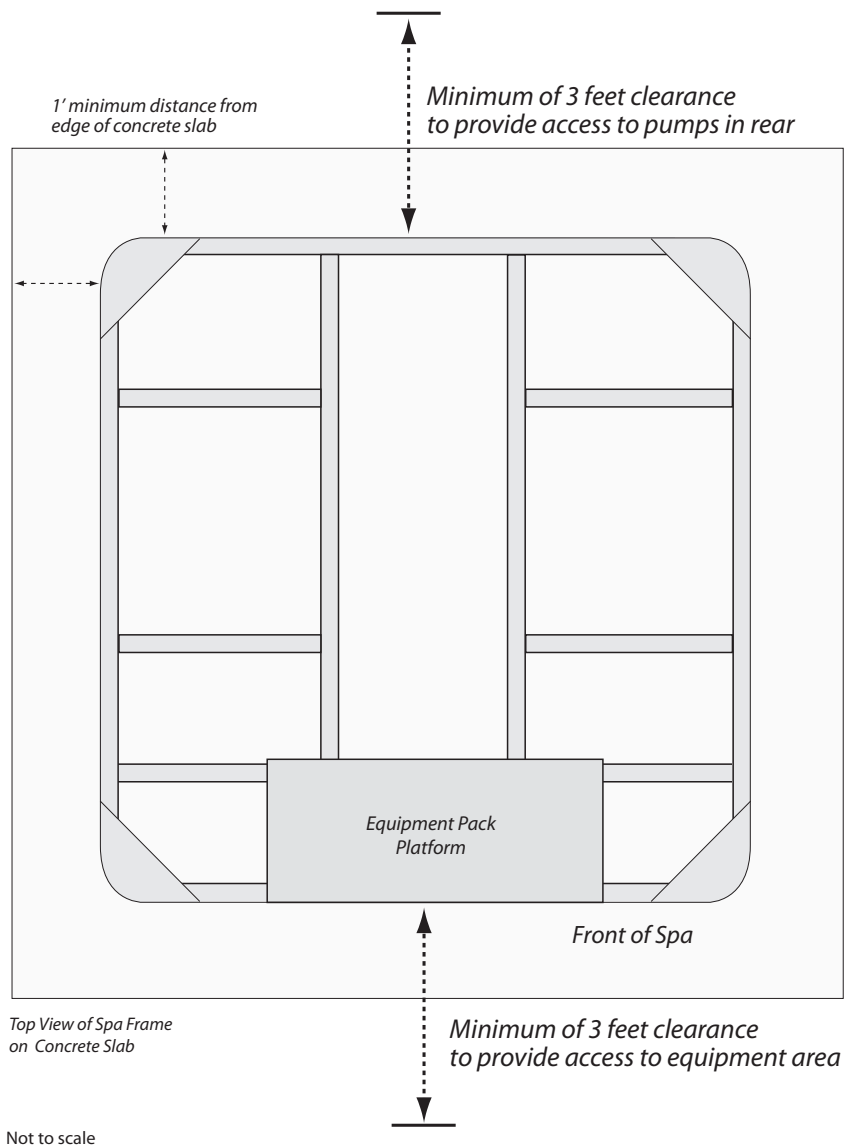
**Important: See pages 4 and 6 for planning the stub-up location before the foundation is laid.**

## Clearance for Service Access

While you are planning where to locate your spa, you need to determine how much access you will need for service.

The Velocity Spa requires access to the front and back of the spa for periodic service. For this reason, the spa should never be placed in a manner where the front or back are permanently blocked. Examples include placing the front of the spa against a building, structural posts or columns, or a fence.

If you are planning to enclose or surround your spa with a deck, make sure there is access for service or repair.



## Electrical Service Stub-up

The location of the electrical service cable is a decision each spa owner needs to decide. Running the electrical cable lay on top of the slab is visually unappealing and can present a trip hazard.

Most spa owners prefer to bury electrical conduit before the slab is laid and run the cable up through the slab. The location of the conduit in the concrete slab is called the stub-up.

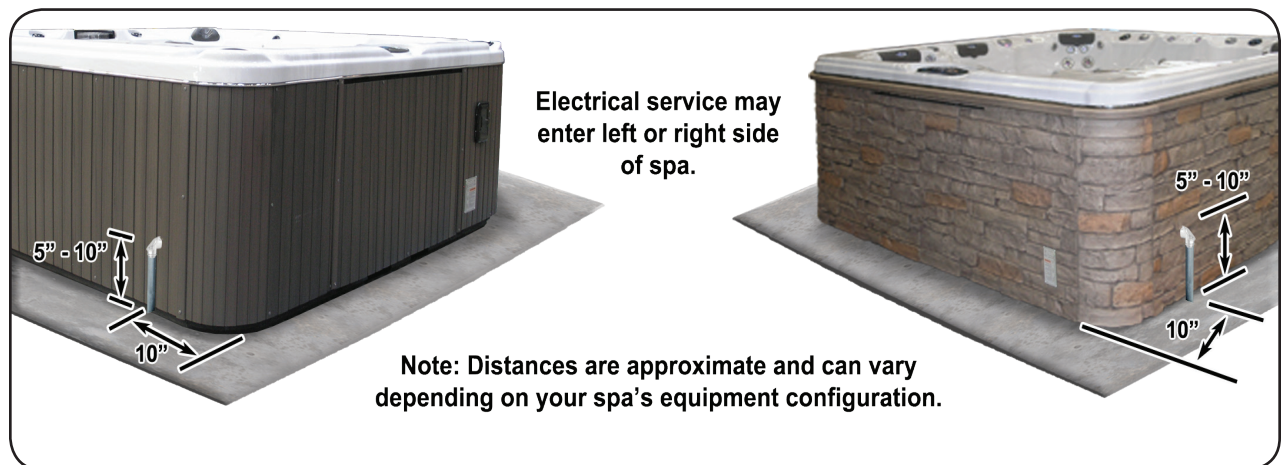
You will need to have a contractor lay down a concrete slab before the spa is delivered (as described on page 2). The stub-up needs to be located directly next to the cabinet as shown in the figures below.

The spa installer or electrician will need to drill a hole in the spa cabinet approximately 5" to 10" up from the concrete slab. This will be where the conduit will enter the spa equipment area.

Use rigid pipe and a metal elbow outside the spa. You can use flex pipe inside the equipment area to run the electrical wire from the elbow to the control box.

### Cal Preferred™ and Cal Stone™ Panels

The stub-up for should be approximately 10" back from the front of the spa and no higher than 10" above the concrete slab. It can be placed on either the left or right side of the spa.



# Getting the Spa Into Your Yard

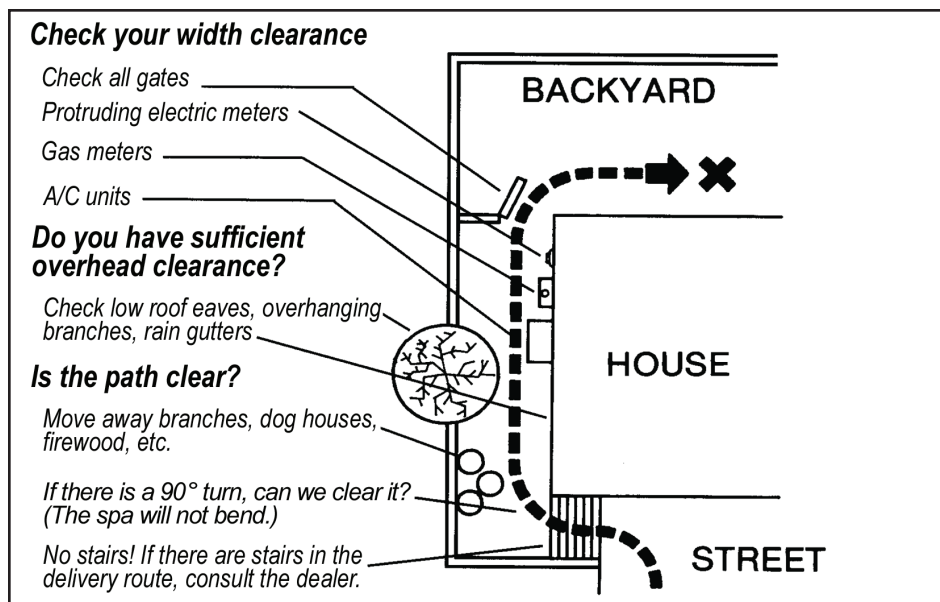
## Check the Dimensions of Your New Spa

The specification chart on page 9 lists your spa's model and its dimension as it sits on the delivery cart. During delivery, the spa must remain on the delivery cart at all times. Compare the dimensions to the width of the gates, sidewalks, and doorways along the delivery route. It may be necessary for you to remove a gate or partially remove a fence in order to provide an unobstructed passageway to the installation location.

## Plan the Delivery Route

Consider the following when planning your delivery route:

- Check the width of gates, doors and sidewalks to make sure your spa will pass through unobstructed. You may have to remove a gate or part of a fence to allow for adequate width clearance.
- Are there low roof eaves, overhanging branches or rain gutters that could be an obstruction to overhead clearance?
- 8' spas need at least 42" wide gate and 9' height clearance.
- If the delivery route will require a 90° turn, check the measurements at the turn to ensure the spa will fit.
- Are there protruding gas meters, water meters or A/C units on your home which will cause obstructions along the delivery path to your yard?
- Are there stairs in your delivery route? If so, you must consult your spa dealer prior to delivery to make adequate preparations.



## Special Circumstances

The use of a crane for delivery and installation may become necessary if you are unable to provide an adequate delivery route. It is used primarily to avoid injury to your spa, your property or to delivery personnel. Your spa dealer may be able to assist you with the arrangements. If your spa delivery requires the use of a crane, the cost of a crane is generally not included in the standard delivery service.



## Electrical Requirements

### 240 Volt Electrical Installation

All 240V spas must be permanently connected (hard wired) to the power supply. See the wiring diagram on page 7.

**These instructions describe the only acceptable electrical wiring procedure. Spas wired in any other way will void your warranty and may result in serious injury.**

When installed in the United States, the electrical wiring of this spa must meet the requirements of NEC 70 and any applicable local, state, and federal codes.

**The electrical circuit must be installed by an electrical contractor and approved by a local building or electrical inspector.**

**Failure to comply with state and local codes**

**may result in fire or personal injury and will be the sole responsibility of the spa owner.**

The power supplied to the spa must be on a dedicated GFCI protected circuit as required by NEC 70 with no other appliances or lights sharing the power.

Use copper wire with THHN insulation. Do not use aluminum wire.

Use the table below and on the next page to determine your GFCI and wiring requirements.

Wire runs over 85 feet must increase wire gauge to the next lower number. For example: A normal 50 amp GFCI with four #6 AWG copper wires run over 85 feet would require you to go to four #4 AWG copper wires.

### GFCI and Wiring Requirements

Control System	GFCI Required	Wires Required
BP520X	One 50 amp GFCI	Four #6 AWG copper wires

### Testing the GFCI Breaker

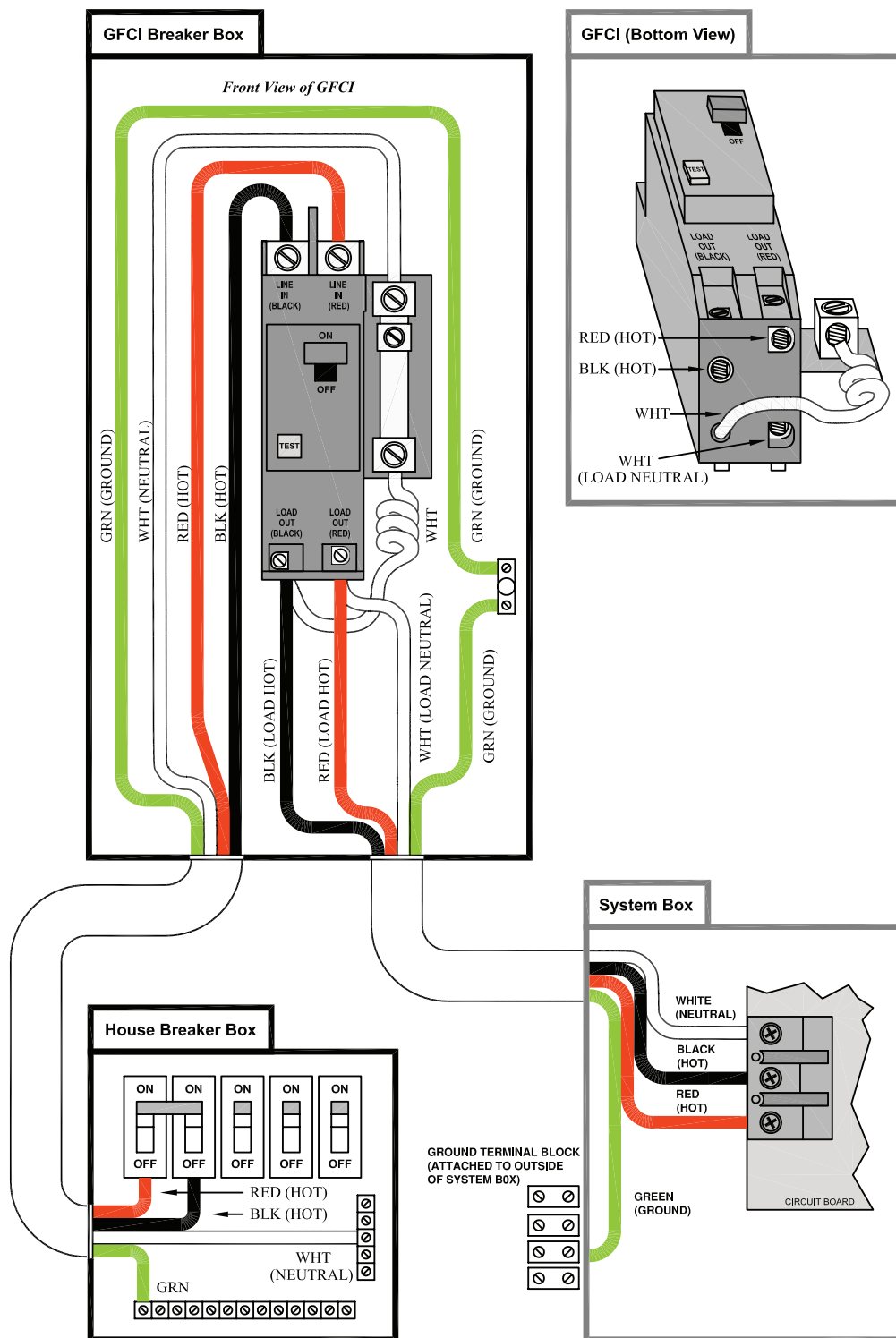
Test the GFCI plug prior to first use and periodically when the spa is powered. To test the GFCI plug version, follow these instructions. (Spa should already be plugged in and operational.)

1. Press the TEST button on the GFCI. The GFCI will trip and the spa will stop operating.
2. Press the RESET button on the GFCI. The GFCI will reset and the spa will turn back on.

The spa is now safe to use.



# GFCI Wiring Diagram



## 230V / 50 Hz Electrical Installation

All 230V spas must be permanently connected (hardwired) to the power supply. These instructions describe the only acceptable electrical wiring procedure. Spas wired in any other way will void your warranty and may result in serious injury.

This is the only acceptable electrical wiring procedure. Spas wired in any other way will void your warranty. See the wiring requirements below and wiring diagram below.

The electrical wiring of this spa must meet the requirements of any applicable local, state, and federal codes. The electrical circuit must be installed by an electrical contractor and approved by a local building / electrical inspector.

The power supplied to the spa must be on a dedicated

RCD protected circuit with no other appliances or lights sharing the power.

Use copper wire with THHN insulation. Do not use aluminum wire.

Use the tables below to determine your RCD and wiring requirements.

When wires larger than #6 AWG are required, install a junction box near the spa and use #6 AWG wire between the junction box and the spa.

Wire runs over 25 meters must increase wire gauge to the next lower number. For example: A normal 50 amp RCD with three #8 AWG copper wires run over 25 meters would require you to go to three #6 AWG copper wires.

### RCD and Wiring Requirements

Note: SINGLE PHASE ONLY!

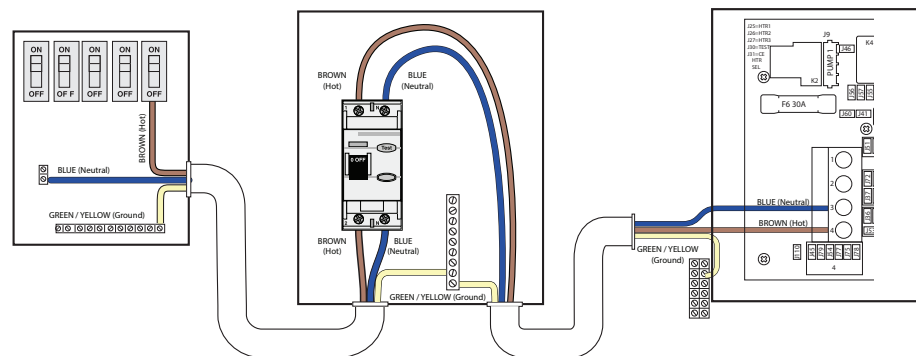
Three phase power requires 400V. Only use 230V.

Use this table to determine your wiring configuration.

Control System	RCD Required	Wires Required
BP2100	One 32 amp RCD	Three #6 AWG copper wires

### RCD Wiring Diagram

2100 control system  
 One 32A RCD  
 Three wires:  
 1 brown (HOT)  
 1 blue (NEUTRAL)  
 1 yellow (GROUND)



## Spa Technical Specifications

All sizes on this chart represent outside dimensions. Due to our continuous improvements, specifications, size and pricing are subject to change without prior notice.

### Imperial Units

Model	Width (inches)	Length (inches)	Height (inches)	Capacity (gallons)	Dry Weight (pounds)	Filled Weight (pounds)
V-700L	87	87	39.5	425	850	4390
V-800L	93	93	39.5	450	900	4648

### Metric Units

Model	Width (cm)	Length (cm)	Height (cm)	Capacity (liters)	Dry Weight (kg)	Filled Weight (kg)
V-700L	221	221	100	1609	386	1991
V-800L	236	236	100	1703	408	2108

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