

# 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.)

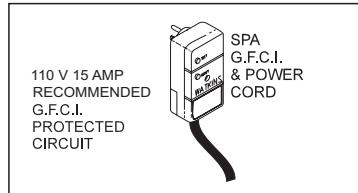
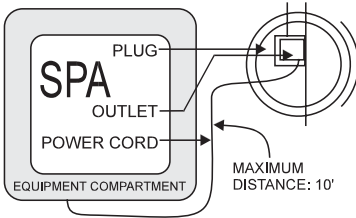
**WARNING:** Do not connect your spa to an extension cord!

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.

