SPA
INSTALLATION
USE & CARE
MANUAL

NOTE

Because different control systems have different features and options, this booklet is not intended to give specific details of the control system that is in your spa.

For specific instructions on how to operate and program your spa and it's control system, please refer to the applicable control operation manual that was included with your spa.

LIMITED WARRANTY

KBW Spas makes the following warranties to the original buyer of a KBW spa starting on the day of the original purchase.

STRUCTURE WARRANTY

For a period of **5 years,** starting on the day of the original purchase the spa is structurally sound. For the purpose of this warranty : Structurally Sound means the spa will hold water.

SURFACE WARRANTY.

For a period of **1 year** the spa's interior surface is defect free. A **DEFECT FREE** surface means the spa's interior surface will not crack, blister or delaminate.

EQUIPMENT & PLUMBING WARRANTY.

For a period of 1 **year**, **KBW SPAS** warrants that the spa's **electrical equipment, electronic and mechanical controls** and the **plumbing** are free from defects in materials and workmanship.

For a period of **6 months** starting on the day of the original purchase, KBW SPAS provides on site labor warranty.

EXCLUSIONS : The Limited Warranties described above are void if the spa has been improperly installed, altered, or subjected to improper use, abuse, neglect, water chemistry imbalance, or if the spa is not maintained in accordance with the user's manual. These warranties are void if repair is attempted by persons other than KBW SPAS or its representatives, or if defects are caused by accidents, acts of God, or any causes that are beyond the control of KBW SPAS or its representatives.

LIMITATIONS : The above Warranties are the only warranties provided by KBW SPAS to the exclusion of all other warranties expressed or implied, in fact or at law. No other party, including dealers, distributors, factory representatives or service companies, are authorized to modify this warranty, its terms or limitations. KBW SPAS does not make any warranties of merchantability or fitness for any particular purpose. KBW SPAS shall not be held liable for any personal or property damage(s) whether direct, indirect, incidental or consequential, arising from the use or misuse of the spa even if KBW SPAS was advised of the possibility of such damage.KBW SPAS' liability shall be limited to the wholesale amount originally paid for the spa. KBW SPAS shall not be held liable for products or services not manufactured or provided by KBW SPAS such as but not limited to spa covers, gazebos, construction or landscaping.

IN THE EVENT OF A CLAIM : Notify KBW SPAS or your authorized KBW SPAS dealer as soon as practical. Use all reasonable means to prevent further damage to the spa. KBW SPAS and / or its representatives will correct the defect as soon as practical subject to the limitations of the above warranties. Under certain conditions you may be requested to pay a serviceman's mileage and / or a service fee. KBW SPAS at its sole discretion may decide that spa repairs are impractical, and will replace the defective spa with another one of equal value. The cost of transportation, removal of the defective spa and installation of the replacement spa will be the owner's responsibility.

This Warranty gives you specific legal right, and you may also have other rights which vary from state to state. Some state do not allow the exclusion of limitation of consequential damages. So the above limitations may not apply to you.

IMPORTANT SAFETY INSTRUCTIONS

It is the spa owner's responsibility to read and follow all the instructions and precautions described in this manual. Failure to do so may result in personal injury. Liability rests with the spa owner.

Before operating your spa, Read and follow all instructions

Make these instructions available for Reference by other spa users.

SAVE THESE INSTRUCTIONS

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HEALTH SAFETY PRECAUTIONS

1. Before using your spa you should check water temperature with a thermometer that is known to be accurate. Never use a spa with water temperature higher than 104^{o} F as this is considered the maximum safe temperature for healthy adults and only for short periods - 15 to 20 minutes at a time. You may remain immersed in water for longer periods of time provided water temperature is lower than 100^{o} F. which is approximately normal body temperature.

2. Alcohol consumption before or during spa usage should be totally avoided : it can cause spa users to lose consciousness and drown.

3. Individuals using prescription medication(s) should check with their physician before using the spa. Certain medications may result in complications when used in conjunction with a spa.

4. Individuals suffering cardiac medical conditions such as heart disease, blood pressure and circulatory system problems or diabetes should check with a physician before using the spa.

5. Pregnant women can use the spa at temperatures below 100^{o} F. Higher water temperature may cause injury to the unborn child.

6. Hyperthermia (heat stroke) is a dangerous condition brought about by excessive heat. It especially affects the very young, the elderly, individuals under the influence of alcohol or drugs, and those that are on certain medications. The symptoms of hyperthermia are : sweating, dizziness, nausea, faintness, convulsions, increased pulse rate and shallow breathing and in the extreme unconsciousness. If you suspect hyperthermia, immediately get medical help, lay the victim on the back, with the head slightly elevated for easier breathing, cover the body with a blanket and apply ice packs to the head.

7. Emergency telephone numbers, such as a hospital, a physician, an ambulance, the paramedics and the police should be readily available and posted next to a close-by telephone.

PERSONAL SAFETY PRECAUTIONS

1. Please use the spa when others are present.

2. Children should use the spa only with adult supervision.

3. Children should have spa access only with the permission and supervision of an adult.

4. To reduce the risk of child drowning keep the spa filter clean and unclogged. Do not remove the cover(s) of the main drain(s). Do not modify the suction or the filtration systems.

5. Spa surfaces are made of smooth materials and with water they become slippery. 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.

6. Do not stay in the spa for extended periods of time. Set a reasonable time limit after which leave the spa, cool down, take a shower, relax, then return for another stay in the spa.

7. Test the GFCI before using your spa. The GFCI is located either on the spa control box or in the electrical panel. To test the GFCI push the TEST button and all power is disconnected from the spa, and the spa should stop stop operating. Push the RESET button and power will be applied. If the interrupter does not perform in this manner, then it is either defective or a ground current is flowing indicating the possibility of electric shock. Disconnect the power and do not use the spa until the fault has been identified and corrected.

8. Do not permit any electric appliance, such as a light, telephone, radio or television, within 5 feet (1.5meters) from your spa.

DANGER - RISK OF PERSONAL INJURY.

INSTALLATION FOR SAFETY

Spa installations that do not conform to the following procedures and requirements may expose spa users to the hazard of electric shock. Non-conforming spas will not be covered by warranty.

DANGER - RISK OF ELECTRIC SHOCK

1. The spa must be installed on a concrete pad 4" thick. In order to prevent flooding of the electrical equipment, the pad must be such that water will drain away from the spa.

2. The spa must be installed at least 5 feet away from any metal surfaces. Alternately all metal surfaces within 5 feet from the spa must be permanently ground connected to the spa equipment control box housing. Use an 8 AWG solid wire and attach it to a grounding lug provided on the equipment control box housing.

3. Only a licensed electrician may install power to the spa.

4. Spa power supply installation must include a properly rated circuit breaker, as per label on spa's control box enclosure. When tripped, the breaker must open all current carrying lines. It must be labeled and easily accessible to spa users.

5. Power supply lines must be hard wired into the spa's control box enclosure. The use of extension or plug type cords of any kind is dangerous and voids the warranty.

6. Supply lines must be properly sized as per National Electrical Code. A ground line must be provided that is as large as the largest current carrying conductor, but no less than solid 8 AWG.

SPA INSTALLATION CONSIDERATIONS

The spa should be installed on a concrete pad that is at least 4" in thickness. The concrete should be sloping enough to permit water drainage away from the spa and its electrical components. If you chose to put your spa on wood decking, the decking must be strong enough to support the combined weight of the spa, the water and the individuals in the spa. A 5 person 400 gallon spa weighs approximately 5000 pounds. When locating and installing your spa, make sure that the equipment compartment is easily accessible for maintenance.

Outdoor Location.
If you install your spa outdoors, consider the following :

1. Walking areas around the spa and the path to it should be free of dirt, sand and other debris you don't want in the spa
2. The spa should not be installed close to, or under trees. Tree leaves and birds are detrimental to spa cleanliness.
3. A spa sheltered from weather factors is less expensive to maintain and operate.
4. Thoughtful location of your spa can enhance your privacy safety and security and add to your enjoyment of your spa.

Indoor Location
If you install your spa indoors 2 things need be to considered : water drainage and ventilation. When using the spa steam escaping from the water surface should be vented out so as not to damage room interiors.

ELECTRICAL CONNECTION INSTRUCTIONS.

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

DANGER - RISK OF ELECTRIC SHOCK

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 plug type termination is expressly prohibited and voids the warranty.

3. Do not use aluminum wiring. **Use only copper 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 must be shielded by a grounded metal conduit. The conduit must terminate at the electrical access compartment either from the bottom of the spa or through a hole in the side paneling of the spa.

6. For a 120 volt system the line wire (black) is connected to the terminal block lug labeled LINE1. The neutral wire (white) is connected to the center lug labeled NEUT, and the ground wire (green) is connected to the ground lug labeled G or GROUND. The ground lug is attached to the sheet metal at the bottom of the electrical access compartment.

7. For a 240 volt 4 wire system, connect Line1, Neutral and Ground wires as in # 6 above. The fourth wire is the Line2 wire (red) and it is connected to the lug labeled LINE2.

   Note : When connecting power to a 3 lug terminal block inside the control box, **the center lug is always NEUTRAL**. Connecting a line wire to this lug other than neutral will result in damage to the controller and / or the spa pump(s).

BRANCH CIRCUIT BREAKER REQUIREMENTS

240 Volt Line1, Line2, Neutral & Ground**.**
4 Wire System 50 Amp 2 Pole Breaker

240 Volt Line 1 , Line 2 & Ground
3 Wire System 50 Amp 2 Pole Breaker

120 Volt Line 1, Neutral & Ground
3 Wire System 20 Amp Single Pole Breaker

CAUTION

A new breaker must be used for a new spa installation. Do not use an existing or used breaker.

GFCI. All spa installations must be protected by a GFCI. If your spa control box does not include an integrated GFCI then you must use a GFCI breaker per National Electrical Code requirements.

Note : If using a GFCI type breaker on a 240 Volt 3 wire system, the breakers's neutral (white) wire must not be used and should be capped with a wire a nut.

120/240 Volt Conversion. All spas are shipped configured for 240 volt (3 or 4 wire systems). Please check the nameplate on the control enclosure to identify the type of system in your spa. If the nameplate indicates a 120/240 Volt type system, then it is possible to convert the spa to 120 volt operation. Please refer to the control manual for conversion instructions.

30/50 Amp Conversion. Some homes may have limited power service. It is possible to operate a 240 volt spa system using a 30 amp breaker. Connect 240 volt power to the system as previously described, then set it to operate in the 120 volt, or low power mode. Please refer to the control manual for instructions.

Note: Only experienced service personnel should perform conversions. Improper modifications may cause damage to the control system and / or the attached heater and pump motors.

SPA STARTUP DIRECTIONS

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.

1 Fill The Spa With Water

a. Clear all debris from your spa.

b. Using a garden hose, start filling the spa with water.

c. **DO NOT** use water from a home water heater or softener.

d. As water level rises, check inside equipment compartment for water leaks. It may be necessary to tighten loose unions and / or fittings.

e. Make sure **SLIDE VALVES** at pump(s) and heater are open. (Fully extended position)

f. Continue filling spa until water level is midway in the skimmer opening. All jets will be under water except neck & upper shoulder jets which will be above water level but are pointing downwards..

2 Apply Power.

a. Rotate thermostat knob (if so equipped) counterclockwise to the lowest temperature setting.
b. Apply power by turning on the spa dedicated circuit breaker.
c. 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 qualified person should do further inspection.

3 Bleed The System.

A certain amount of air is trapped in the lower plumbing. Trapped air causes poor performance and may cause heater failure. To bleed it :

a. Run the jets pump in low speed.
b. Locate and loosen the heater output union a quarter turn.
c. After all the air has escaped, and when water starts dripping, hand tighten the union.

4. Add Startup Chemicals.

You should have an adequate supply of spa chemicals at hand. Please familiarize yourself with the necessary types and amounts of chemicals necessary to maintain your spa clean and healthful. Your spa dealer stocks the necessary chemicals and is usually a good source of information on chemicals and procedures.

The importance of chemical balance in the spa cannot be over emphasized. At this time you should apply the proper chemicals. Please refer to the instructions included with your chemical kit for the proper procedures, amounts and the correct sequence of chemicals to be added

If your spa is equipped with a digital electronic system please skip to the section titled "Digital Systems".

6. Set Filtration Time Clock.

a. Locate time clock on the front of the control box in the equipment compartment. Rotate clock dial CLOCKWISE only to set the correct time of day.
b. Observe small tabs on the outer perimeter of the dial. Each set tab will filter for 15 minutes. Select the time of day when you need the spa to filter, observe the AM / PM markings, and set as many tabs as you wish. (minimum recommended filtration is 2 hrs / day).
c. Locate the mode switch next to timer dial. Position switch in the AUTO mode.

7. Set Spa To Heat.

a. On the control panel, observe the ECONOMY light off.
b. Turn off the JETS. Observe the jets indicator light off.
c. Rotate thermostat knob clockwise so that pointer is in the vertical position. Do not at this time go all the way to maximum temperature.
d. Rotate all air control valves to the OFF position.
e. At this time the panel heater indicator light should be on, the red neon on the equipment box should also be on.

CHEMICALS & ADDITIVES

Water chemistry balance is extremely important in maintaining good water quality and the preservation of spa equipment. It is a simple task to maintain your spa chemistry in balance. It must be done on a regular basis. The 2 parameters that have to be maintained are the pH and chlorine content.

pH BALANCE : pH is a measure of water acidity. On a scale of 0 to 14, 7.6 is the ideal point of balance. A measure below 7.6 indicates that spa water is more acid. Such a condition results in corrosion to spa equipment metal components. Above 7.6 means that spa water is more alkaline. This causes salt deposits, and scaling in the equipment and in the spa. Both conditions are detrimental and can cause damage.

CHLORINE / BROMINE: One of these sanitzers must be used to remove bacteria and other organic matter from the spa. Low sanitizer causes water to turn green and unhealthful. A high level makes water smell pungent, irritate the eyes and the skin and can cause damage to the metal components of the spa equipment.

Do not use chlorine other than what is designated for spa use. Specifically do not use chlorine intended for pool use.

The booklet or video tape that came with your spa's chemical kit contains detailed procedures for maintaining spa chemistry. Your dealer stocks a variety of chemicals to maintain spa chemistry and can help you in the selection of the right chemicals and their methods of application.

A number of other additives are available to enhance spa usage. These include additives to remove dissolved metals, reduce foaming and sudsing, remove body oils, some make the water feel and smell better. Your dealer can help you select the right additives .

Chlorine vs Bromine :Both these sanitizers if properly applied will maintain a sanitary spa. There are pros and cons on both sides, but the choice is up to the user. Please note these sanitizers are caustic, excessive dissolved amounts of which will cause damage to the spa equipment. It is therefore necessary to maintain the proper balance by periodic measurement of sanitizer content.

OZONE & OZONE GENERATORS

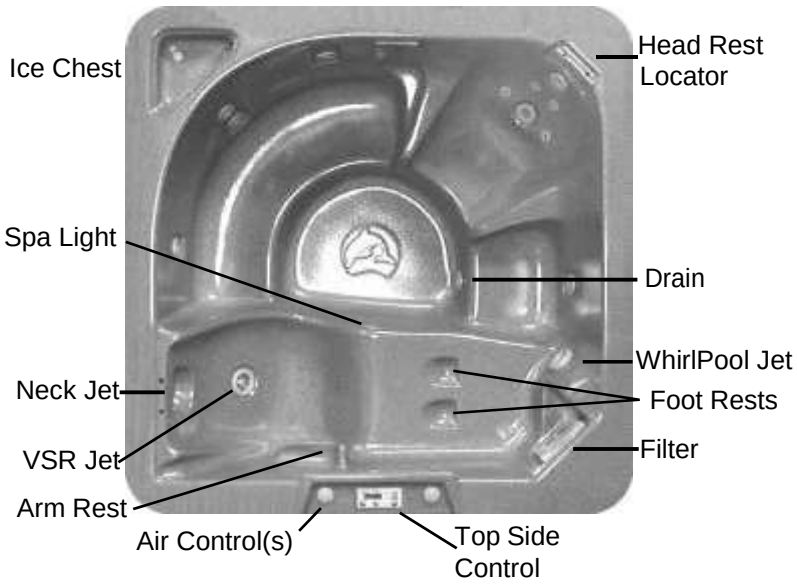
If your spa is equipped with an ozonator, you will have to set the spa to filter for at least 6 hours per day, preferably in 2 or 3 time periods. Please note that ozonators and chemical treatment are complimentary. Ozonators cannot totally eliminate the need of chemicals such as chlorine or bromine.

Ozone is a bactericide. The active component in an ozonator is the ultraviolet light bulb. When power is applied to the bulb, ozone is generated. A tube links the ozone compartment with one or more jets. When the these jets are activated, water movement within the jet creates a venturi action that draws the ozone out of the ozone compartment, mixes it with the moving water purifying the water in the process.

The light bulb has a limited service life. Its production of ozone is degraded with use. Consult the manual of the ozonator's manufacturer to determine when the bulb should be replaced.

Ozone is harmful. Do not inhale ozone for an extended period of time.

Ultraviolet rays are harmful to human eyesight. Do not look directly at a burning ozone bulb.



SPA MAINTENANCE

Your spa is designed to give you many years of enjoyment. Care and regular maintenance of your spa are important to keep it beautiful and operating properly. Your spa dealer can supply you with chemicals, detergents and the necessary tools and products to maintain you spa.

SPA SURFACE CARE : Do not use abrasive solvents or cleaners to clean your spa as they dull the surface sheen. Do not use soaps or sudsy type detergents to clean your spa. Consult your dealer for the proper cleaners and detergents.

FILTER MAINTENANCE : Your spa may have 1 or 2 filter elements. To remove the filters, open the weir gate to the outside, slide the basket out with the horizontal flats in the vertical plane. When filters are removed from the spa make sure that no object fall into the filter cavity. They can cause obstruction to water movement.

Every 2 months, more often with heavy use, filter must be cleaned 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 far too dirty to be cleaned as described above, obtain from your dealer filter cleaner material. Soak the filter overnight, then hose it down. Filters will last many years if properly maintained.

WOOD SKIRT MAINTENANCE : Wood skirting will have a tendency to fade and lose it's like new appearance with time. About once every 6 months you should re-stain the spa's skirting. Lightly sand the skirting surfaces to remove any dirt and to smooth rough surfaces. Re-stain wood surfaces using factory approved stain. Do not use varnishes, shellacs or surface sealants. Contact your dealer to obtain an approved stain. (It is preferable to use the same stain as the one originally used.)

HYDROTHERAPY JETS : There are 3 types of hydrotherapy jets : Moving jets, Adjustable jets and Micro jets. Moving jets rotate in a circular or random pattern and are not adjustable either pressure or direction. Adjustable jets are directional and may be adjusted for optimum water pressures. Move the jet's nozzle to change direction. Rotate the face of the jet to increase or decrease water pressure. It is possible to completely shut off a jet. Please note that if you shut off enough jets in the spa pressure may build up in the plumbing to unsafe levels.

Micro jets are fixed; they are neither directional nor adjustable. They are usually installed to deliver therapy to specific areas of the body.

Moving and Adjustable jets are interchangeable. Your spa dealer will be happy to show you how to exchange these jets.

DRAINING YOUR SPA : Every 3 or 4 months or depending upon water condition, you need to renew spa water. To drain your spa, power must be disconnected at the circuit breaker. Within the equipment access compartment locate the drain faucet. Attach a garden hose to the faucet and then open it. Water will start draining. You may use it to water your garden.

The drain faucet will not remove all the water in the spa. You may have to remove a small amount of water by hand, using a towel or a plastic container so as not to scratch spa surfaces.

Once the spa is drained and dry, you may want to carry out other maintenance chores, such as surface cleaning and waxing.

To refill your spa with water please refer to and follow the instructions describe in the SPA STARTUP DIRECTIONS section.

WINTERIZING & LONG TERM STORAGE : If you intend not to use your spa for an extended period of time, drain it as described above. You will also have to drain the pump(s) and the air channel.

To drain the pumps you need to disconnect 2 hoses attached to each pump. These hoses are attached using unions that are hand tight. Be sure to attach the hoses after you are done.

COMMONLY ASKED INSTALLATION QUESTIONS

Can I run the spa on 120 volts.?
No. All KBW spas built for the use 240 volt water pumps, as well as 240 volt heaters. More power, more efficiency and better performance.

Can I do the electrical installation myself?
Yes if the work meets NEC and local code. It is best to have a licensed electrician do the installation. A spa electrical installation must be protected by a GFCI breaker at the panel. (GFCI breakers are available at the Depot.)

Do I need to pour a concrete slab for the spa?
A concrete slab is the best spa foundation. A spa can be installed on a deck designed for a load of 130 lbs per square foot. A spa may not be set on dirt or gravel.

How often do I need to drain the spa?
Once every 4 months on the average. More often with heavier usage.
Turn the power off. Attach a garden hose to the hose bib in the equipment compartment and let the spa drain. An immersion pump available at the Depot will drain the spa faster.

How often do I need to clean the filters?
On the average once a month the filters should be hosed off (from the inside out). Whenever the spa is drained, it is a good time to rinse the filters overnight in a solution of TSP (Tri Sodium Phosphate also available at the Depot.). The filters should be hosed off before re-use. A set of filters will last many years. It is a good idea to have a spare set for use alternately between clean-ups.

What chemicals do I need to use and how often?
A test kit as well as the necessary chemicals are available at the Depot. You need:
Test strips or a color kit.
Spa Up and Spa Down to adjust the PH of the water if necessary.
Chlorine (dichlor) or Bromine tablets to disinfect the water weekly or as needed.
Anti foam to reduce foaming if necessary.
Demineralizer such as MetalGone to remove minerals from the water.
Brightner to eliminate cloudy water.

How often do I have to treat the cabinet?
About every 6 months the mahogany needs to be re-stained. The stain is available at the Depot, paint department paint number “Behr Stain # 81 Redwood & Red Cedar”. The spa cabinet should not be subjected to routine soaking from water sprinklers.

CHEMICAL SAFETY TIPS

Read all labels and instructions carefully prior to use.
Never mix or combine chemicals.
When mixing or combining chemicals always add chemicals to water.not water to chemicals.
Always store chemicals in a cool, dry place.
Store chemicals out of the reach of children.
When not in use keep chemical containers tightly closed.
Never inhale chemical fumes or allow contact chemicals to come in contact with your eyes, nose or mouth.
Wash your hands thoroughly after handling chemicals.
Use chemicals especially formulated for hot tubs & spas.
Do not use chemicals formulated for pools - they may damage your spa.
Never drain chemically treated water on plants, lawns or in streams or lakes.
Test your spa water weekly.
Maintain the pH level at 7.2 to 7.5Maintain a sanitizer level of 3.0 to 5.0.

HOT WATER SAFETY TIPS

Never use the spa at temperatures above 104F (40C).
Do not drink alcoholic beverages while using the spa.
If you are on medication, consult your physician before using the spa.
Use the spa for 10 to 20 minutes at a time. Leave the spa to cool off for an equal amount of time.
Do not submerse your head below water. The water in the spa may have high concentration level of chemicals.
Pregnant women should consult their doctor before using the spa.
Shower before and after using the spa.
Children should never use the spa without adult supervision.
When not in use keep the spa covered and locked.

CHEMICAL PROBLEMS & SOLUTIONS

SYMPTOM	CAUSE	WHAT TO DO
CLOUDY WATER	High organic contaminants	Shock. Test & Adjust pH
	Particles too small to filter	Clean Filter
	pH Out of balance	Test & Adjust pH
	High calcium levels	Calcium Control
	Dirty filter	Clean Filter
EYE OR SKIN IRRITATION	pH Out of balance	Test & Adjust pH
	Organic contaminants	Shock
CLEAR GREEN WATER	Excessive copper or iron	Apply mineral control
CLEAR BROWN WATER	Excessive iron or manganese	Apply mineral control
CLOUDY GREEN WATER	Algea growth	Shock. Test & adjust pH
BLACK SPOTS	Algea growth	Shock. Test & adjust pH
ODOR	Organic contaminants	Shock. Test & adjust pH
EXCESS FOAMING	Body Oils, lotions & residue	Apply anti foam. Shock
SCUM LINES & DEPOSITS	Body oils. Lotions & contaminants	Apply anti foam. Shock

Maintaining proper spa water chemistry is necessary for a healthy spa. It will also extend the life of the equipment and prevent premature failure. A test kit is necessary to measure and adjust the pH level as well as the amount of available chlorine or sanitizer.

Please take the time to fill in the following information.
It will be very helpful in the future

Spa Model _____

Spa Color _____

Serial Number _____

Date Purchased _____

Place Of Purchase _____

Equipment Model # _____

Number & Size Of Pumps _____

Filter(s) Part Number _____

IMPORTANT SAFETY INSTRUCTIONS
READ AND FOLLOW ALL INSTRUCTIONS.

WARNING

- To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.
- A wire connector is provided on this unit to connect a minimum 8 AWG (8.4MM2) solid copper conductor between this unit and any metal equipment , metal enclosures of electrical equipment, metal water pipe, or conduit within 5 feet (1.5m) of the unit.
- CAUTION: THE EQUIPMENT AND CONTROLS SHALL BE LOCATED NOT LESS THAN 1M (5FT) HORIZONTALLY FROM THE SPA OR HOT TUB

CANADA

- Attention: Maintenir une distance minimale, mesuree dans un plan horizontal., de 1M entre la cuve de relaxation et les appareils et commandes.

Only a licensed electrician can install power to the spa.
Spa power supply installation must include a properly rated GFCI/Circuit Breaker, as per label on control box enclosure.
Supply lines must be properly sized as per National Elctric Code.

ELECTRICAL INSTALLATION INSTRUCTIONS.

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

- This unit is a "Permanently Connected Equipment Assembly with Pump(s), Heater, Blower and Control."

- The lines carrying power to the spa must be dedicated and should not be shared with other appliances. **Use copper wiring only. Use # 6 AWG conductors.**

- A pressure wire connector is provided on this unit to connect a minimum 8 AWG (8.4mm2) solid copper conductor between this unit and any metal equipment, metal enclosures of electrical equipment, metal pipe , or conduit within 5 feet (1.5m) of the unit

- The electrical supply for this unit must include a suitably rated GFCI/ CIRCUIT BREAKER to open all ungounded supply conductors to comply with Section 422-20 of the National Electric Code.
- A quick disconnect marked OFF must be readily accessible to the tub occupant , installed at least 5 feet (1m) from the tub.

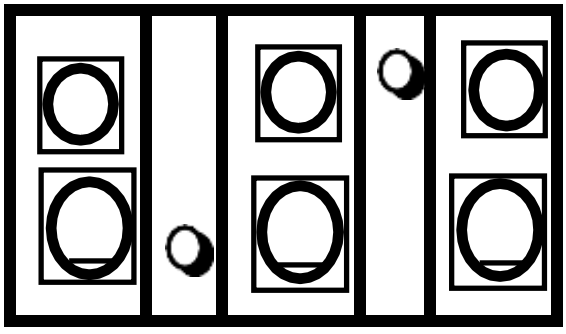
- All electrical wiring lines must originate from the main electrical panel and terminate, hard wired, into the electrical wiring compartment. The use of extension cords, or plug type termination is expressly prohibited and voids the warranty.

- Minimum supply conductor ampacity must be 125 percent of the current rating stated on the ID label affixed to, equipment control enclosure.

BREAKER CAPACITY 50 AMPS
240V SINGLE PHASE

VOLTS	AMPS	HZ	PHASE
240	41	60	1
PERMANENTLY CONNECTED USE #6 AWG COPPER CONDUCTOR			

3-WIRE 220V CONNECTIONS + GROUND



L1 **NEUTRAL** **L2**

240V