

USER OPERATION & INSTALLATION MANUAL

**SPA UL
FOR PRIVATE USE**

SM-USO/INS-PRUL

! ATTENTION

This instructions manual contains fundamental information on the safety measures to be adopted when installing, starting-up and operating the spa. It is therefore essential that both the Fitter and the User read these instructions before assembly and start-up.

THE PRODUCT GUARANTEE WILL ONLY BE APPLIED IF IT IS CORRECTLY INSTALLED AND IF THE INSTRUCTIONS IN THE MANUAL HAVE BEEN COMPLIED WITH.

CHECK THE GUARANTEED SHEET AND CAREFULLY READ THE LIMITATIONS CONTAINED WITHIN.

CONTENTS

1. INTRODUCTION	5
2. IMPORTANT SAFETY INSTRUCTIONS FOR ALL SPA OWNERS	5
2.1. General safety instructions	5
2.2. Entrapment risk	8
2.3. Hyperthermia	10
2.4. Important safety instructions	10
3. INSTALLATION AND ASSEMBLY	11
3.1. Warnings	12
3.2. Position and location of the spa	12
3.3. Drainage	14
3.4. Filling the spa	15
3.5. Electrical connection	17
4. START-UP	21
4.1. System start-up	21
4.2. Water treatment	22
5. OPERATING INSTRUCTIONS	24
5.1. Warnings on the use of the spa	24
5.2. Systems	26
5.3. System Control and Configuration	27
5.4. Jets operation	34
5.5. Renewing the spa water	34
5.6. Extras	35
6. MAINTENANCE	38
6.1. Warnings	38
6.2. Water maintenance	39
6.3. Filter maintenance	43
6.4. Pre-filter of the pump maintenance	45
6.5. Acrylic maintenance	45
6.6. Light maintenance	46
6.7. Maintenance in periods of non-use and absence	47
7. ERROR MESSAGES	48
8. PROBLEMS AND SOLUTIONS	50
9. RECYCLING AND THE ENVIRONMENT	51

1. INTRODUCTION

This manual contains all the information needed to fully enjoy your SPA. We recommend that you take some time to go over the points detailed below.

If you have any question or doubt on the operation or maintenance of this product, please contact your fitter or local dealer. They are specialists and their professional knowledge will help you to enjoy this product.

IMPORTANT: The manufacturer reserves the right to change the design or specifications without prior notice and without entering any obligation.

This Spa has been designed and conceived for private use only: any public use shall annul its guarantee.

2. IMPORTANT SAFETY INSTRUCTIONS FOR ALL SPA OWNERS

2.1. General safety instructions

READ AND FOLLOW ALL INSTRUCTIONS CAREFULLY!

Use this unit only for its intended use as described in this manual. Do not use attachments not recommended by the manufacturer. Never drop or insert any object into any opening. When installing and using this spa, basic safety precautions should always be followed, including:

DANGER: RISK OF SEVERE INJURY OR DROWNING!

- Extreme caution must be exercised to prevent unauthorized access by children.
- To avoid accidents, ensure that children do not use this spa unless always supervised. Adult supervision is a critical safety factor in preventing children from drowning.
- Use the straps and clip tie downs to secure the spa cover when not in use. This will help discourage unsupervised children from entering the spa. Keep the spa cover secure in high-wind conditions.
- There is no representation that the cover, clip tie-downs, or actual locks will prevent access to the spa.

DANGER: RISK OF SEVERE INJURY OR DROWNING!

- Keep hair, loose articles of clothing or hanging jewelry away from suction fittings, rotating

jets, or other moving components to avoid entrapment that could lead to drowning or severe injury.

- Never use the spa unless all suction guards, filter, filter lid, or skimmer assembly are installed to prevent body and/or hair entrapment.
- Never operate or use the spa if the filter, filter lid, or skimmer assembly are broken or any part of the skimmer assembly is missing. Please contact your dealer or nearest service center for service.
- The suction fittings and suction covers in this spa are sized to match the specific water flow created by the pump(s). If it is necessary to replace the suction fittings, suction covers, or pump(s), be sure that the flow rates are compatible and follow the VGB Safety Act.
- Never replace a suction fitting or suction cover with one rated less than the flow rate marked on the original suction fitting. Using improper suction fittings or suction covers can create a body or hair suction entrapment hazard that may lead to drowning or severe injury.



DANGER: RISK OF SEVERE INJURY FROM ELECTRIC SHOCK OR DEATH FROM ELECTROCUTION!

- Install the spa 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 (bonded) by a minimum No. 8 AWG (8.4 mm²) solid copper conductor attached to the wire connector on the grounding lug, inside the equipment compartment on the equipment box.
- A grounding wire connector is provided on this unit to connect a minimum No. 8 AWG (8.4 mm²) 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.
- Never permit any electrical appliance, such as a light, telephone, radio, television, etc. within 5 feet (1.5m) of a spa unless such appliances are built-in by the manufacturer.
- Never bring any electrical appliances into or near the spa.
- Never operate any electrical appliances from inside the spa or when you are wet.
- The electrical supply for this product must include a suitably rated switch or circuit breaker to open all ungrounded supply conductors to comply with Section 422-20 of the National Electrical Code/USA, ANSI/NFPA 70. The disconnecting means must be readily accessible and visible to the spa occupant but installed at least 5 feet (1.5m), from the spa.
- The electrical circuit supplied for the hot tub must include a suitable ground fault circuit interrupter (GFCI) as required by NEC Article 680-42.



WARNING: RISK OF SEVERE INJURY OR DEATH!

- Extreme caution must be exercised to prevent diving or jumping into the spa or slipping and falling, which could result in unconsciousness, drowning, or serious injury. Remember that wet surfaces can be very slippery.
- Never stand, walk, or sit on the top railing of the spa.



WARNING: RISK OF HYPERTHERMIA (OVER-HEATING) CAUSING SEVERE INJURY, BURNS, WELTS, OR DEATH!

- Water temperature more than 104°F (40°C) may be injurious to your health.
- Refer to Section 2.3 Hyperthermia for specific causes and symptoms of this condition.
- The water in the spa should never exceed 104°F (40°C). Water temperatures between 100°F (38°C) and 104°F (40°C) are considered safe for a healthy adult.
- Lower water temperatures are recommended for young children (children are especially sensitive to hot water) and when spa use may exceed 10 minutes.
- The Consumer Products Safety Commission/USA has stated that the water temperature in a spa should not exceed 104°F (40°C).
- Always test the spa water temperature before entering the spa. The user should measure the water temperature with an accurate thermometer since the tolerance of water temperature-regulating devices may vary as much as +/- 5°F (2°C).



WARNING: RISK OF SEVERE INJURY OR DEATH!

- Since excessive water temperatures have a high potential for causing fetal damage during the early months of pregnancy, if pregnant or possibly pregnant, consult your physician before using a spa.
- Pregnant or possibly pregnant women should limit spa water temperatures to 100°F (38°C).
- Persons suffering from obesity or a medical history of heart disease, low or high blood pressure, circulatory system problems, diabetes, infectious diseases or immune deficiency syndromes should consult a physician before using a spa.
- If you experience breathing difficulties in association with using or operating your spa, discontinue use and consult your physician.
- Persons using medication should consult a physician before using a spa since some medication may induce drowsiness, while other medication may affect heart rate, blood pressure, and circulation.
- Persons suffering from any condition requiring medical treatment, the elderly, or infants should consult with a physician before using a spa.
- The use of alcohol, drugs, or medication before or during spa use may lead to unconsciousness with the possibility of drowning.



WARNING: RISK OF SEVERE INJURY OR DEATH!

- Prolonged immersion in a spa may be injurious to your health.
- Observe a reasonable time limit when using the spa. Exposures at higher temperatures can cause high body temperature (over-heating). Symptoms may include dizziness, nausea, fainting, drowsiness, and reduced awareness. These effects could possibly result in drowning or serious injury.
- Never use a spa immediately following strenuous exercise. Enter and exit the spa slowly.

Wet surfaces can be slippery.

WARNING: TO DECREASE RISK OF INFECTION OR DISEASE!

- To reduce the risk of contracting a waterborne illness (e.g. an infection, bacteria or virus) and/or respiratory ailments, maintain water chemistry within the parameters listed on the inside cover of this manual and consult with a licensed engineer regarding proper ventilation if installed indoors or in an enclosed area.
- People with infectious diseases should not use a spa to avoid water contamination, which could result in spreading infections to others.
- Always shower before and after using your spa. Maintain water chemistry in accordance with manufacturer's instructions. Failure to do so may result in contracting a waterborne illness (e.g. an infection, bacteria or virus).

 **WARNING:** In addition to maintenance of filters and water chemistry, proper ventilation is recommended to reduce the risk of contracting a waterborne illness (e.g. an infection, bacteria or virus) and/or respiratory ailments that could be present in the air or water. Consult a licensed architect or building contractor to determine your specific needs if installing your hot tub indoors.

CAUTION: TO DECREASE RISK OF PRODUCT DAMAGE.

- Maintain water chemistry in accordance with manufacturer's instructions.
- Proper chemical maintenance of spa water is necessary to maintain safe water and prevent possible damage to spa components.

WARNING: TO DECREASE RISK OF INFECTION OR DISEASE!

The appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience or knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

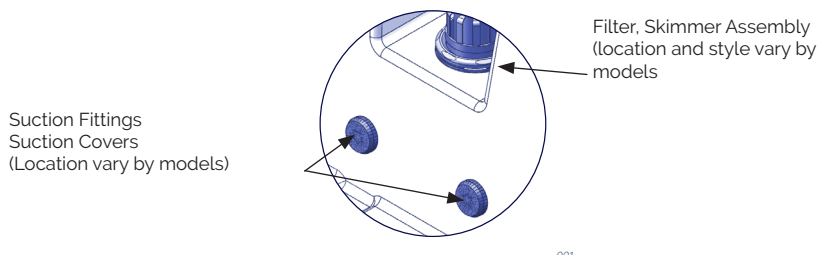
NOTE: This spa is not intended nor designed to be used in a commercial or public application. The spa buyer shall determine whether there are any code restrictions on the use or installation of this spa since local code requirements vary from one locality to another.

2.2. Entrapment risk

The Consumer Products Safety Commission/USA has reported that users of pools and spas have become entrapped (stuck) to drain and/or suction fittings causing death, drowning, or serious injury (see diagram below). This spa was manufactured to meet the standards and specifications outlined in the "Virginia Graeme Baker Pool and Spa Safety Act" (VGB Safety Act). Entrapment risk can be minimized if proper precautions are taken.

DANGER: RISK OF PERSONAL INJURY OR DEATH!

Never operate the spa if a suction fitting, suction cover, filter, filter lid or skimmer assembly are broken, damaged or missing.



Note: Suction covers must be replaced every 7 years.

DANGER: RISK OF SEVERE INJURY OR DROWNING!

Hair entrapment: May occur if hair is entangled, knotted, or snagged in a drain suction or skimmer assembly. This has been reported in persons who when submerge themselves underwater, allowing hair to come close and/or within the reach of the suction fittings, suction covers, or skimmer assembly.

- Keep hair away from suction fittings, suction covers, filter, filter lid or skimmer assembly.
- Children are at risk for hair entrapment if swimming under water.
- Never allow children to play or get near the suction fittings, suction covers, filter, filter lid or skimmer assembly.

DANGER: RISK OF SEVERE INJURY OR DROWNING!

Limb entrapment: May occur when a limb becomes entrapped, inserted, or sucked into a suction or outlet opening.

- Always keep suction fittings, suction covers, filter, filter lid or skimmer assembly in place when operating to avoid limb entrapment.
- Never allow children to play or get near the suction fittings, suction covers, filter, filter lid or skimmer assembly.

DANGER: RISK OF SEVERE INJURY OR DROWNING!

Body entrapment: May occur when part of the torso becomes entrapped, inserted, or sucked into a suction or outlet opening.

- Never allow children to play or get near the suction fittings, suction covers, filter, filter lid or skimmer assembly.



DANGER: RISK OF SEVERE INJURY OR DROWNING!

Evisceration (disembowelment) entrapment: May occur when the buttocks become entrapped, inserted, or sucked into a suction or outlet opening.

- Never sit on suction fittings, suction covers, filter, filter lid or skimmer assembly.
- Never allow children to play or get near the suction fittings, suction covers, filter, filter lid or skimmer assembly.



DANGER: RISK OF SEVERE INJURY OR DROWNING!

Mechanical entrapment: May occur when jewelry, swimsuit, or hair accessories become entangled, knotted, or snagged in a drain suction or skimmer assembly.

- Never allow your jewelry, swimsuit, or hair accessories to come close to the suction fittings, suction covers, or skimmer assembly.
- Never allow children to play or get near the suction fittings, suction covers, filter, filter lid or skimmer assembly.

2.3. Hyperthermia

Prolonged immersion in hot water may induce hyperthermia (overheating).

The use of alcohol or drugs can greatly increase the risk of fatal hyperthermia in spas. A description of the causes, symptoms, and effects of hyperthermia are as follows:

Hyperthermia occurs when the internal temperature of the body reaches a level several degrees above the normal body temperature of 98.6°F (37°C). The symptoms of hyperthermia include drowsiness, lethargy (fatigue), dizziness, fainting and an increase in the internal temperature of the body (feeling of being too hot). The effects of hyperthermia include:

- Unawareness of impending hazard.
- Failure to perceive heat.
- Failure to recognize the need to exit spa.
- Physical inability to exit spa.
- Fetal damage in pregnant women; and
- Unconsciousness and danger of drowning.

2.4. IMPORTANT SAFETY INSTRUCTIONS

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

1. READ AND FOLLOW ALL INSTRUCTIONS

2. A green colored terminal or a terminal marked G, Gr, Ground, Grounding or the symbol* is located inside the supply terminal box or compartment. To reduce the risk of electric shock, this terminal must be connected to the grounding means provided in

the electric supply service panel with a continuous copper wire equivalent in size to the circuit conductors that supply this equipment. *IEC Publication 417, Symbol 5019.

3. At least two lugs marked "Bonding Lugs" are provided on the external surface or on the inside of the supply terminal box/compartment. To reduce the risk of electric shock, connect the local common bonding grid in the spa to these terminals with an insulated or bare copper conductor not smaller than No. 6 AWG (10 mm²).

4. All field-installed metal components such as rails, ladders, drains or other similar hardware within 10 feet (3m) of the spa shall be bonded to the equipment grounding buss with copper conductors not smaller than No. 6 AWG (10 mm²).

5. SAVE THESE INSTRUCTIONS

! ATTENTION

Correct earthing connection is essential.

The earth connection circuit of the building must be in perfect condition to guarantee the safety of the Spa user. If you have doubts on the matter, ensure the earth circuit is reviewed by qualified personnel.

The manufacturer shall not be responsible for the damages caused by inadequate maintenance of the ground connection circuit. It is essential that the owner of the Spa tests the Residual Current Device (RCD) at least once a month, to check its good working order.

! ATTENTION

In case that the user will need to obtain an USER OPERATION AND INSTALLATION MANUAL can be found on the following link:

<https://docs.iberspa.com/>

3. INSTALLATION AND ASSEMBLY

For units for use in other than single-family dwellings, a clearly labeled emergency switch shall be provided as part of the installation. The switch shall be readily accessible to the occupants and shall be installed at least 5 feet (1.52 m) away, adjacent to, and within sight of the unit.

3.1. Warnings

⚠ WARNING: During the electrical connection with the equipment have special care in the layout of the cables in the bypass box, make sure no pieces of cables are in the box after closing and that the ground connection is correctly done.

⚠ WARNING: Pay special care that no water enters in contact neither with the pumps neither with the electrical parts under tension.

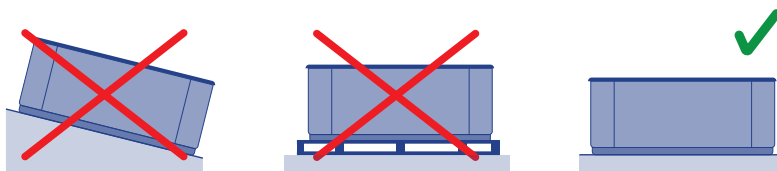
3.2. Position and location of the spa

Before installing and assembling the Spa, ensure that the packaging of the Spa is in perfect condition. Contact your distributor immediately if the packaging is damaged.

Position the Spa horizontally, placing the whole base of the unit on a smooth, flat and level surface, capable of supporting the weight when used (full of water, plus the weight of the bathers).

The Spa cannot be placed on a curved surface or on blocks.

The side where the motors are located should be fully accessible. In order to carry out maintenance tasks, the location of the Spa should enable it to be moved so that all its sides can be easily accessed.

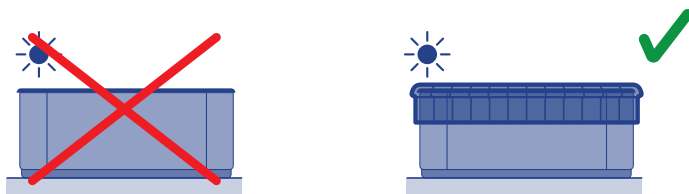


002

OUTDOOR INSTALLATION

If an outdoor location is chosen to place the Spa:

Do not expose the Spa to sunlight when it is empty and without a protection cover. Remember that prolonged exposure to sunlight may damage the surface of the Spa and its accessories. Acrylic rapidly absorbs heat from the sunrays reaching very high temperatures which will damage the Spa. Maximum absorption temperature is 60°C.



003

It is recommended to place the Spa away from trees, as falling leaves may block the filter. If the Spa is placed inside glass structures, prevent sunrays shining directly on the Spa through the glass, as the temperature could be excessively hot.

INDOOR INSTALLATION

It is recommended to ensure drainage in the area of the Spa, to prevent water from accumulating around it and to avoid dangerous access areas for bathers.

Remember that the operation of the Spa causes increased damp and therefore, there must be a ventilation system to prevent damp from accumulating which could cause damage in the room where the Spa is located.

The use of a cover reduces heat loss and damp in the room.

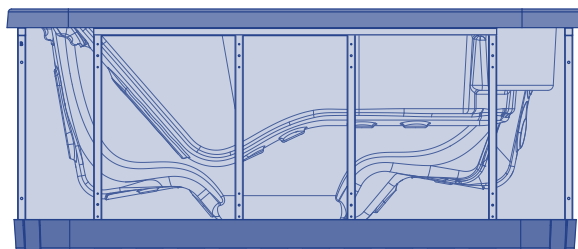
! ATTENTION

The spa should not be left empty and uncovered at room temperatures over 20°C or below 4°C.

PORTABLE LEVELLING SPAS

Some spas come with an adjustable metal structure to facilitate their installation.

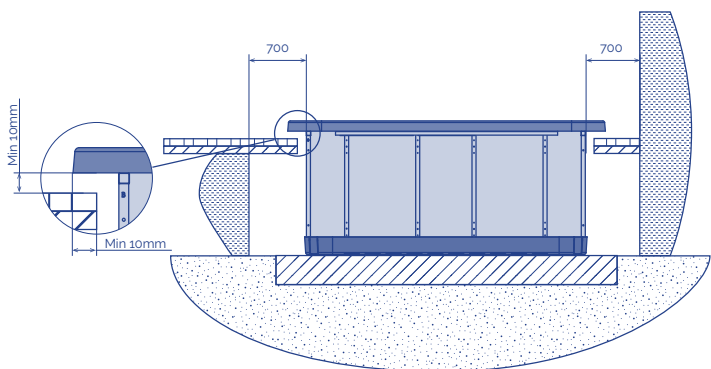
This structure has several points of support. Before filling the spa, these points of support should be adjusted to ensure they are all in contact with the ground.



004

INGROUND VERSION

The Spa structure must be fixed on the floor. Do not hold the Spa by its outer edges.



005

Once settled the Spa, finish the work bearing in mind that the edging of the surface must not be in direct contact with the work (a minimum of 1 cm must be left around the edge).

Bear in mind that you will have to leave enough space around the spa for maintenance. This space should be at least of 0.7 meters.

To seal the tab to the Spa, use a special elastic silicone for aquatic installations.

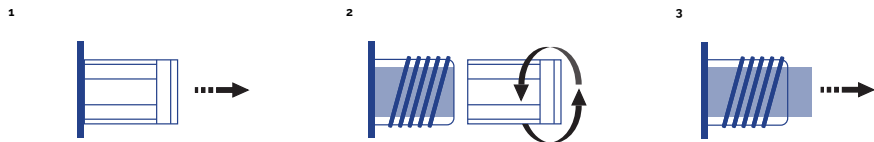
! ATTENTION

Leave a trapdoor spa access for maintenance. Never cover with concrete.
LEAVE 70cm CLEARANCE AROUND THE SPA.

3.3. Drainage

The Spa has a manual emptying system by gravity, through a drainage valve of 3/4".

The drainage valve should always be closed. It should only be open when the Spa is emptied. If necessary, a drainage system can be installed to connect the Spa to the general drains of the house.



006

! ATTENTION

Remember that when you drain your spa not all of the water runs off.

If your spa is not going to be used for long periods, especially in winter, remove any stagnant water on the seats and on the bottom of the spa with a sponge. Any water remaining in the pipes can be sucked out through the water and air nozzles using a liquid suction pump. The pumps must also be emptied through the drain plug.

3.4. Filling the spa

PORTABLE SPA

The Spa does not have a specific filling system. It is recommended to use a manual filling system with a garden hose or similar.

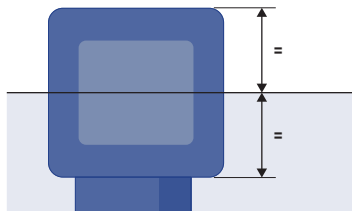
Proceed as follows:

- Before starting to fill the Spa, locate the drain valve (see 3.3. Drainage) and ensure that it is in the CLOSED position.
- Fill the Spa through the top, with clean water, to the level indicated.

WATER LEVEL



007



008

PORTABLE OVERFLOW SPA

It is recommended to fill the spa manually using a garden hose or a similar system.

Proceed as follows:

Before filling the spa, find the drainage valves and ensure they are all closed, except for the safety outlet, which should always be open.

Fill the spa from above using clean water until the spa starts to overflow.

Fill the three water tanks with the automatic filling.

Connect the water supply to one of the tanks' inlets.

The spa has a filling system that works using a ball cock. The outlet of the ball cock must be connected to the mains supply at a constant water pressure.

When the spa loses water as a result of evaporation, the system automatically fills the tanks.

The compensation tanks have a safety outlet for removing water.

WARNING

The compensations tanks of private overflow spas have a limited capacity. They can hold 280 litres of water, equivalent to 4 partially submerged people. Users should enter the spa one by one and slowly to enable the tanks to absorb the displaced water and prevent water from flowing out of the spa.

ATTENTION

During the filling process, water should be prevented from entering electrical parts. If seawater is used in the Spa, the circuit components will quickly deteriorate.

Do not fill the Spa with hot water, as this could trigger off the safety thermostat and damage equipment and connections.

Once the Spa has been filled with water, connect the electrical equipment by placing the differential switch in the On position (See Electrical Connection).

Do not use the Spa without first carefully reading all the information detailed in the following points:

- Adjust water pH between 7,2 and 7,6 (see 4.2 Water treatment).
- Add all required chemical products recommended in water maintenance (see 6.2 Water maintenance).
- Select the required temperature (see Installation and assembly of the spa). remember that if the water is cold, it may take 24 hours to reach a temperature of 38°C.
- Before using the spa, check the pH values once again in case they have changed with the treatments indicated above.

3.5. Electrical connection

! ATTENTION

- This equipment cannot be connected to a normal plug.
- This equipment requires suitable electrical installation. This should be done by a specialised fitter following local electrical safety regulations of each country.
- The electrical input of the Spa should always be protected by a highly sensitive differential. A 30mA differential is recommended.
- Earthing connection is essential.
- Use a suitable section cable bearing in mind the power of the Spa and distance to the control panel.
- Always follow instructions given in the Safety Warnings chapter of this manual.

⚠ WARNING – RISK OF ELECTRIC DISCHARGE

- The electrical supply should be switched off (differential in the OFF position or disconnect the cable from the mains) before carrying out any work.
- Never try to access an electrical component unless you are qualified or are the Head of Maintenance.
- Always use suitable personal protection equipment and tools when handling electrical equipment.
- Never access electrical elements if you are wet, particularly if you have wet feet.
- Do not connect the electrical equipment (differential in the ON position), if the Spa is empty of water.

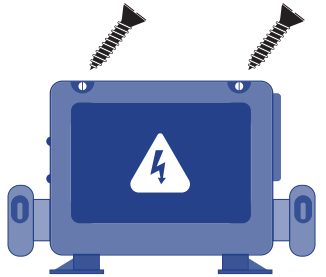
SPA CONNECTION STEPS

Locate the electrical panel of the Spa. Locate the electrical control panel; to do this, open the side panel to access the electrical components.



009

Open the electrical box.



010

Connect the spa's electrical control panel to the differential switch.

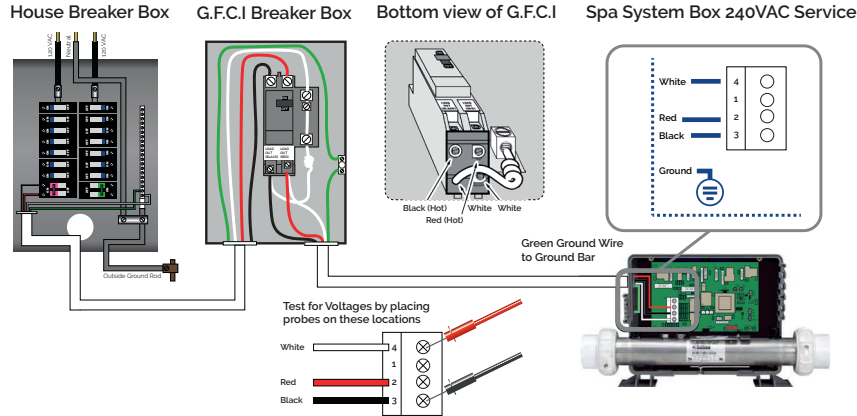
INSTALLATION OF THE DIFFERENTIAL



011

The electrical installation should incorporate a high-sensitive 2-pole differential in the general mains input panel (the differential is not supplied with the Spa).

240 VOLT RESIDENTIAL WIRING SCHEMATIC WITH G.F.C.I



012

WARNING

It is essential that the owner of the Spa tests the differential switch at least once a month, to check its good working order.

Check that the differential is in the OFF position. Do not place the differential in the ON position until the Spa is filled with water.

CONNECT THE ELECTRICAL CONTROL PANEL TO THE DIFFERENTIAL SWITCH

Before carrying out any work on the Spa, make sure it is disconnected from the mains (differential switch in the OFF position, or disconnect the cable from the mains).

Use a suitable cable from the differential switch to the electric cabinet of the Spa, depending on the location and applicable law. The cable section will vary depending on the Spa model and the distance of the installation.

The required kW is indicated in the appendix Technical Specifications of the Spa. The maximum power must be considered, depending on the "High Amp" or "Low Amp" configuration.

DIP Switch Functions

Fixed-Function DIP Switches

A1 Test Mode (normally off).

A2 In "ON" position, add one high-speed pump (or blower) with Heater.

A3 In "ON" position, add two high-speed pumps (or 1 HS Pump and Blower) with Heater.

A4 In "ON" position, add four high-speed pumps (or 3 HS Pumps and Blower) with Heater.

A5 In "ON" position, enables Special Amperage Rule B. See Special Features Section under Configuration Options for functionality with your system. In "OFF" position enables Special Amperage Rule A.

A6 Persistent memory reset (Used when the spa is powering up to restore factory settings as determined by software configuration).

A2, A3 and A4 work in combination to determine the number of high-speed devices and blowers that can run before the heat is disabled. e.g., A2 and A3 in the ON position and A4 in the OFF position will allow the heater to operate with up to 3 high-speed pumps (or two HS Pumps and Blower) running at the same time. Heat is disabled when the fourth high-speed pump or blower is turned on.

Note: A2/A3/A4 all off = No heat with any high-speed pump or blower.

Assignable DIP Switches

A7 In "ON" position, enables a 5-minutes cool down for some gas heaters (Cooling Time B). In "OFF" position, enables a 1-minute cool down for electric heaters (Cooling Time A).

Undesignated switches are not assigned a function.

The Electric Specification Sheet attached at the end of this manual indicates both the "Low Amp" and the "High Amp" power.

Special Features

Feature	Default
Special Amperage Rule A	No limitation
Special Amperage Rule B	2 high-speed pumps max. Blower turns off with 2 high speed pumps – in Setups 1-4, 6-10, 13, 15, 16, 18 No limitations – in Setups 5, 11, 12, 14, 17

CABLE SECTION

To determine the cable section of the electrical installation, see the values indicated in this sheet and the following table.

	KW required										
	2,1	2,5	2,8	3,2	3,5	4,4	5,3	6,2	7,0	7,9	8,8
Distance	Nominal section of the cable in mm²										
6 - 11 m	2,5	2,5	2,5	2,5	4	4	6	10	10	10	10
11 - 15 m	2,5	2,5	4	4	4	6	6	10	10	10	10
15 - 20 m	4	4	4	6	6	6	10	10	10	16	16

The different configuration options of the electrical control panel are explained further on in this Installation Manual.

Remember that the installation and any changes in the electric configuration must be carried out by qualified personnel, following the current regulations in each country. The manufacturer shall not be responsible for any damage caused by an improper installation or an installation performed by non-qualified personnel.

WARNING

Pay attention to the position of the maximum consumption switch. The Spa will not operate properly if a cable not corresponding to the distance and power of the Spa is used, and the electrical circuits may overheat which may cause an electrical accident. Always use cable with the suitable section of maximum consumption. **In the event of doubt between two values, always use the cable with the greater section.**

To connect the supply to the electrical panel of the Spa, locate the packing gland positioned at one end of the electrical panel.

Make sure that there is no electric current in the connection cable (differential switch in the OFF position).

Take the cable to the Spa electrical panel.

Open the cover of the electrical cabinet, insert the feed cable through the free side.

Attention: the indicated blue cable is neutral, and the brown cable indicates the line or phase.

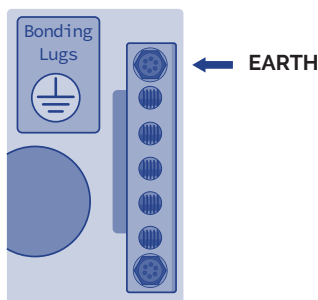
Fasten the terminals as indicated in the following diagrams and the type of electrical supply.

⚠ WARNING

Correct earthing is essential.

The earthing circuit of the building should always be in perfect condition to guarantee the safety of Spa users. If you have any doubts on this, ensure that the earthing circuit is checked by a duly qualified person. The manufacturer will not be held responsible for possible damage caused by incorrect maintenance of the earthing circuit.

Fasten the earth cable (yellow and green) to the terminal on the outside of the control cabinet as shown in the following diagram:



013

⚠ WARNING

Do not connect the electricity (differential in the ON position) until the Spa is filled with water.

4. START-UP

4.1. System start-up

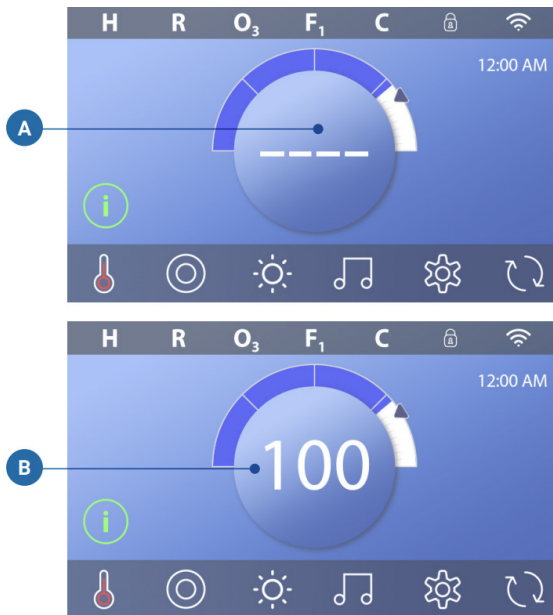
TOUCH PANEL

Important information about spa operations can be seen on the Main Screen. Most features, including Set Temperature adjustment, can be accessed from this screen.

The actual water temperature can be seen, and the Set Temperature can be adjusted. Time-of-Day, Ozone and Filter status are available, along with other messages and alerts. The selected Temperature Range is indicated in the upper left corner.

A Lock icon  is visible if the Panel and/or Settings are locked. Near the bottom of the screen, at certain times an indicator may appear showing that a message is waiting. Touch this indicator to go to the Message Display Screen. On that Screen some of the messages can be dismissed.

When the spa is powered On, four dashes appear (A) in the Water Temperature display for one minute. The dashes indicate that the spa is checking the water temperature. After the pump runs for 1 minute, the dashes disappear, and the water temperature is displayed (B). The dashes may reappear after the pump has not run for one hour.



014

4.2. Water treatment

Checking the water status is one of the most important steps.

pH ADJUSTMENT

A pH index of between 7.2 and 7.6 is recommended. The pH level measures the acidity and alkalinity. Values above 7 are alkali and below 7, are acid.

! ATTENTION

It is very important to maintain the correct pH level both for the disinfectant to work properly and to prevent corrosion or deposits on the Spa. Any damage caused by an inadequate pH level is not covered by your Spa guarantee.

The effects of a very low pH level are:

- The disinfectant will quickly dissipate.
- The equipment of the Spa become rusty.
- The water can start causing skin irritations to bathers.

The effects of a very high pH level are:

- The disinfectant is less effective.
- Scale may appear on the acrylic and equipment.
- The water may become cloudy.
- The filter cartridge can become blocked.

Check the pH of the Spa water daily using the pH test set. (Not supplied).

If the pH is above the indexes, use pH MINOR SPA. Wait for two hours and re-do the pH test.

If the pH is below indexes, use pH MAJOR SPA. Wait for two hours and re-do the pH test.

When the pH index has been adjusted to the values indicated above, proceed to the next step.

DISINFECTION OF THE WATER

Disinfection of the water is of utmost importance in order to destroy algae, bacteria and organisms that could develop in the water. However, excessive disinfection could cause skin and eye irritation.

Bromide tablets are a suitable disinfectant for the Spa water. This product is placed in the pre-filter and gradually dissolves.

Check the residual bromide level daily using the Br analyser set.

The recommended level of residual bromide is between 2.2 and 3.3 ppm.

Do not forget to keep the water in good conditions (see 6.2 Water maintenance).

5. OPERATING INSTRUCTIONS

5.1. Warnings on the use of the spa

Carefully read the following lines regarding accident prevention.

 **WARNING:** Do not start-up the Spa unless it is full of water.

 **WARNING:** This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory, or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

 **WARNING:** Children shall not play with the appliance.

 **WARNING:** Cleaning and user maintenance shall not be made by children without supervision.

 **WARNING:** Take extreme precautions to stop children from entering the Spa unattended. To avoid accidents, ensure that children are supervised at all times. Never leave children alone in the Spa. Take care when entering and leaving the Spa to avoid slipping on wet surfaces.

 **WARNING:** Do not allow anybody to play with sharp or metal objects inside the Spa, which could damage the acrylic surface.

 **WARNING:** Do not allow any user to access to the electrical parts of the Spa.

 **WARNING:** Do not use electronic devices inside the Spa.

 **WARNING:** Do not fill the Spa with other liquid other than fresh, duly treated water.

 **WARNING:** Do not let animals go inside the Spa.

 **WARNING:** Do not fill the Spa with hot water (maximum 35°C); let the water heat by itself, otherwise it could damage the temperature probes (see "Temperature Adjustment").

 **WARNING:** Do not use the Spa immediately after intense physical exercise.



WARNING: Do not use the Spa if you are suffering from a contagious disease or 14 days after recovering from a contagious disease.



WARNING: In order to guarantee maximum safety when bathing all our Spas use pumps designed to suction water from anti-vortex, safety drain covers, located on the floor of the Spa. Take special care that these drain covers are not covered by any object or the users (pieces of clothing, hair, legs, etc.). For safety reasons, your head should always be outside the Spa in order to avoid drowning. Do not use the Spa if the drain covers are broken, damaged or unassembled, as apart from damaging the Spa, it could also lead to a risk of drowning.



WARNING: The headrests of your Spa are made of synthetic foam, which can be damaged in high concentrations of bromine or chlorine, or low levels of pH. Make sure that when adding chemical products, the headrests are neither totally nor partially immersed in the water. If necessary, remove them until the chemical products have taken effect. Damages resulting from improper use shall not be considered under the guarantee of the product.



WARNING: The Spa includes a cover designed to protect the acrylic surface from sunrays when it is not being used. This cover will also help to keep the water warm, and for sun protection that could damage the acrylic material of the Spa. The cover will require.



WARNING: The appliance should be installed through a residual current device (RCD) with a rated tripping current not exceeding 30mA.



WARNING: The cover is designed to protect the spa, not to bear weight. Not even water or snow. Do not place objects on top of the cover. Do not allow people or animals get on the cover. Periodically remove snow to prevent build-up.



WARNING: The water should be disinfected thoroughly before using the Spa, especially if it has not been used for a certain period, whether it has been left with or without water inside. During periods of non-use, traces of stagnant water may remain, which may cause the growth of microorganisms potentially dangerous for health. Therefore, disinfect the Spa as indicated in this manual, ensuring that the pH and disinfectant parameters are suitable.

! ATTENTION

The compensation tanks of private overflow spas have a limited capacity. They can hold 280 litres of water, equivalent to 4 partially submerged people. Users should enter the spa one by one and slowly to enable the tanks to absorb the displaced water and prevent water from flowing out of the spa.

RISKS OF HYPERTHERMIA

Prolonged, direct contact with hot water could cause hyperthermia.

This occurs when the internal body temperature reaches levels above the normal temperature of 36.5°C. It is advised not to bathe for longer than 15 minutes.

Symptoms of hyperthermia are a sudden drop in blood pressure resulting in a sensation of dizziness with the possibility of fainting.

Water temperatures between 37°C and 40°C are only considered safe for adults without any health problems. Lower temperatures are recommended for most people and children. The Spa water should never be above 40°C.

! ATTENTION

Alcohol, drugs, or medicines could increase the risk of hyperthermia. It is not advisable for pregnant women, patients with high blood pressure, a heart condition, diabetes or under medication to use the spa. You should seek doctor's advice.

5.2. Systems

EXISTING SYSTEMS

Your spa is equipped with an electronic control system that will enable you to regulate the temperature of the water, choose the filter cycle that best suits your needs and activate the massage pumps and the blower pump. It will also enable you to turn on your spa lighting, change its colour and sequence.

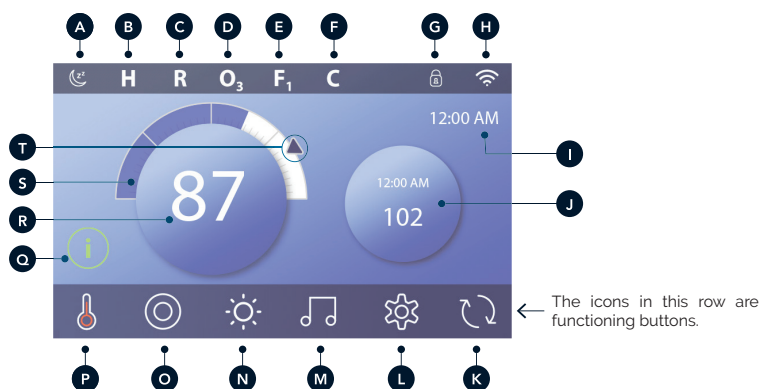
Touch Panel



015

5.3. System Control and Configuration

MAIN SCREEN | TOUCH PANEL



016

- A** - Panel Sleep
- B** - Temperature Range
High: **H**
Low: **L**
- C** - Heat Mode
Ready: **R**
Rest: **☰**
Ready-in-Rest: **RR**
- D** - Ozone Runing: **O₃**
- E** - Filter Cycles
Filter Cycle 1 : **F₁**
Filter Cycle 2 : **F₂** (OPTIONAL FEATURE)
Filter Cycle 1 & 2 : **F+**
- F** - Cleanup cycle (OPTIONAL FEATURE)
- G** - Panel Locked and/or Settings Locked
- H** - WiFi (Local or Cloud connection)
- I** - Time-of-Day
- J** - Secondary Button/Display
- K** - Invert Display
- L** - Settings
- M** - bba™ versions 2 and 3 (Balboa Bluetooth Audio)
- N** - Light (or CHROMAZONE™  if installed). Both icons change from white to color when these devices are powered On.
- O** - Spa
- P** - Heater Status
- Q** - Message Button (May Appear)
Information: 
Reminder: 
Error - Normal Error or Warning: 
Error - Spa will not function until fixed: 
- R** - Water Temperature
- S** - Water Temperature Bar
- T** - Set Temperature Arrow

WAKE UP THE PANEL, NAVIGATION & COMMON BUTTONS | TOUCH PANEL

Controlling your spa is easy with the intuitive graphical user interface (GUI). This section describes how to navigate and use the GUI.

Wake Up the Panel

The screen is blank when it is in sleep mode. When you touch the blank screen, one of three screens will appear:

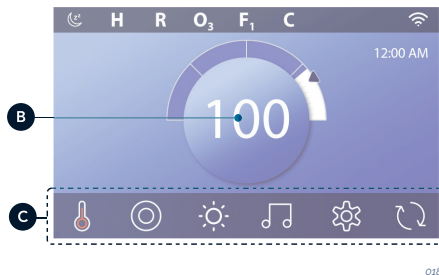
- 1- The Main screen will appear (A3). The panel is awake.
- 2- The ① icon will appear (A2). Wake up the panel by pressing the icon and then the ② icon.
- 3- The hand icon will appear. Wake up the panel by pressing the hand icon (A1) and then swiping in the direction of the arrows.

The panel automatically goes into sleep mode when it is not used for a specified duration. The duration can be adjusted.



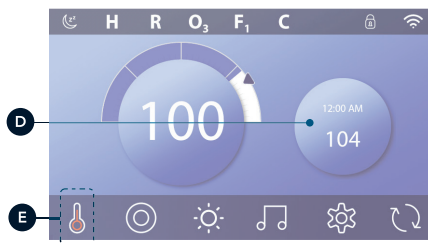
Buttons

A variety of button styles provide quick access to functions and settings. The large temperature display is a button (B) that controls the Set Temperature. The whole bottom row of the Main screen contains buttons (C).



Mini Player Button (Set Temperature/Time)

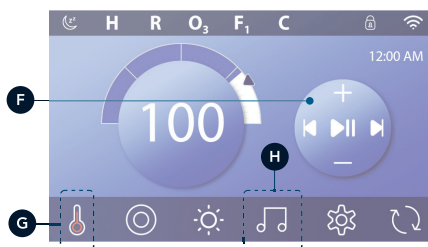
The Mini Player button gives fast access to the Set Temperature and time (D). Show or hide the Mini Player button by pressing the Heater Status button once (E).



019

Mini Player Button (Music)

The Mini Player displays music controls (F) if your spa is equipped with bbaTM (Balboa Bluetooth Audio) and it is activated. Hide the Mini Player button by pressing the Heater Status button twice (G). The first press displays the Set Temperature/Time Mini Player button. The second press hides the Mini Player button.



020

bba™ button (H)

If bbaTM is activated, pressing the bbaTM button (H) once displays the Mini Player (F) with music controls. Pressing the bbaTM button (H) a second time opens the Music screen (I). If bbaTM is activated, a white ring appears around the button, as shown here (I).

If bbaTM is not activated, pressing the bbaTM button (H) once opens the Music screen (I).

If your spa is equipped with bbaTM, refer to the bbaTM user guide that came with the spa. If a user guide was not included, please contact the spa dealer or spa manufacturer.



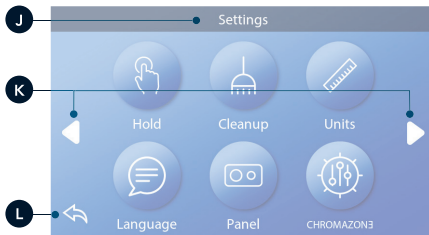
021

Screen Names

Screen names appear in the top row of the screen. For example, this is the Settings screen (J). Screen names are referenced throughout this user guide.

Navigation

Navigate screens and/or lists with the following buttons:

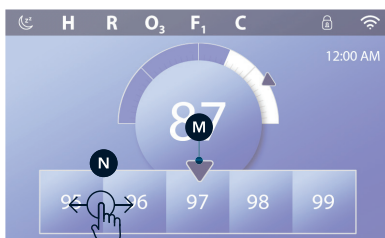


- ▲ Up
- ▼ Down
- ◀ Left (K)
- ▶ Right (K)
- ↶ Back (L)

022

Swiping & Selecting Items in Lists

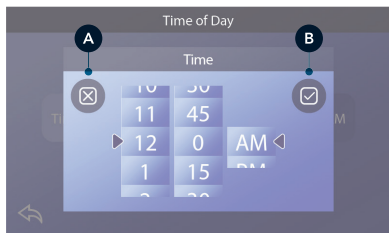
Swipe a list (N) to find the setting you want. The list will have an arrow (M) that indicates the current setting. If your desired setting appears but is not aligned with the arrow, tap the desired setting to make it align with the arrow. The temperature list will disappear when you tap anywhere outside of it.



023

Saving & Cancelling

After you input a new setting, press the Save button (B). After you press Save, the change is complete. If you don't want to apply a new setting, press the Cancel button (A).

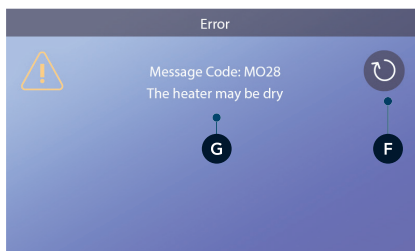
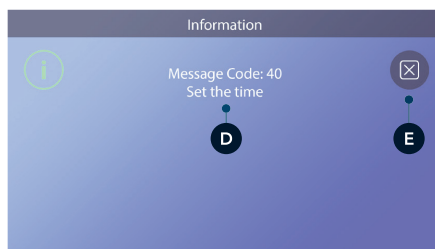


024

Message Buttons

Message buttons provide reminders to help you keep your spa running smoothly. Message buttons also provide warning information that helps spa technicians with troubleshooting.

When a message button appears (C), press it to view the corresponding message (D) or (G). Press the Exit button (E) to go back to the Main screen or press the Clear button (F) to dismiss the message.



025

Buttons vary depending on the type of message. View the list below.



Information Message



Error-Spa will not function until fixed



Reminder Message



Clear Button



Error - Normal Error or Warning



Exit Button

SETTINGS SCREEN | TOUCH PANEL

Fine tune your spa with a wide variety of Settings.

Starting from the Main screen, press the Settings button  to view the Settings screen (A). Press the navigation arrows ◀▶ or swipe to view all of the Settings screens.

HEAT

Make sure your spa is heated and ready to enjoy with Heat Settings.

FILTER

Keep your spa water clean and ready to enjoy by setting Filter Cycles.

TIME

Set the Time to insure scheduled freatures have proper timing.

REMINDERS

Reminders (A) are helpful spa maintenance messages that display periodically.

LOCKS

Lock the Panel and/or Setting.

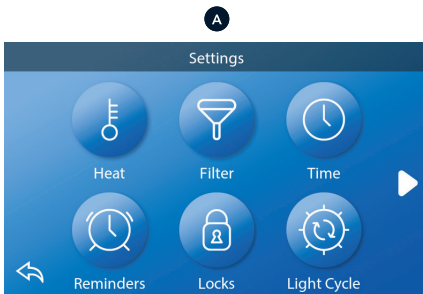
LIGHT CYCLE (Optional)

If you want the spa lights to turn On and Off at a specific times, use Light Cycle (A).

HOLD

Hold (B) is used to disable the pumps during service functions like cleaning or replacing the filter. Hold Mode will last for 1 hour unless the mode is exited manually. If spa service will require more than an hour, it may be best to simply shut down power to the spa.

The Hold Icon on the Settings Screen places the spa in Hold Mode and displays the System Hold screen. Touch Back to exit Hold Mode.



HOLD (continued)**Drain Mode (Optional)**

Some spas have a special feature that allows Pump 1 to be employed when draining the water. When available, this feature is a component of Hold.

CLEAN-UP

When a pump or blower is turned on by a button press, a clean-up cycle begins 30 minutes after the pump or blower is turned off or times out. The pump and the ozone generator will run for 30 minutes or more, depending on the system. On some systems, you can change this setting.

UNITS

Specify Time and Temperature Units (B). The temperature choices are Fahrenheit or Celsius. The time display choices are 12 hour or 24 hour.

LANGUAGE

Select from a variety of languages.

PANEL

You can change two options on the Panel screen:

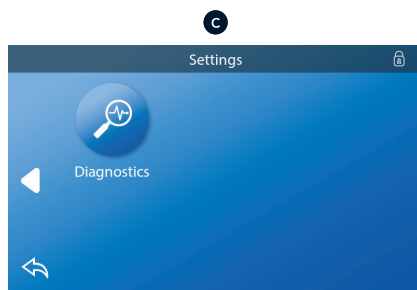
- 1 - Set how long it takes the panel to go to sleep after the last activity. Short times are recommended because it decreases the chance of water activating buttons.
- 2 - Set whether or not you need to do an extra action to wake the panel (see page 6). The purpose of the extra action to wake the panel is to make it very unlikely that water can wake the panel.

CHROMAZONE™ (continued)

If your spa is equipped with CHROMAZONE™, refer to the CHROMAZONE™ user guide that came with the spa. If a user guide was not included, please contact the spa dealer or manufacturer.

DIAGNOSTICS

Spa technicians can find useful information and features in Diagnostics (C).

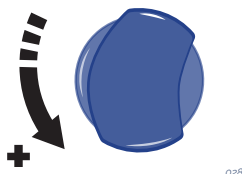


5.4. Jets operation

The water jets provide a hydrotherapy pressure jet. It is a closed circuit, where the water is absorbed by 1 or 2 pumps (depending on the SPA model) through the drain and driven to the jets.

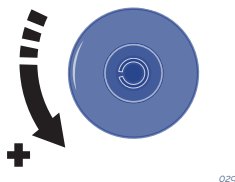
The hydromassage effect is provided by the jet, when the circuit water mixes with the outside air, in the so-called Venturi effect.

To adjust the amount of air driven into the jets, simply turn the air input tab (venturis) as follows.



Each air inlet activates a certain group of jets.

Some jets can also adjust the flow intensity on opening and closing the water flow. To do this, proceed as follows:



! ATTENTION

Do not attempt to turn the outer ring of the jet, forcing it because you could damage it.

5.5. Renewing the spa water

To change the Spa water:

- Disconnect the electrical equipment, placing the differential switch (installed in the main input of the home) in the OFF position.
- Locate the drain valve (see 3.3 Drainage) and turn the valve to the OPEN position. The Spa will empty by gravity through the general drain.
- Once the Spa is empty, inspect the acrylic and clean if necessary (see point 6.5 Acrylic Care). Turn the drain valve to the CLOSED position.
- Fill the Spa with clean water (see 3.4 Filling the spa)

5.6. Extras

AROMATHERAPY

The AROMATHERAPY system gives customers a whole host of new sensations by introducing any aroma chosen through the air massage circuit.

The AROMATHERAPY system does not generate any waste products in the water, as happens with conventional oils, which dirty the water and can cause unpleasant effects, as well as blocking up the filter.

The way it works is straightforward and it is easy to maintain. Just place one of the AROMATHERAPY refills into the dispenser on the spa's outer surface and, when the lid is closed, switch the air circuit on.

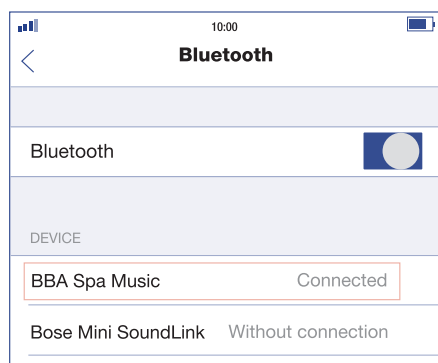
This system does not work with any kind of refill (no liquids can be added). Only those that appear in catalogue may be used.

Note: Do not leave the lid of the aroma dispenser off. water or another liquid could get into it and damage the air pump.

AUDIO

For cleaning the stereo and speakers, avoid cleaning with high pressure water, such as high pressure washing or with the hose nozzle.

The system consists of a subwoofer as well as two speakers strategically located in the cabinet. With this system, you can connect your mobile devices to the Spa.



1. Open Bluetooth device.
2. Select 'BBA Spa Music' from the list of devices available to pair (no password required).

030

- Do not operate the audio/video controls while inside the spa.
- These units are not provided with an outdoor antennae; it should be installed in accordance with Article 810 of the National Electrical Code, ANSI/NFPA 70.
- Do not service this product yourself as opening or removing covers may expose you to dangerous voltage or other risk of injury. Refer all servicing to qualified service personnel.

- When the power supply connections or power supply cord(s) are damaged; if water is entering the audio/video compartment or any electrical equipment compartment area; if the protective shields or barriers are showing signs of deterioration; or if there are signs of other potential damage to the unit, turn off the unit and refer servicing to a qualified service personnel.

- This unit should be subjected to periodic routine maintenance (for example, once every 3 months) to make sure that the unit is operating properly.

CAUTION: RISK OF ELECTRIC SHOCK.

- Do not leave compartment door open.
- Replace components only with identical components.

WARNING: PREVENT ELECTROCUTION.

Do not connect any auxiliary components (for example cable, additional speakers, headphones, additional audio/video components, etc.) to the system".

BLUETOOTH SURROUND SOUND

The system is equipped with a subwoofer (subwoofer) and four speakers. Use the Bluetooth function to connect the sound system to your tablet or smartphone. In addition, you can listen to your favorite AM / FM radio stations and connect an auxiliary input cable or USB flash drive. The LED display will tell you what is playing.

BLUETOOTH CONNECTION

Audio Equipment



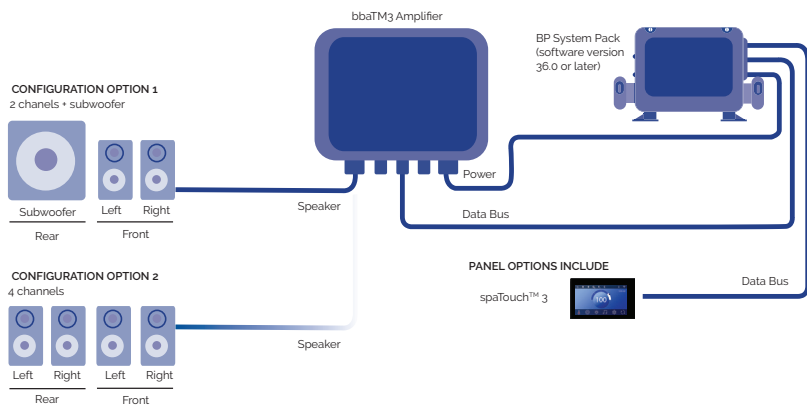
bba™3 works with iOS and Android phones and tablets.

032

Spa Equipment

Built in power supply: The bba™3 connects to the control system at the circuit board connector labeles "A/V"

1. Power on the system pack with bba™3 already connected to the system pack.



032

2. On the top panel press the music button. Then the power button.



033

- 3 - Turn on Bluetooth function of your smart device or music device.
 - 4 - On your smart device or music device, click Search for Bluetooth device. Make sure you are close enough to the spa.
 - 5 - Select "PPME70BT" in the pairing list.
 - 6 - Click on «Connect». Once connected, you can now play your favorite music from your smart device or music device.c
- bba2 operates up to 100 feet in open air. Ranges vary as they are dependant on installations.

NOTE: If this message appears, it means that the equipment is NOT connected to the Bluetooth of the mobile device.



034

 Open / Close button Audio

 Indicator to active bluetooth

 Configurations

 Silence Audio

6. MAINTENANCE

The Spas are built with maximum quality and with the hardest wearing materials available. Proper care and maintenance will ensure a long lifespan of the Spa and its components.

6.1. Warnings

 **WARNING:** Before carrying out any electrical or mechanical maintenance work, make sure that the machine is disconnected from the mains, and that the start-up devices are blocked.

 **WARNING:** Do not handle the equipment with wet feet.

 **WARNING:** Before carrying out any work on the Spa, it should be switched off from the electrical supply (differential in the OFF position or disconnect the mains cable).

 **WARNING:** Remember that this equipment cannot be connected to a normal plug.

 **WARNING:** This equipment requires suitable electrical installation. This should be performed by a qualified person following the electrical safety standards of each country.

 **WARNING:** The electrical supply of the Spa should always be protected by a highly sensitive differential. A 30 mA differential is recommended.

 **WARNING:** Earth connection is essential. The earthing circuit of the building should always be in perfect condition to guarantee the safety of the Spa user. If you have any doubts on this, ensure that the earth circuit is checked by a qualified person. The manufacturer is not responsible for possible damage caused by unsuitable maintenance of the earth circuit.

 **WARNING:** Do not connect the electrical equipment (differential in the ON position), if the Spa is empty of water.

 **WARNING:** Use a cable of a section suitable to the power of the Spa and the distance to the panel.

 **WARNING:** Always observe the instructions included in Safety Warnings chapter of this manual.

 **WARNING:** Never try to access an electrical component unless you are qualified or are the Head of Maintenance.

 **WARNING:** Never handle electrical elements with wet feet.

 **WARNING:** Means must be incorporated to disconnect the spa from the electrical network as part of the fixed installation, according to the current regulations.

6.2. Water maintenance

The user must pay particular attention to the maintenance of water. Maintenance will depend on the mineral content of the water used, how often the Spa is used and how many people use the Spa.

ANTI-FREEZE PROTECTION

If the temperature sensors detect a drop in temperature to below 6.7°C, the heating element and filter pump will connect automatically to prevent the water from freezing and the damage this could cause the Spa.

The equipment will remain connected for 4 minutes after the temperature reaches 7.2°C. In colder climates, an additional temperature sensor can be added as a precaution and to avoid freezing conditions not detected by the standard sensor.

If the pump turns off in this situation, empty the Spa and contact your authorised dealer or Technical Assistance Service.

SAFETY IN THE USE OF CHEMICAL PRODUCTS

Before using a chemical product, read the instructions on the product label carefully.

- It is advisable that always the same person handles the chemical products. Keep these products away from children.
- Add the exact amounts to the water, as specified.
- Keep containers tightly closed in dry, well-ventilated places.
- Do not inhale chemical products and take care not to let them come into contact with the eyes, nose or mouth. Wash hands after use.
- Follow the emergency instructions on the product label in the event of an accident or ingestion.
- Do not smoke while handling these products – they may be flammable.
- Do not store these products inside the Spa unit.
- Do not mix products. Add first one and then the other to the water, to avoid possible reactions.
- Do not add chemical products to the water if there is someone in the Spa.

MAINTENANCE SCHEDULE OF THE SPA WATER

All chemical products: Bromine in tablet form, Algaecides, Anti-calcareous and pH reducer, must be added to a floating dispenser (not supplied), with the massage pump on for at least ten minutes.

PH ADJUSTMENT

A pH index of between 7.2 and 7.6 is recommended. The pH level measures the acidity and alkalinity: Values above 7 are alkali and below 7, are acid.

! ATTENTION

It is very important to maintain the correct pH level both for the disinfectant to work properly and to prevent corrosion or deposits on the Spa. Any damage caused by an inadequate pH level is not covered by your Spa guarantee.

The effects of a very low pH level are:

- The disinfectant will quickly dissipate.

- The equipment of the Spa become rusty.
- The water can start causing skin irritations to bathers.

The effects of a very high pH level are:

- The disinfectant is less effective.
- Scale may appear on the acrylic and equipment.
- The water may become cloudy.
- The filter cartridge can become blocked.

Check the pH of the Spa water daily using the pH test set. (not supplied)

If the pH is above the indexes, use pH MINOR SPA. Wait for two hours and re-do the pH test.

If the pH is below indexes, use pH MAJOR SPA. Wait for two hours and re-do the pH test. When the pH index has been adjusted to the values indicated above, proceed to the next step.

DISINFECTION OF THE WATER

Disinfection of the water is of utmost importance in order to destroy algae, bacteria and organisms that could develop in the water. However, excessive disinfection could cause skin and eye irritation.

BROMIDE TABLETS are a suitable disinfectant for the Spa water. This product is placed in the pre-filter and gradually dissolves.

Check the residual bromide level daily using the Br analyser set.

The recommended level of residual bromide is between 2.2 and 3.3 ppm.

USE OF SPECIAL PRODUCTS

Apart from products to maintain the pH and disinfectant level, there are other products formulated especially for use in Spas that will help you to maintain the water and installation in perfect condition.

- PA-ANTI-CALCAREOUS: This prevents the precipitation of calcium salts (scale), particularly in hard water. This product should be added weekly and whenever the water is renewed.
- SPA-ALGAECIDE: This algaecide prevents algae from growing in the Spa water. This product is added weekly and whenever the water is renewed.
- SPA-ANTIFOAM: Foam is often formed owing to the agitation of the water and grease present in the water. Whenever there is a significant amount of foam, remove it with Spa-

Antifoam.

- SPA-DEGREASER: To remove rings of dirt and grease that form on the walls of the Spa. To use this product, it is recommended to empty the Spa and apply a degreaser with a sponge on the parts to be cleaned. Rinse immediately with plenty of water.

OZONE GENERATOR

Ozone, O₃, is an oxidizing chemical component which is very effective in disinfecting water. Its main advantage is that it leaves no chemical residue and is odorless.

Its disinfectant properties are based on its oxidizing potential, which leads to the elimination of any organic matter that there may be in the water.

In order to produce ozone, some Spas have an ozonator which, with electricity, can produce ions of ozone from atmospheric oxygen. This process occurs automatically, and the product generated is injected via the filtration return nozzles. Thus, it is not necessary for the user to activate any mechanism for its generation.

The water is collected by the overflow, the drains or the skimmer, due to the suction of the filter pump.

Then it passes through the heat exchanger and in its outlet, it is injected with ozone. The water is distributed via the filtration return system.

Ozone treatment does not exclude the use of other chemical products such as Bromine or Chlorine.

The ozone is considered as a complementary process to the ones above, thus reducing the consumption of Bromine or Chlorine.

QUICK GUIDE TO THE APPLICATION OF CHEMICAL PRODUCTS

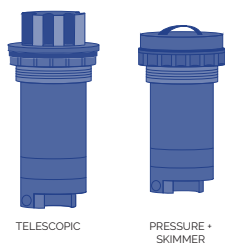
	Reason for Use	Quantity per m ³ of water	Frequency of use
pH minus spa	Add if the results of the pH test are above the permissible values (7.2-7.6 ppm).	Add as recommended by the manufacturer of the chemical.	Add pH daily with each pH test.
pH plus spa	Add if the results of the pH test are below the permissible values (7.2-7.6 ppm).	Add as recommended by the manufacturer of the chemical.	Add pH daily with each pH test.
Bromine tables	Add if the results of the Br test are above the permissible values (3-5 ppm).	Add as recommended by the manufacturer of the chemical.	Add Br daily with each test.
Descale	To prevent build-ups of calcium salts (scaling).	Add as recommended by the manufacturer of the chemical.	Weekly and every time that the water is changed.
Alga stop spa	To prevent algae from growing in the water.	Add as recommended by the manufacturer of the chemical.	Weekly and every time that the water is changed.
Waterline cleaner	To eliminate rings of dirt from the hot tub's walls.	Scrub with a sponge, and then rinse with plenty of water.	When dirt is seen on the walls of the hot tub.
Anti-Foam	Excess foam present in the water.	Add as recommended by the manufacturer of the chemical.	When foam appears in the water.

6.3. Filter maintenance

! ATTENTION

It is advisable to periodically check the condition of the filter cartridge. If dirt is observed, it must be clean or replace it. Remember that a clogged filter produces a drop in the flow of water, can cause a malfunction of the Spa. The Spa should always operate with the pre filter and filter cartridge placed correctly. Never place objects that might clog the inlet of the filter.

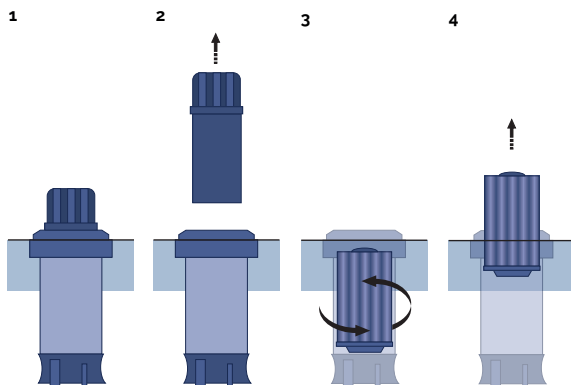
All spas include a filter. Check the filter regularly and follow the maintenance instructions that appear below.



035

TELESCOPIC FILTER CLEANING

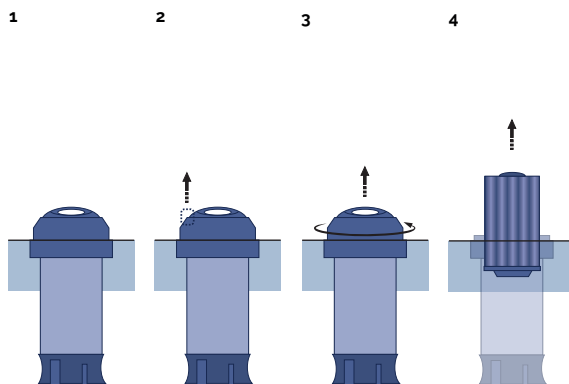
1. Disconnect the electrical equipment. Differential in OFF position.
2. Unscrew the top of the filter.
3. Remove the cartridge.
4. Clean the cartridge with water at low pressure.



036

PRESSURE FILTER CLEANING

1. Disconnect the electrical equipment. Differential in OFF position
2. Unscrew the cap on top of the filter.
3. Release lock and unscrew the top of the filter.
4. Remove the cartridge.
5. Clean the cartridge with water at low pressure.



037

! ATTENTION

Remember to follow all the steps and to close the valve to avoid damaging the hot tub and prevent any accidents.

6.4. Pre-filter of the pump maintenance

It is recommended to periodically check the condition of the pre-filter of the pump to avoid it from blocking. If debris has accumulated, the pre-filter should be opened and cleaned.

Follow these steps to clean the pre-filter:

1. Turn off the Filtering Pump by placing the selector in the OFF position.
2. Close the valve of the filtering circuit that connects the pump to the Spa.
3. Using the key supplied with the equipment, turn the upper cover of the pre-filter anticlockwise until it becomes loose. Remove the basket of the pre-filter to clean it.
4. Put the basket back into place. Place the joint of the cover to close it using the key.
5. Open the filtering circuit valve.

6.5. Acrylic care

Easy care for an attractive surface:

- Use common general purpose cleaners. For normal care and cleaning, use a soft cloth or sponge with a little soap and water. Rinse well and dry with a clean, dry cloth.
- Never use abrasive cleaners.
- Do not allow the acrylic surface to come into contact with ketones or esters such as

acetone, acetates (such as nail varnish remover, nail varnish or dry cleaning substances) or any organic solvent with chlorine, varnishes, petrol, aromatic solvents, etc.

- Remove dust, mud and dry dirt with a soft damp cloth.
- Clean grease, oil, paint and ink stains with isopropyl alcohol and dry with a clean, dry cloth.
- Avoid using razors or any other type of sharp instrument that could scratch the surface. Small scratches can be removed by applying a thin layer of car paste wax and buffing it gently with a dry cloth.
- Once a week, clean the part of the hot tub that is not submerged in water with a high-quality polish for hot tubs.

! ATTENTION

Remember to never leave the Spa uncovered and exposed to sunlight, as this could cause damage not covered by the guarantee.

6.6. Light maintenance

Replacing the lamp is the only required maintenance on the spotlight. To replace the lamp, follow these steps:

- Dismantle the wooden side panel where the spotlight is installed using a medium- sized stecker screwdriver.
- To replace the lamp, turn the lamp-holder bushing anticlockwise and lift it from its position.
- Once the faulty lamp has been replaced, place the lamp-holder back in position and reassemble the wooden side panel of the Spa.

If you have any doubt about the explanation of this operation, contact your authorised dealer or authorised technical service.

⚠ WARNING- RISK OF ELECTRIC SHOCK

Make sure that no power is being supplied to the hot tub.

The new lamp must have the same characteristics as the one supplied with the hot tub.

Never install a lamp without a front lens.

Make sure that it is properly sealed. Check the condition of the gasket and replace it.

6.7. Maintenance in periods of non-use or absence

SHORT PERIODS (3-5 days)

- Adjust the pH and treat the water (see section 6.2. Water maintenance).
- Cover the spa.
- When you return, adjust the pH and treat the water again.

PROLONGED PERIODS (5-14 DAYS)

- Set the temperature to its lowest level.
- Adjust the pH and treat the water (see section 6.2. Water maintenance).
- Cover the hot tub.
- When you return, reset the temperature to the desired level and adjust the pH and treat the water again.

PREPARING FOR THE WINTER PERIOD

If you do not use the hot tub during the winter or for very long periods, you must perform the following operations:

- Disconnect the electrical equipment, residual-current device's switch in the OFF position.
- Close the stopcocks for the water supply to the hot tub.
- Drain the water from the hot tub and all of its pipes.
- Leave all of the loop's valves open, remove all of the pumps' drain plugs and disconnect the hot tub's water supply pipes, ensuring that they are completely empty.
- Clean and dry the hot tub.
- Cover the hot tub with the cover.

Do not leave water in the Spa without electrical connection at temperatures below 0°C, as the pipes can freeze and damage the spa.

7. ERROR MESSAGES

Message	Meaning	Action required
Water temperature is Unknown		After the pump has been running for 1 minute, the temperature will be displayed.
Possible freezing condition	A potential freeze condition has been detected, or the Aux Freeze Switch has closed.	All water devices are activated. In some cases, pumps may turn on and off and the heater may operate during Freeze Protection. This is an operational message, not an error indication.
The water is too hot – M029	The system has detected a spa water temp of 110°F (43.3°C) or more, and spa functions are disabled.	System will auto reset when the spa water temp is below 108°F (42.2°C). Check for extended pump operation or high ambient temp.
The water level is too low	This message can only appear on a system that uses a water level sensor. It appears whenever the water level get too low (or the water level sensor is disconnected)	Automatically disappears when the water level is adequate. Pumps and the heater turn OFF when this message appears.
The water flow is low – M016	There may not be enough water flow through the heater to carry the heat away from the heating element.	Heater start up will begin again after about 1 min. See: “.”
The water flow has failed – M017	There is not enough water flow through the heater to carry the heat away from the heating element and the heater has been disabled.	See: “.”
The heater may be dry – M028	Possible dry heater, or not enough water in the heater to start it. The spa is shut down for 15 min.	See: “.”
The heater is dry – M027	There is not enough water in the heater to start it. The spa is shut down.	After the problem has been resolved, you must reset the message to restart heater start up. See: “.”

Message	Meaning	Action required
The heater is too hot – M030	One of the water temp sensors has detected 118°F (47.8°C) in the heater and the spa is shut down.	You must reset the message when water is below 108°F (42.2°C). See: **.
Flow-Related Checks		Check for low water level, suction flow restrictions, closed valves, trapped air, too many closed jets and pump prime.
Sensors are out of sync – M015	The temperature sensors MAY be out of sync by 3°F.	Call for Service if this message does not disappear within a few minutes.
Sensors are out of sync -- Call for service -- M026	The temperature sensors are out of sync	The fault above has been established for at least an hour. Call for service. See **
Sensor A Fault, Sensor B Fault – Sensor A: M031, Sensor B: M032	A temperature sensor or sensor circuit has failed.	If the problem persists, contact your vendor or a service engineer. See: **.
Communications error	The control panel is not receiving communication from the System.	If the problem persists, contact your vendor or a service engineer.
Test software installed	The Control System is operating with test software.	If the problem persists, contact your vendor or a service engineer.
Program memory failure – M022	At Power-Up, the system has failed the Program Checksum Test.	This indicates a problem with the firmware (operation program) and requires a service call. See: **.
The settings have been reset (Persistent Memory Error) – M021		Contact your service organization if this message appears on more than one power-up. See: **.
The clock has failed – M020		If the problem persists, contact your vendor or a service engineer. See: **.
Configuration error (Spa will not Start Up)		If the problem persists, contact your vendor or a service engineer.
A pump may be stuck on – M034	Water may be overheated.	POWER DOWN THE SPA. DO NOT ENTER THE WATER. Contact your dealer or service organization.
Hot fault – M035	A Pump Appears to have been Stuck ON when spa was last powered POWER DOWN THE SPA.	DO NOT ENTER THE WATER. If the problem persists, contact your vendor or a service engineer.

** Some messages can be reset from the panel. Messages that can be reset will appear with a Clear Icon at the bottom of the Message Screen. Press the Clear Icon text to reset the message.

8. PROBLEMS AND SOLUTIONS

Problems	Reasons	Solutions
Insufficient flow of filtered water.	Filter is blocked by dirt.	Wash the filter.
The massage pump of the Jets does not work. Spa does not work.	The cable of the digital control panel is disconnected from the board. No electrical supply. Differential is disconnected.	Connect the cable to the board. Check that the pump is connected to the electric control panel. Connect the differential.
The massage pump of the air <i>Blower</i> does not work.	The cable of the digital control panel is disconnected from the board. No electrical supply The pump has disconnected owing to overheating.	Connect the cable to the board. Check that the pump is connected to the electric control panel. Let it cool for about 3 hours and then start-up the pump again.
Water leaks out through the <i>Venturi</i> .	Jets are closed. Jets are not properly installed. The outer trim of the jet turns a quarter to open and close the water flow. If this trim makes a complete turn, it is not properly installed, and the jet will have to be removed and then placed correctly.	Open the jet. Remove the jet. Pull the outer trim about 2 cm. Unscrew the jet turning anti-clockwise. Once it has been dismantled, replace the jet, by screwing in a clockwise direction. Press the outer trim back into place.
Limited airflow in the Jets.	<i>Venturis</i> are closed.	Open the <i>Venturis</i> .
Reduced airflow.	Starter brushes of the motor are worn.	Change the pump.
The water does not reach the required temperature.	Probe is damaged. Check programmed temperature.	Replace the temperature probe. Programme the temperature.

Note: In the section 7. Error messages, you can find the diagnosis messages meaning to solve possible breakdowns.

9. RECYCLING AND THE ENVIRONMENT

The Spa includes electric and/or electronic material, which at the end of its life-span, should be suitably treated as special waste.

Contact your local authorities to find out the collection and waste disposal procedure for electric and electronic material.

