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# IMPORTANT SAFETY INSTRUCTIONS

When installing and using this electrical equipment, basic safety precautions should always be followed, including the following:

## READ AND FOLLOW ALL INSTRUCTIONS

1. **WARNING:** To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times. Keep spa cover locked when not in use.
2. A wire connector is provided on this unit to connect a minimum No. 8 AWG (8.4mm<sup>2</sup>) solid copper conductor between this unit and any metal equipment, metal water pipe, or conduit within 5 feet (1.5m) of the unit.
3. **DANGER:** Risk of Injury. The suction fittings in this spa are sized to match the specific water flow created by the pump. Should the need arise to replace the suction fittings or the pump, be sure that the flow rates are compatible. Never operate the spa if the suction fittings are broken or missing. Never replace a suction fitting with one rated less than the flow rate marked on the original fitting.
4. **DANGER:** Risk of Accidental Drowning. Extreme Caution must be exercised to prevent unauthorized access by children. To avoid accidents, insure that children cannot use this spa unless they are supervised at all times.
5. **DANGER:** Risk of Electric Shock. Install at least 5 feet (1.5m) from all metal surfaces. As an alternative, a spa may be installed within 5 feet of metal surfaces if each metal surface is permanently connected by a minimum No. 8 AWG (8.4mm<sup>2</sup>) solid copper conductor to the wire connector on the terminal box that is provided for this purpose.

6. **DANGER:** Risk of Electric Shock. Do not permit any electrical appliance, such as a light, telephone, radio or television within 5 feet (1.5m) of a spa.
7. **WARNING:** To Reduce the Risk of Injury:
- Before using your spa you should check the water temperature with a thermometer that is known to be accurate. The water temperature in a spa should never exceed 104°F (40°C). A water temperature of 104°F is considered safe for a healthy adult. Lower water temperatures are recommended for young children and when spa use exceeds 10 minutes.
  - Since excessive water temperatures have a high potential for causing fetal injury during the early months of pregnancy, pregnant or possibly pregnant women should limit spa water temperature to 100°F (38°C).
  - The use of alcohol, drugs, or medication before or during spa use may lead to unconsciousness with the possibility of drowning.
  - 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 a spa.
  - Persons using medication should consult a physician before using a spa since some medication may induce drowsiness while other medications may affect heart rate, blood pressure and circulation.

8. The causes, symptoms and affects of hyperthermia may be described as follows:

Hyperthermia occurs when the internal temperature of the body reaches a level several degrees above the normal temperature of 98.6°F. The symptoms of hyperthermia include an increase in the internal temperature of the body, dizziness, lethargy, drowsiness and fainting.

The effects of hyperthermia include:

- Failure to feel heat
- Failure to recognize the need to exit the spa

- Unawareness of impending hazards
  - Fetal injury in pregnant women
  - Physical inability to exit the spa or hot tub
  - Unconsciousness resulting in the potential of drowning
9. **WARNING:** The use of alcohol, drugs or medication can greatly increase the risk of fatal hyperthermia. If you suspect hyperthermia, immediately get medical help, lay the victim on their back with the head slightly elevated for easier breathing, cover the body with a blanket and apply ice packs to the head.
10. Never touch or come in contact with any electrical accessory when in your spa or when your body is wet.
11. Prior to performing any service to the spa pack, turn off ALL power to the system at the main power source breaker.

**NOTE: A READILY ACCESSIBLE DISCONNECTING MEANS SHALL BE PROVIDED DURING INSTALLATION**

## **SAVE THESE INSTRUCTIONS**

### **PERSONAL SAFETY PRECAUTIONS**

1. Please use the spa when others are present.
2. Children should have spa access only with the permission and supervision of an adult.
3. To reduce the risk of child drowning keep the spa filter clean and unclogged. Do not modify the suction or filtration systems.
4. Exercise caution when entering or leaving the spa. When moving or changing positions be sure of your footing before applying your full weight as water refraction can be misleading.
5. Do not stay in the spa for extended periods of time. Set a reasonable time limit after which you leave the spa, cool down, take a shower, relax and then return for another stay in the spa.

# INSTALLATION AND SET-UP INSTRUCTIONS

## SURFACE AND PAD REQUIREMENTS

- Your new portable spa must be placed on a uniformly firm, flat and level surface. A concrete pad 4 inches thick is best.
- In order to prevent flooding of the electrical equipment, the pad must be such that water will drain away from the spa.
- If your spa is located near sprinklers, adjust or cap them so as not to hit the siding of the spa.

## BALCONIES AND DECK REQUIREMENTS

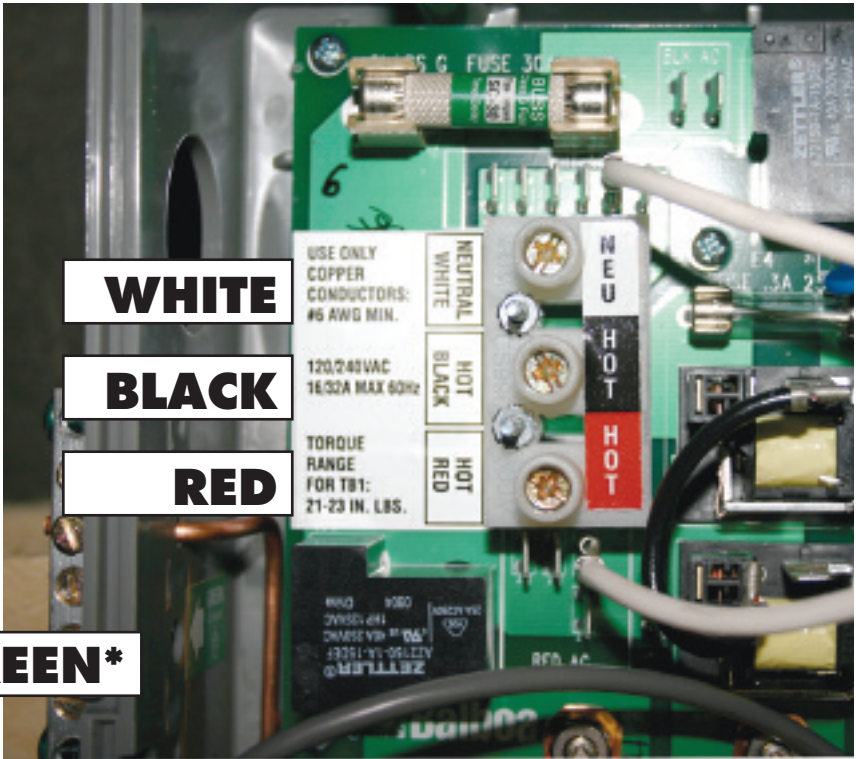
- Decking must be constructed to support 85 pounds per square ft.
- Balconies must be constructed to meet current state and local codes.
- Gates must be self-closing and self-latching.

## ELECTRICAL REQUIREMENTS (VS-500 & 501)

- Your 220-volt spa pack will require a 40-amp dedicated G.F.C.I. circuit breaker on all models except the "Executive".
- Your 110-volt spa pack requires an isolated (no other appliances or lights on this circuit at any time) 110-volt, 20-amp circuit breaker.
- Never tie ground and neutral together.
- The minimum conductor ampacity for 110-volt systems is 25-amps; for 220-volt systems, it is 38-amps on all models except the "Executive." The maximum over current protection device for 110-volt systems is 20-amps; for 220-volt systems, it is 40-amps on all models except the "Executive."
- The minimum conductor ampacity for the 220-volt "Executive is 47-amps. The maximum over current protection device for the "Executive" is 50-amps.
- Your 110-volt or 220-volt spa pack is designed to be "PERMANENTLY CONNECTED".

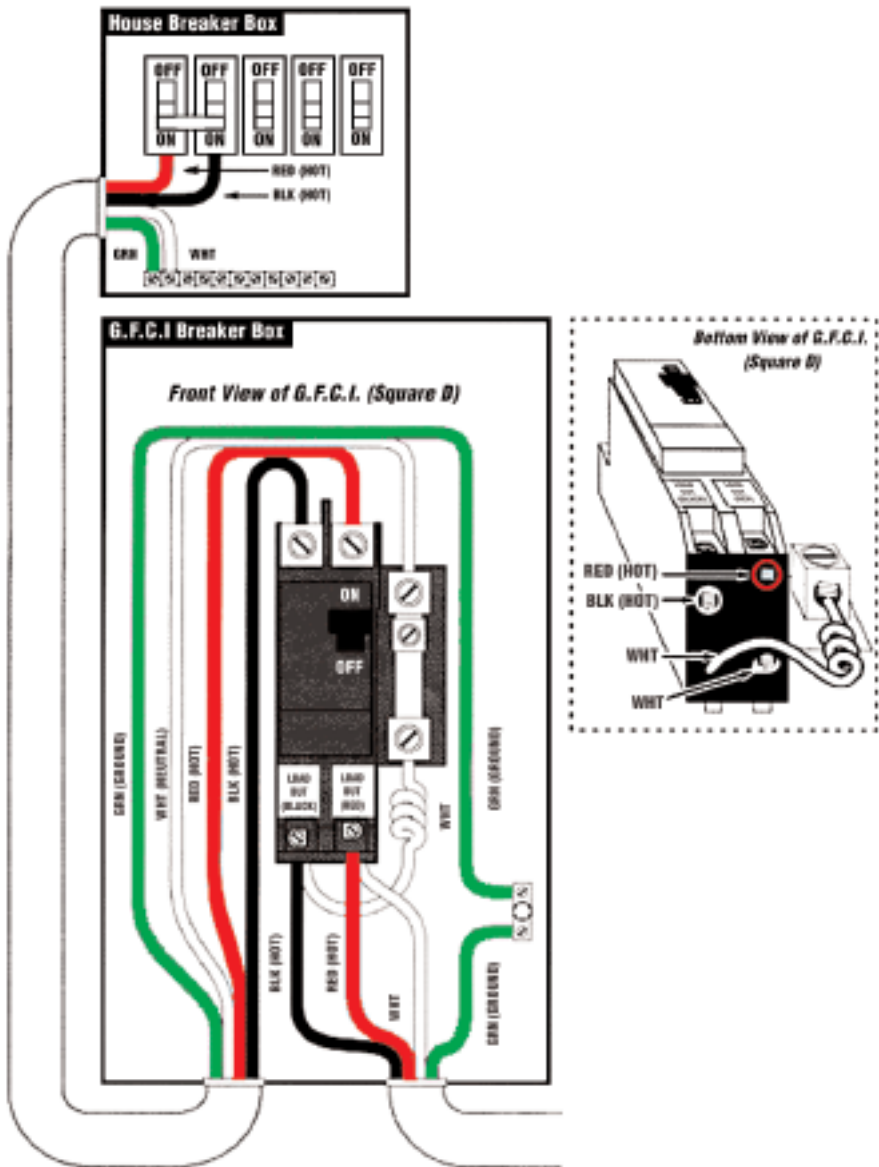
- Use of any extension cord is dangerous and is not to be used in conjunction with the operation of the spa. Low voltage damage may result and will void your warranty.
- **It is the customer's responsibility to acquire necessary permits and to arrange for installation and hook up of the electrical power.**
- **Your spa comes set up from the factory to accept 220v.**

220-VOLT



\*Green Ground Connection  
 Located on Left Side of  
 Control Panel.

# G.F.C.I Wiring Installation



# ELECTRICAL SPECIFICATIONS

## GENERAL

**NOTICE: All spa electrical wiring must be performed by a qualified licensed electrician in order to meet NEC (National Electrical Code) state and local codes.**

1. The lines carrying power to the spa must be dedicated to the spa and should not be shared with any other appliance(s).
2. All electrical wiring lines must originate from the electrical panel and terminate, hard wired, into the electrical wiring compartment. The use of extension cords or improper plug type termination is expressly prohibited and voids the warranty.
3. Do not use aluminum wiring. Use only copper conductive wiring.
4. Wire gauge must be in accordance with NEC requirements for the distance from current source to spa and the current rating as stated on the ID label that is attached to the equipment control enclosure.
5. All wiring installed in conduit must be approved for usage by state and local codes. The conduit must terminate at the electrical access compartment either from the bottom of the spa or through a hole in the side panel of the spa.

## G.F.C.I. CIRCUIT BREAKER REQUIREMENTS

A new breaker must be used for new spa installations. Do not use an existing breaker, as its condition is unknown.

<b>Breaker</b>	<b><u>220v (Executive)</u></b>	<b><u>220v</u></b>	<b><u>110v</u></b>
CAPACITY	50 amps	40-amps	20-amps
POLES	2	2	1
# WIRES	4	4	3



## PRE-OPERATION INSTRUCTIONS

The Power system is located under the skirt. The equipment can be serviced by simply removing the access panel screws.

It is very important to make sure that the spa is filled up to the proper level (note the water level mark on the skimmer face) before operating spa.

**WARNING:** Do not run spa with gate valves closed or run pump with no water circulating in spa for long periods. Damage could occur to the spa equipment.

**NOTE:** The Viking I, II and Eclipse models are 110v/220v systems. The Supreme, Royale, Legacy I, Legacy II, Magnum, Xtreme, and Executive models are 220v only systems.

# TOPSIDE CONTROL INSTRUCTIONS\*

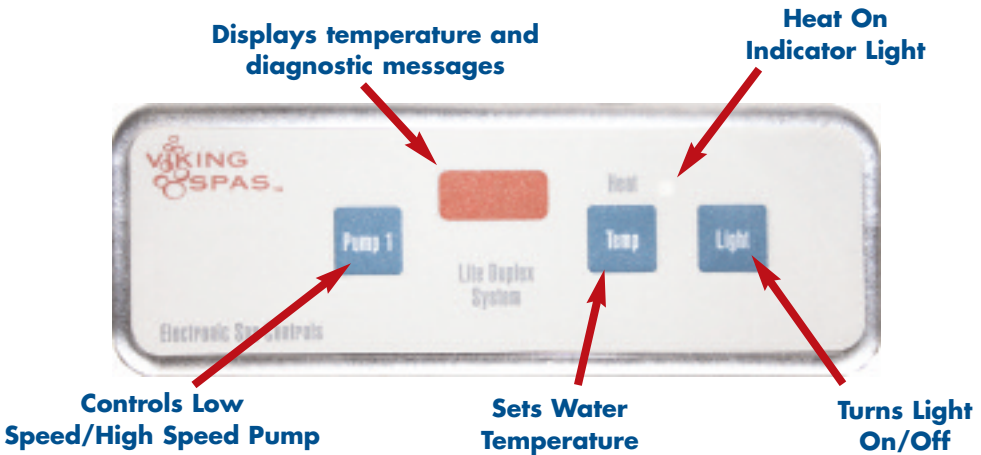
## (All Models Except Executive Model)

### INITIAL START-UP

When your spa is first actuated, it will go into Priming mode, indicated by "Pr". The priming mode will last for less than 5 minutes and then the spa will begin to heat the spa and maintain the water temperature in the Standard mode.

### TEMPERATURE/SET RANGE (80°F - 104°F / 26° C - 40°C)

The start-up temperature is set at 100F°/37°C. The last measured temperature is constantly displayed on the LCD. *Note that the last measured spa temperature displayed is current only when the pump has been running for at least 2 minutes.*



To display the set temperature, press the "Temp" pad once.

To change the set temperature, press the pad a second time before the LCD stops flashing. Each press of the "Temp" pad will continue to either raise or lower the set temperature.

If the opposite direction is desired release the pad and let the display revert to the current water temperature. Press the pad to display the set temperature, and again to make the temperature change in the desired direction. After **three seconds**, the LCD will stop flashing and display the current spa temperature.

# TOPSIDE FUNCTIONS

## JETS

Touch the "Jets" button once to activate the low speed of the pump and again for the high speed. Press the "Jets" button again to turn off the pump. If left running, the low speed of the pump will automatically turn off **after 4 hours**, and the high speed will automatically turn off **after 15 minutes**.

## LIGHT

Press the "Light" button to turn the light on and off. If left on, the light automatically turns off **after 4 hours**.

## MODE

Mode is changed by pressing the "Temp" button, then pressing the "Light" button.

**Standard Mode** is programmed to maintain the desired temperature. Note that the last measured spa temperature displayed is current only when the pump has been running for at least 2 minutes. "**St**" will be displayed momentarily when you switch into Standard Mode.

**Economy Mode** heats the spa to the set temperature only during filter cycles. "**Ec**" will display solid when temperature is not current, and will alternate with temperature when temperature is current.

**Sleep Mode** heats the spa to within 20°F/10°C of the set temperature only during filtration cycles. "**SL**" will display solid when temperature is not current, and will alternate with temperature when temperature is current.

**Preset Filter Cycles.** The first filter cycle begins 6 minutes after the spa is energized. The second filter cycle begins 12 hours later. Filter duration is programmable for 2,4,6,8 hours or for continuous filtration. (indicated by "**FC**") The default filter time is 2 hours.

To program, press "Temp," then "Jets." Press "Temp" to adjust. Press "Jets" to exit programming.

\*\* (All models will purge (run) at the beginning of each filter cycle.) The low speed of the "primary" pump runs during filtration and the ozone generator will be enable.

# Diagnostic Messages

Message	Meaning	Action Required
--	Temperature Unknown	After the pump has been running for 2 minutes, the temperature will be displayed.
<b>HH</b>	"Overheat" – The spa has been shut down. One of the sensors has detected 118°F/48°C at the heater.	DO NOT ENTER THE WATER. Remove the cover and allow water to cool. Reset by pushing any button.
<b>OH</b>	"Overheat" – The spa has shut down. One of the sensors has detected that the spa water water is 110°F/43°C.	DO NOT ENTER THE WATER. Remove the spa cover and allow the water to cool. At 107°F/42°C the spa should automatically reset. If it does not, shut off the power to the spa and call your dealer or service organization.
<b>IC</b>	"Ice" – Potential freeze Condition detected.	No action required. The Pump(s) will automatically activate regardless of spa status.
<b>SA</b>	Spa is shut down. The Sensor that is plugged Into the Sensor "A" jack is not working.	If the problem persists, contact your dealer or service organization. (May appear temporarily in an overheat situation and disappear when the heater cools.)
<b>SB</b>	Spa is shut down. The Sensor that is plugged Into the Sensor "B" jack is not working.	If the problem persists, contact your dealer or service organization. (May appear temporarily in an overheat situation and disappear when the heater cools.)

<b>Sn</b>	Sensors are out of balance. If alternating with spa temp, it may just be a temporary condition. If flashing by itself, spa is shut down.	If the problem persists, contact your dealer or service organization.
<b>HL</b>	A significant difference between temperature sensors has been detected. This could indicate a flow problem.	Check water level in spa. Refill if necessary. If the water level is okay, make sure the pump(s) have been primed.
<b>LF</b>	Persistent low flow problems. (Displays on the fifth occurrence of HL message within 24 hrs.) Heater is shut down, but other spa functions continue to run normally.	Follow action required for "HL"
<b>dr</b>	Possible inadequate water, poor flow, or air bubbles detected in the heater. Spa is shut down for 15 minutes.	Check water level in spa. If water level is okay, make sure pump(s) have been primed. Press any button to reset or this message will automatically reset within 15 minutes.
<b>dy</b>	Inadequate water detected in heater. (Displays on third occurrence of "dr" message.) Spa is shut down.	Follow action required for "dr" message.

**WARNING! / Shock Hazard! / No User Serviceable Parts.**  
**Do not attempt service of this control. Contact your spa retailer or service organization for assistance. Installation and/or service must be performed by a licensed electrician and all grounding connections must be properly installed.**

## **ADDITIONAL “ROYALE”, “LEGACY II”, “XTREME” & “EXECUTIVE” FEATURE’S**

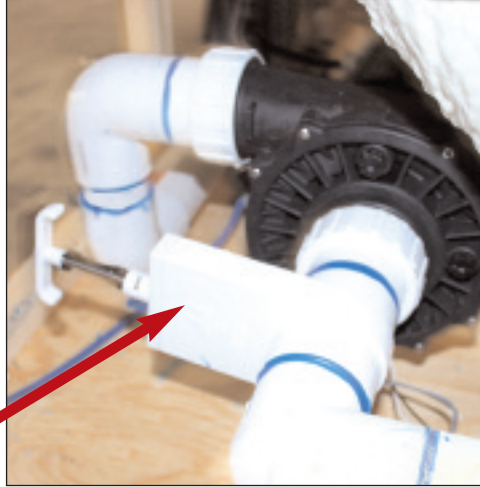
The Royale, Legacy II, Xtreme & Executive models also feature a Waterfall jet, which allows the user to regulate the flow of water to the jet by simply turning the valve for the waterfall from “off” to “on”. (See Illustration below)

The Royale, Legacy II, Xtreme and Executive models are also equipped with a L.E.D. light system. This lighting, which encompasses the interior of the spa, is also incorporated into the light in the foot well of these models. The LED Lighting system consists of a 9 position controller. The first time the light is turned on, it will begin to display all 9 colors available in an automatic rotating sequence. Each time you sequence the light on/off, all colors will be displayed individually. The last function of the cycle is a unique strobe feature. It may be necessary to wait 1-2 seconds between cycling the lights on and off in order to get to the next color sequence.



## OPERATION INSTRUCTIONS (EXECUTIVE)

WATER GATE VALVE



DRAIN HOSE

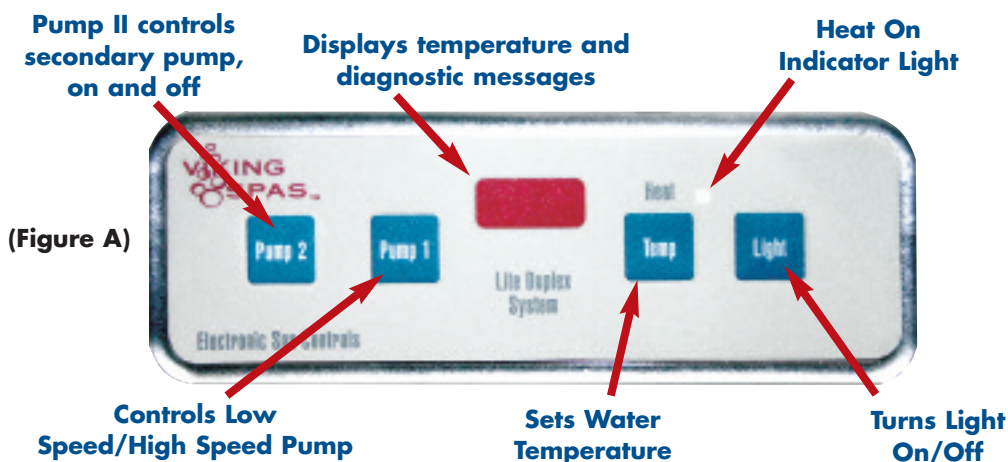


## PRE-OPERATION INSTRUCTIONS (EXECUTIVE)

Pre-operation instructions are virtually the same for all of our models. Please refer to Page 9 for these instructions.

# TOPSIDE CONTROL INSTRUCTIONS\*\*

## (Executive Model)



## INITIAL START UP

When your spa is first activated, it will go into a Priming mode, indicated by "Pr". The Priming mode will last for less than 5 minutes. Then, the spa will begin to heat and maintain the water temperature in the Standard Mode indicated by "St".

## TEMPERATURE (80°F – 104°F / 26°C – 40°C)

The start up temperature is set at 100°F/37°C. The last measured temperature is constantly displayed on the LCD.

**Note: The last measured spa temperature displayed is current only when the pump has been running for at least 2 minutes.**

Press the "Temp" button to display the temperature previously set. The set temperature flashes on the display. Pressing the "Temp" button a second time, while it is still flashing, will cause the set temperature to increase or decrease depending on what direction was last chosen. Each press to follow will change the set temperature in the same direction. If the opposite direction is desired, release the pad and let the display revert to the actual water temperature. Press the button to display the set temperature, and again to make the temperature change in the desired direction.

## **PUMP I (Figure A)**

Press the "Pump" button once to activate the low speed of the Primary Pump and again for the high speed. Press the "Pump" button again to turn off the pump. If left running, the pump's high speed will automatically turn off after 15 minutes. The low speed of the pump runs when the Secondary pump is on. It may also activate for at least 2 minutes every 30 minutes to detect the spa temperature and then to heat to the set temperature if needed, depending upon mode. When the low speed turns on automatically, it cannot be deactivated from the panel, however, the high speed may be started.

## **PUMP II (Figure A)**

This button is used to turn the Secondary Pump on and off. If left on, the pump automatically turns off after 15 minutes.

## **LIGHT (Figure A)**

Press the "Light" button to turn the light on and off. If left on, the light automatically turns off after four hours.

## **MODE**

The mode is changed by pressing the "Temp" button, then pressing the "Light" button.

**Standard Mode** is programmed to maintain the desired temperature. Note that the last measured spa temperature displayed is current only when the pump has been running for at least 2 minutes. "**St**" will be displayed momentarily when you switch into Standard Mode.

**Economy Mode** heats the spa to the set temperature only during filter cycles. "**Ec**" will display solid when temperature is not current, and will alternate with temperature when temperature is current.

**Sleep Mode** heats the spa to within 20°F of the set temperature only during filter cycles. "**SL**" will display solid when temperature is not current, and will alternate with temperature when temperature is current.

**PRESET FILTER CYCLES.** The first filter cycle begins 6 minutes after the spa is energized. The second filter cycle begins 12 hours later. Filter duration is programmable at the Master Control Pad (Figure A) for 2, 4, 6 or 8 hours, or for continuous filtration, (indicated by "FC"). The default filter time is 2 hours. To program, press "Temp", then "Jets". Press "Temp" to adjust. Press "Jets" to exit programming.

**Note:** The Secondary Pump purges for 30 seconds at the beginning of each filter cycle. The low speed of the primary pump runs during filtration and the ozonator (if installed) will be enabled.

## **FREEZE PROTECTION**

**Note:** For all other Diagnostic Messages, please refer to the SUV M-7 Control Reference Card that came with your spa.

**Warning! / Shock Hazard! / No User Serviceable Parts.**

**Do not attempt service of this control system. Contact your dealer or service organization for assistance. Follow all owner's manual power connection instructions. Installation must be performed by a licensed electrician and all grounding connections must be properly installed.**

# SPA JETS AND AIR CONTROLS

## SPA JETS

Adjustable Spa Jets may be turned off and on by rotating jet faceplate left or right.

**Note:** DO NOT TURN ALL SPA JETS INTO OFF POSITION. THIS MAY CAUSE DAMAGE TO PUMP AND MOTOR.



Directional &  
Pulsating Cluster



Directional & Roto Adjustable Poly



Directional Mini  
& Roto Storm



Single & Twin Adjustable Roto  
Power Storm

## TURBO (Whirlpool) JET / (VIKING II ONLY)

Located on the filter cavity wall is the Turbo Jet. This jet is a combination valve and high capacity jet. It has a larger diameter and a rotating face. To turn the Turbo Jet on, simply turn the face counter-clockwise to the first stop position. To turn the Turbo jet off, turn the face clockwise to bring the main jets back to full power.\*



\* Due to the substantial amount of water pressure when the Turbo Jet is operating, you must turn the pump to the off or low speed cycle position before attempting to rotate the jet face.

## AIR CONTROLS

Air controls are adjusted by rotating topside dial. These controls serve to regulate the amount of air mixed with water when the whirlpool or hydrotherapy jets are operating in the high pump mode.



**Viking I & II Only**



**Eclipse, Supreme, Magnum,  
Xtreme, Executive, Royale,  
and Legacy I & II Models  
(See illustration on page 13)**

# SPA STARTUP DIRECTIONS

All Viking Spas require a solid flat surface.\* This is to ensure the spa cabinet is not exposed to a pressure stress condition that may result in cabinet damage and shell cracking. A concrete pad is the best example of a solid flat surface, however, wood decking is suitable, provided it can withstand 85# per sq. ft. without deflection.

**\* FAILURE TO PROVIDE A PROPER SOLID, FLAT SURFACE MAY DAMAGE YOUR SPA AND VOID YOUR WARRANTY.**

The following procedure should be followed on initial startup and whenever the spa is drained for maintenance. Read each step in its entirety before proceeding with that step.

## FILL THE SPA WITH WATER

- a. Clear all debris from your spa.
- b. Using a garden hose, fill the spa with water.
- c. **DO NOT use softened water.**
- d. As water level rises, check inside equipment compartments for water leaks. It may be necessary to tighten loose unions and/or fittings.
- e. Make sure T-Handled Gate VALVES at pump and heater are open. (Fully extended up position).

Fill until approximately 6" from top of spa or to water level mark on face of skimmer opening.

## APPLY POWER

- a. Apply power by turning on the spa-dedicated circuit breaker.
- b. Test the GFCI: push the TEST button and power is cut off. Push RESET and power is restored. If these do not seem to work, **STOP! Do not use your spa.** Either: there is no power, the

GFCI is defective or the equipment is malfunctioning. Only a **LICENSED ELECTRICIAN** should do further inspection.

## **ACTIVATE WATER PUMP**

Press the jet button on the control board. The high-speed pump will come on.

Press the jet button again to turn the water to low speed.

Check for water leaks at unions and/or fittings on your equipment while pump is running.

## **SKIMMER SIDE FILTER**

All Viking spas have a skimmer side filter that does not require “air bleeding” on initial startup. Simply fill spa to proper water level (approximately half way up on skimmer throat opening) and follow start-up procedure

Clean spa filters are critical for proper operation. Dirty filters cause water restriction to the pump, which in turn may cause erratic heating of the spa. A starving pump will degrade performance, result in dirty or murky water and may cause the heater to malfunction.

## **ADD START-UP CHEMICALS**

Ask your spa retailer to HELP you set up a chemical maintenance program.

The importance of chemical balance in your spa cannot be overemphasized.

**SANITIZING:** After filling spa, adjust the alkalinity and pH with the pH increase and pH decrease per label instructions. Once this is completed, add 2 ounces of granular chlorine directly to the water while your circulating pump is running. This should complete your start-up procedure.

**NOTE:** If you live in an area where city water is not available, you will need to add a “stain n scale” chemical on initial fill and then once a week thereafter.

# Maintenance

## SPA DRAINING

Every 3 to 4 months, depending upon water condition, you may need to renew the spa water. To drain your spa, power must be disconnected at the circuit breaker. Locate the drain faucet within the equipment access compartment. Attach a garden hose to the faucet and then open it. Water will start draining. The drain spigot will not remove all of the water in the spa. You may have to remove a small amount of water by hand.

## SPA SURFACE CARE

Do not use abrasive solvents or cleaners to clean spa surfaces. Consult your Viking Spa Retailer for the proper cleaners and detergents.

## LONG-TERM STORAGE (90 days or more)

If you are not going to use your spa for an extended period of time, drain it as described above. You will also have to drain the pump. Water left in the spa during long-term storage may cause freeze damage.\*

To drain the pump, you need to disconnect the 2 hoses attached to the pump. These hoses are attached using unions that are hand tightened. Be sure to reattach the hoses after you are done. Also, the front plug on the pump must be **gently** loosened to drain the pump and then **gently** re-tightened.

Additional water removal is required to prevent freeze damage to the spa plumbing assembly. Use of a wet/dry vac is required. Disconnect the plumbing hoses at the unions; place the shop vac hose to the suction and discharge hose connections. Put the shop vac on "blower" setting to force any water in the plumbing lines out the jet openings. This will eliminate the entrapment of water in the plumbing lines that could freeze and cause damage.

**NOTE:** We also recommend vacuuming each jet opening to ensure that all of the water is out of the plumbing lines.

**\*FREEZE DAMAGE TO THE SPA PLUMBING IS NOT COVERED UNDER THE WARRANTY.**

## VIKA-SHIELD CABINET

All Viking spas have a standard synthetic wood cabinet. This “Vika-Shield” material is virtually maintenance free and does not require any type of sealant or treatment.

## FILTER CLEANING (VIKING I & II)

Your filter should be replaced once a year. When filters are removed from the spa, make sure that no objects fall into the filter cavity. They can cause obstruction to water movement. Remove filter cartridges as shown in figure below.

The filter must be cleaned every 2 months, more often with heavy use, to get rid of objects and particles that are lodged in the filter pleats. Using a garden hose with a pressurized nozzle, push water from the inside to the outside of the filter pleats forcing all trapped particles out. If the filter is too dirty to be cleaned as described above, obtain filter cleaner material from your Viking Spa Retailer. Soak the filter overnight; then hose it down.



**A. Locate skimmer.**



**B. Pull weir door open.**



**C. Remove basket.**



**D. Remove the two separate filters and follow cleaning instructions above.**

## **FILTER CLEANING**

**(Eclipse, Supreme, Royale, Legacy I, Legacy II, Magnum Xtreme, Galaxy, & Executive)**

Remove filter face cover by pulling straight up on front plate/face cover. (As shown below.) Remove access basket and unscrew filter cartridge(s) from housing. Refer to filter cleaning procedure for Viking I & II on previous Page #24. Note: The Eclipse, Supreme, Legacy I, Legacy II, Royale, Magnum, Executive and Xtreme spas have single throat, 50 sq. ft. cartridge filters.



**A.**  
**Locate skimmer.**



**B.**  
**Remove front plate**



**C.**  
**Remove basket  
& filters.**



**D.**  
**Clean per  
instructions.**

# OZONATOR

If your spa is equipped with an ozonator, it is factory set to filter during the filter cycles only. This should provide adequate ozonation, provided there is proper chemical balance in the spa.

**NOTE:** Please **Do Not** attempt to disassemble ozonator if it becomes inoperable. Ozonators contain no user serviceable parts. Please contact your spa retailer or service organization.

**240V  
Ozonator**



**120V  
Ozonator**



<b>Situation</b>	<b>Cause or Result</b>	<b>Product to use</b>	<b>Solution</b>
Calcium deposits on surfaces of heater, fittings or plumbing	Hard water	Stain n Scale	Add 1 oz. of Stain n Scale
	pH/total alkalinity out of adjustment	pH Up pH Down	Test water - adjust with pH Up or pH Down. For preventative maintenance add Stain n Scale weekly. (1 oz. up to 300 gals.)
Cloudy or murky water	pH/total alkalinity out of balance	pH Up pH Down	Test water - add pH Up or pH Down as needed
	Plugged filter	Spa Cartridge Filter Cleaner	Use Spa Cartridge Filter Cleaner (min. once/month)
	No sanitizer residual	Chlorinating Granules	Add Chlorine or Bromine Brominating Granules (no more than 2oz. per treatment).
	Oils, soap, foreign matter & other contaminants	Spa See Clear	Treat water with Spa See Clear twice a week (1 oz. up to 300 gals.)
	Too many conflicting chemicals		Drain & refill if water is older than 60 days
Eye & skin irritation, rashes allergies	Water balance needs to be corrected (pH/total alkalinity)	pH Up pH Down Total "A"	Test water, add pH Up, pH Down or Total "A" as needed
	Excessive chlorine or bromine		Add fresh water and/or wait a day & re-test sanitizer level
Excessive foam	Build up of body oils, cosmetics and contaminants	Spa Foam Away Spa See Clear	Add Spa Foam Away to foamy area, then add 1 oz. Spa See Clear
	pH/Total Alkalinity not in balance or calcium level too low	Spa See Clear Spa Stain n Scale	Add Spa See Clear or Spa Stain n Scale to help remove oils and contaminants
Soft water			Drain and refill.
Blue water	Copper metals in spa being eroded	Cop-Out pH Up pH Down Total "A"	Use Cop-Out as per instructions. Test and restore alkalinity and pH to proper levels.

**NOTE:** Most water chemistry problems can be resolved by the recommended solutions above. Extreme chemical conditions may warrant draining and refilling the spa. Stains or calcium deposits on the spa may require attention prior to refilling. Please contact your dealer if you have further questions.

# TROUBLE SHOOTING

**Caution:** Viking Spas have slide type water shut off valves referred to as Gate Valves. The spa should never be operated with the Gate Valves in the closed position, as this will cause severe damage to the pump and/or heater.

## Spa Will Not Heat

### Check For Air Lock

- Is this a new installation with trapped air?

Solution; Open drain hose and cycle pump to high speed for approximately 30 seconds or open bleed plug on face of pump for same amount of time.

- If not, has the spa been drained and refilled?

Solution; Make sure water level is at mark on skimmer

- Is there proper water flow?

Solution: Make sure both Gate Valves are open and filter is clean

### Pump Will Not Prime or Function

Solution: Gate Valves Closed

Improper wiring to spa

Water level in spa to low

**Contact Your Authorized Spa Retailer for Service.**

“Warning: Children should not use spas or hot tubs without adult supervision” and “Avertissement: Ne pas laisser les enfants utiliser une cuve de relaxation sans surveillance”

“Warning: Do not use spas or hot tubs unless all suction guards are installed to prevent body and hair entrapment” and “Avertissement: Pour éviter que les cheveux ou une partie du corps puissent être aspirés, ne pas utiliser une cuve de relaxation si les grilles de prise d’aspiration ne sont pas toutes en place”

“Warning: People using medication and/or having an adverse medical history should consult a physician before using a spa or hot tub” and “Avertissement: Les personnes qui prennent des médicaments ou ont des problèmes de santé devraient consulter un médecin avant d’utiliser une cuve de relaxation”

“Warning: People with infectious diseases should not use a spa or hot tub” and “Avertissement: Les personnes atteintes de maladies infectieuses ne devraient pas utiliser une cuve de relaxation”

“Warning: To avoid injury exercise care when entering or exiting the spa or hot tub” and “Avertissement: Pour éviter des blessures, user de prudence en entrant dans une cuve de relaxation et en sortant”

“Warning: Do not use drugs or alcohol before or during the use of a spa or hot tub to avoid unconsciousness and possible drowning” and “Avertissement: Pour éviter l’évanouissement et la noyade éventuelle, ne prendre ni drogue ni alcool avant d’utiliser une cuve de relaxation ni quand on s’y trouve”

“Warning: Pregnant or possibly pregnant women should consult a physician before using a spa or hot tub” and “Avertissement: Les femmes enceintes, que leur grossesse soit confirmée ou non, devraient consulter un médecin avant d’utiliser une cuve de relaxation”

“Warning: Water temperature in excess of 38°C may be injurious to your health” and “Il peut être dangereux pour la santé de se plonger dans l’eau à plus de 38°C”

“Warning: Before entering the spa or hot tub measure the water temperature with an accurate thermometer” and “Avertissement: Avant d’utiliser une cuve de relaxation mesurer la température de l’eau à l’aide d’un thermomètre précis”

“Warning: Do not use a spa or hot tub immediately following strenuous exercise” and “Avertissement: Ne pas utiliser une cuve de relaxation immédiatement après un exercice fatigant”

## NOTES:

