

CONTENTS

1. INTRODUCTION	5
1.1. GENERAL INFORMATION	5
1.2. SAFETY WARNINGS.....	5
1.2.1. Warnings for the use of the Spa.....	5
1.2.2. Avoid the risk of hyperthermia	6
1.2.3. Warnings for maintenance works	6
2. DESCRIPTION OF THE INSTALLATION PROCEDURE	7
2.1. GENERAL DIAGRAM.....	7
2.1.1 Spa with Overflow	7
2.1.2 Spas with Skimmer	8
2.2. RECIRCULATION CIRCUIT	9
2.2.1 Recirculation circuit in Spas with Overflows.....	9
2.2.2 Recirculation circuit in Spa with Skimmer	11
2.3. WATER MASSAGE CIRCUIT	13
2.4. AIR MESSAGE CIRCUIT.....	14
2.5. GENERAL ELECTRIC DIAGRAM	15
3. INSTALLATION - RULES TO FOLLOW.....	16
3.1. FITTING AND INSTALLING THE SPA	16
3.2. FITTING AND INSTALLING THE KIT.....	21
3.3. CONNECTION OF THE SPA TO THE KIT	22
3.3.1. Connection of the Recirculation Circuit.....	22
3.3.2. Connection of the Water Massage Circuit.....	25
3.3.3. Connection of Air Massage Circuit	25
3.4. ELECTRICAL CONNECTION	26
3.5. START UP	26
3.6. OPERATION.....	27
4. MAINTENANCE	28
4.1. MAINTENANCE OF THE ACRYLIC	28
4.2. MAINTENANCE OF THE SPOTLIGHT.....	28
4.3. MAINTENANCE IN PERIODS OF NO USE OR ABSENCE.....	29
4.4. MAINTENANCE OF THE WATER	30
4.4.1. Safety in the use of chemical products	30
4.4.2. Adjusting the pH	30
4.4.3. Disinfecting the water	31
4.4.4. Use of special products	31
4.4.5. Ozone Generator (Only for Spas with this feature).....	31

4.4.6. Quick guide for chemical product application.....	32
5. PROBLEMS AND SOLUTIONS	33
6. RECYCLING AND THE ENVIRONMENT.....	34



IMPORTANT

The instructions manual you have in your hands contains essential information regarding the safety measures to adopt when installing and start-up. This is why it is essential for both the Installer and the User to read the instructions before going on to assembling and starting 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 GUARANTEE SHEET AND CAREFULLY READ THE LIMITATIONS CONTAINED WITHIN.

1. INTRODUCTION

1.1. GENERAL INFORMATION

This manual contains all the necessary information for fully enjoying your Spa. We suggest you take some time to go over the points below.

The Spa is an element designed especially for bathrooms, offering a bath/massage combination.

It consists of a closed water circuit powered by pumps which, combined with air, produce a relaxing massaging effect on your body.

For the massage bath to be effective, the water in the circuit must be at a temperature of between 34°C and 37°C, which is achieved by means of an electric heat exchanger.

If you have any questions or queries regarding the operation or maintenance of this product, contact the installer or your local distributor. They are specialised professionals and their knowledge will make things easier for you and will help you to enjoy this product.

IMPORTANT: The manufacturer reserves the right to change part of the designs or specifications without prior notice and without incurring in any obligations.



WARNING - IMPORTANT

- This equipment cannot be connected to an ordinary plug.
- This equipment requires an appropriate electrical installation.
- It is essential to earth the connection.
- It is mandatory to comply with Electrical, Water Treatment, Hygiene and Safety Regulations in force in the country where the Spa and the Compact Kit are installed.
- Never access the electrical elements with wet feet.
- Do not connect the electric equipment (circuit breaker on the ON position) if the Spa is not filled with water.
- In case of faulty operation or breakdown, contact the manufacturer's Technical Assistance Service, or the manufacturer's representative nearest to you.

1.2. SAFETY WARNINGS

1.2.1. Warnings for the use of the Spa

- Take all precautions to avoid unauthorised access of children inside the Spa. In order to avoid accidents, ensure children are supervised by an adult at all times. Control entering and exiting the Spa in order to avoid slips due to wet surfaces.
- Do not allow anyone to play inside the Spa with metal or sharp objects that could damage the acrylic surface.
- Make sure that bathers cannot access any of the Spa's electrical components.
- Do not turn on the machine without there being water inside the Spa.

- Do not use electrical devices such as radios or dryers inside the Spa.
- Always keep the minimum water level indicated in the skimmer (in the case of private use Spas) or that indicated in the level probes of the surge tank in the case of public use Spas.

1.2.2. Avoid the risk of hyperthermia

- Prolonged direct contact with hot water can cause HYPERTHERMIA, which occurs when the internal temperature of our body reaches levels above the normal temperature of 36.5°C.

Symptoms of hyperthermia include a sudden drop in blood pressure and in consequence a feeling of faintness with the possibility of fainting.

- The Spa water should never exceed 40°C.
- Water temperatures of between 37°C and 40°C are considered safe for adults who have no health problems. Lower temperatures are recommended for most people and for children.
- Remember that prolonged bathing in the Spa can cause hyperthermia.

1.2.3. Warnings for maintenance works

- Before proceeding to carry out any electrical or mechanical intervention, please ensure the machine is disconnected from the power supply network and that the start up devices are blocked.
- Do not handle the equipment with wet feet.



THE USE OF ALCOHOL, DRUGS OR MEDICATION MAY INCREASE RISK OF HYPERTHERMIA.

IT IS UNADVISABLE FOR PREGNANT WOMEN TO USE THE SPA. CONSULT WITH YOUR PHYSICIAN.

2. DESCRIPTION OF THE INSTALLATION PROCEDURE

2.1. GENERAL DIAGRAM

2.1.1 Spa with Overflow

Spas with overflows can redirect the water displaced by users into a balance tank, always maintaining a stable water level inside the Spa tub.

Below is a general diagram of the installation of this type of Spa.

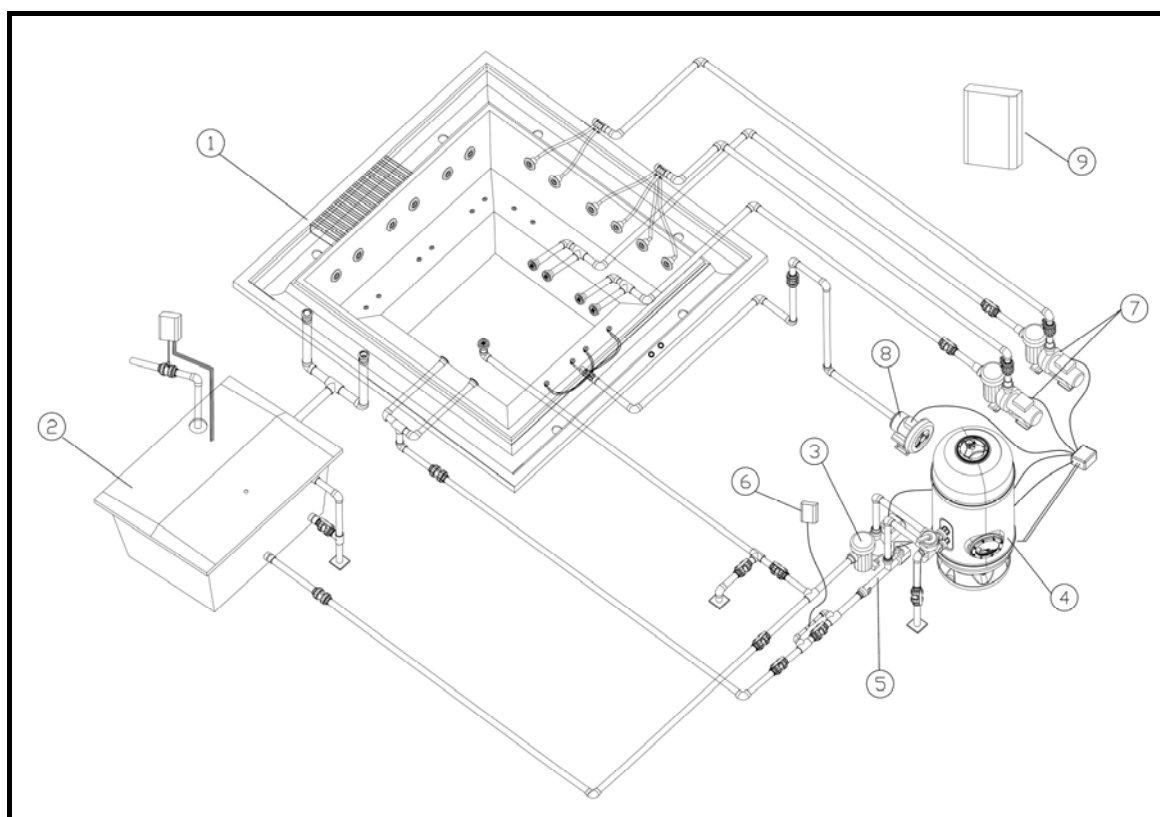


Fig. 1 General diagram of Spa with Overflow.

1	Spa	6	Ozonator
2	Balance tank	7	Massage pumps
3	Filter pump	8	Blower pump
4	Filter	9	Electric operation cabinet
5	Electric heating		

2.1.2 Spas with Skimmer

Spas without overflows have a different setup. No balance tank is required; instead, the Spa water is suctioned directly via a skimmer. When users enter the Spa, the water level rises; the tub may overflow if the number of users exceeds the indications for each Spa.

Below is the general diagram of the installation of Spas with skimmers.

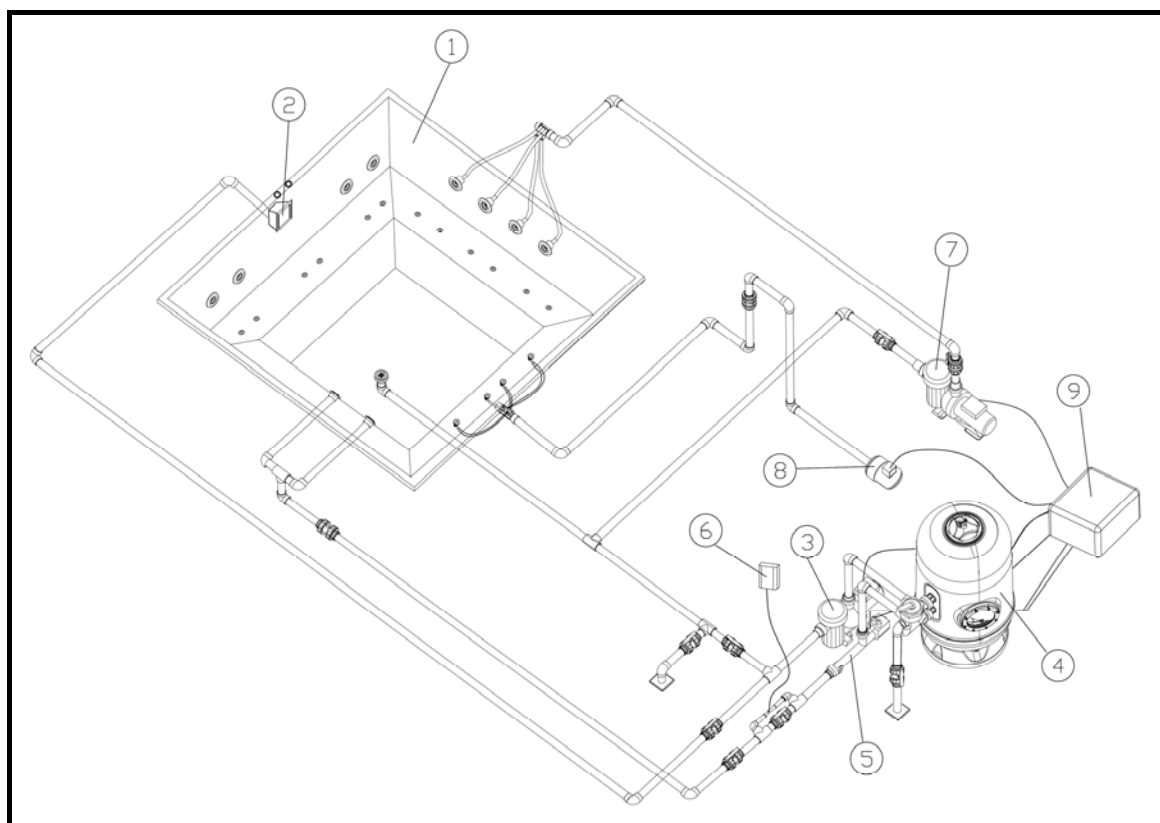


Fig. 2 General diagram of Spa with Skimmer.

1	Spa	6	Ozonator
2	Skimmer	7	Massage pump
3	Filter pump	8	Blower pump
4	Filter	9	Electric operation cabinet
5	Electric heating		

The installation of both Spas with overflows and Spas with skimmers include the recirculation circuit, water massage, air massage and an electrical installation, all of which are detailed below.

2.2. RECIRCULATION CIRCUIT

The function of this circuit is to maintain the quality of the Spa water. This is achieved by means of water recirculation through a purification filter, a heating system and a disinfection system.

2.2.1 Recirculation circuit in Spas with Overflows

Given that the Spa has an overflow, it is essential to maintain the water level constant and at maximum level. In order to achieve this, it is necessary to install a balance tank installed in series with the recirculation circuit. Doing so will compensate the fluctuations in level caused by variations in the number of bathers.

Although there are different ways of setting up the recirculation circuit, we proceed to detail the two most popular systems: "Floor suction" and "Floor return". Check the regulations in force in each country in order to establish which system is best.

OPTION A: SPA FLOOR SUCTION

This option makes it possible to collect part of the recirculation water from the Spa floor drain.

The filtered water is absorbed both from the balance tank (mostly) and the Spa floor drain via the filter pump, and is directed towards the sand filter, the heating and the ozonator or disinfection system; to be directed towards the Spa via the return nozzles.

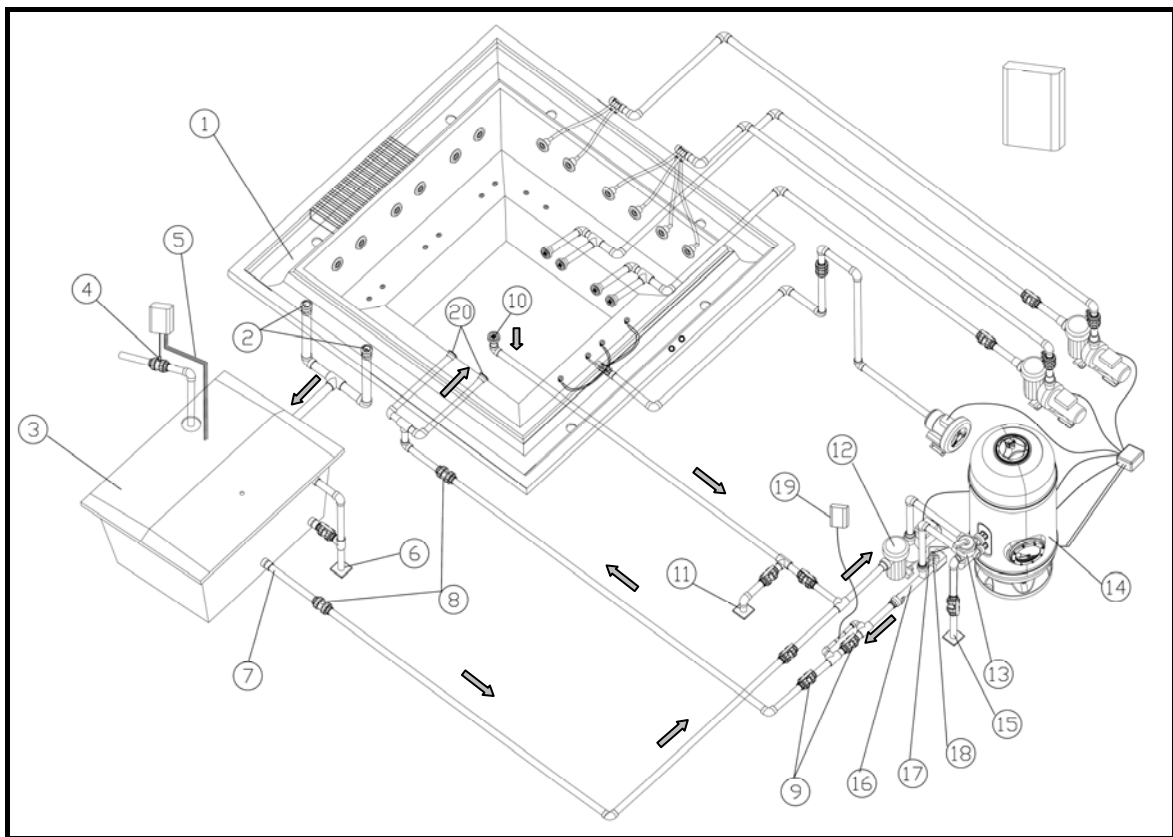


Fig. 3 Recirculation diagram of Spa with Overflow Option A.

1	Overflow	11	Spa drainpipe
2	Overflow drains	12	Filter pump
3	Balance tank	13	Selector valve
4	Filling solenoid valve	14	Filter
5	Level probes	15	Filter drainpipe
6	Balance tank drain	16	Electric Heating
7	Balance tank suction	17	Temperature Probe
8	Anti-return valve	18	Flow detector
9	By-pass valve	19	Ozonator
10	Drain	20	Spa return nozzles

OPTION B: SPA FLOOR RETURN

This option allows you to direct part of the already filtered and heated water both via the return nozzles and via the Spa floor drain.

The filtered water is only suctioned from the balance tank by the filter pump and is directed toward the sand filter, the heating and the ozoniser or disinfection system, to then be directed towards the Spa via the return nozzles and the Spa floor drain.

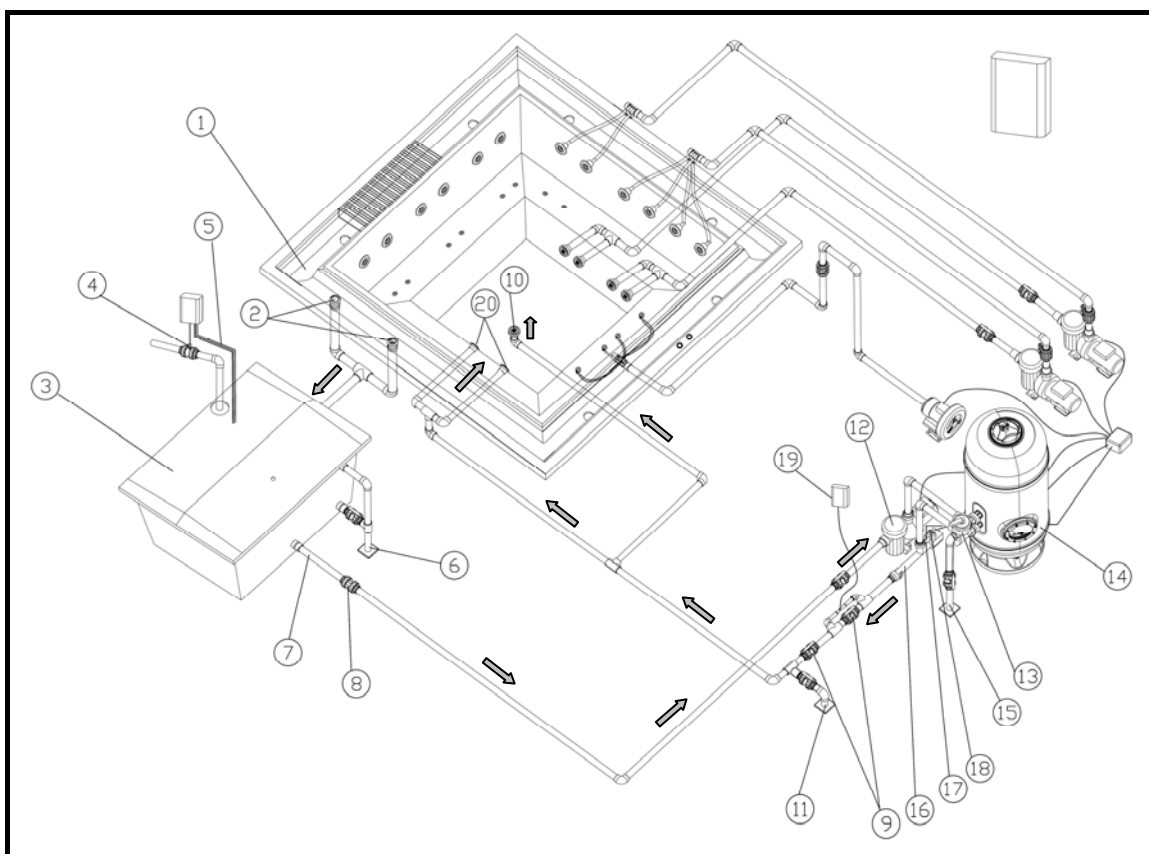


Fig. 4 Recirculation diagram Spa with Overflow Option B.

1	Overflow	11	Spa drainpipe
2	Overflow pipes	12	Filter pump
3	Balance tank	13	Selector valve
4	Filling solenoid valve	14	Filter
5	Level probes	15	Filter drain
6	Balance tank drain	16	Electric heating
7	Balance tank suction	17	Temperature probe
8	Anti-return valve	18	Flow detector
9	By-pass valve	19	Ozonator
10	Drain	20	Spa return nozzles

2.2.2 Recirculation circuit in Spa with Skimmer

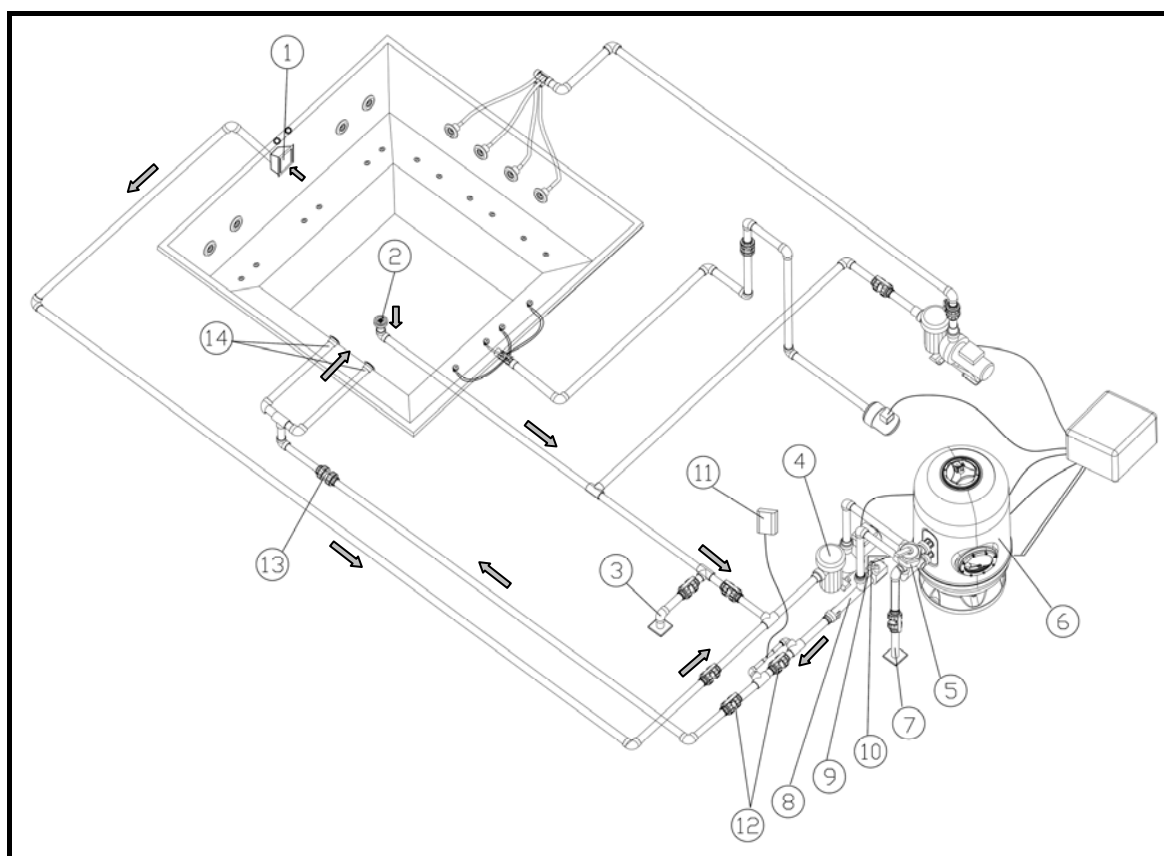


Fig. 5 Recirculation diagram Spa with Skimmer.

1	Skimmer	8	Electric heating
2	Drain	9	Temperature probe
3	Spa drainpipe	10	Flow detector
4	Filter pump	11	Ozonator

5	Selector valve	12	By-pass valve
6	Filter	13	Check valve
7	Filter drainpipe	14	Spa return nozzles

The basic components present in all heating circuits are:

Filter pump.

Designed to carry out the filter and heating circuit, recycling the water of the Spa in approximately 6 to 20 minutes. Suctions from the Skimmer or Surge Tank, directing the water through the filter and electric heating, via the return nozzle.

Fig. 6 Photograph of Generic Filter Pump.



Electric heat exchanger.

This makes it possible to maintain the desired temperature. It must be placed in the filter circuit after the filter, so as to avoid air bubbles accumulating inside.

The heat exchanger incorporates a safety thermostat with manual reset. This avoids the heat exchanger from being damaged if the Spa is started up without any water circulating.

Fig. 7 Photograph of Generic Heater.



Filter.

Element which filters in order to ensure the water is of an adequate quality.

The size of the filter is determined on the basis of:

- Volume of the Spa.
- Water recirculation time.
- Filtering speed.
- Filtering surface.

Flow detector.

Safety device designed to prevent the heat exchanger from operating if there is no water flow in the filtration circuit.

2.3. WATER MASSAGE CIRCUIT

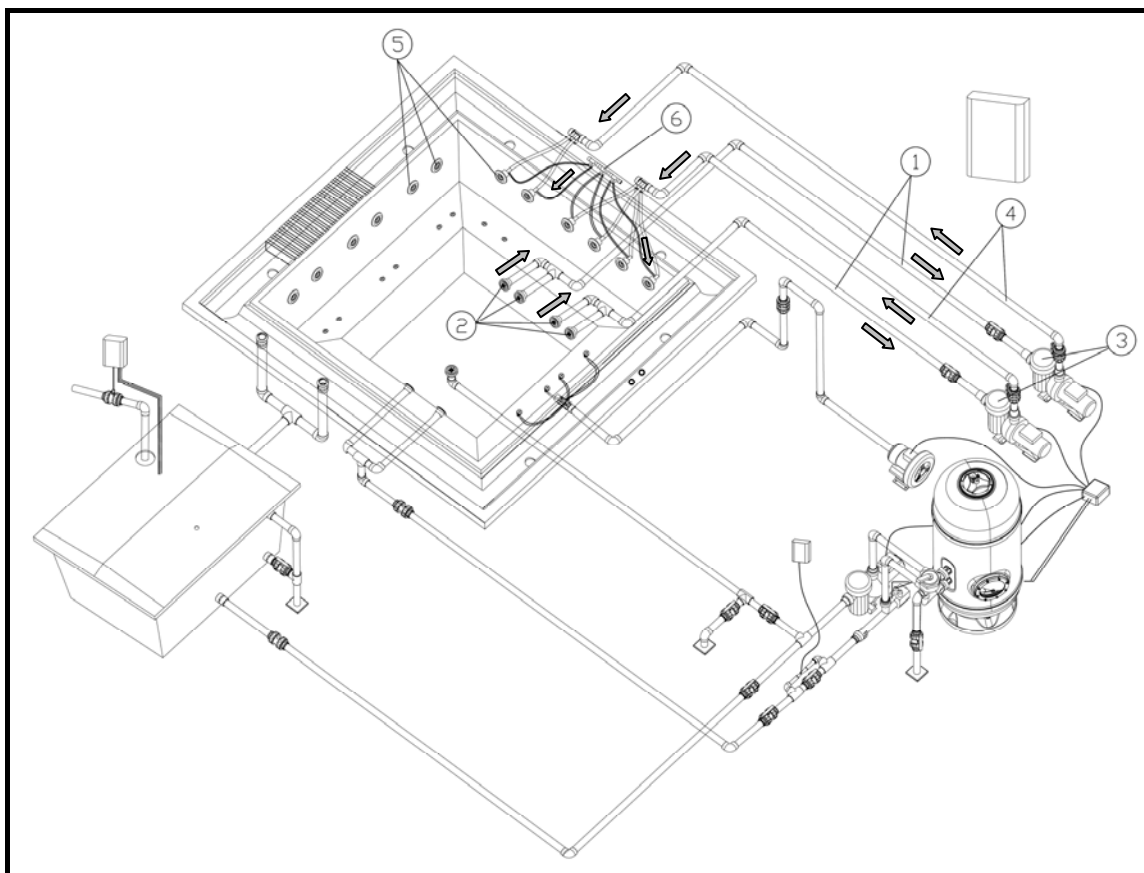


Fig. 8 Water Spa Massage Diagram.

1	Suction circuit	4	Water return circuit
2	Spa suction drainpipes	5	Massage jets
3	Massage Pump	6	Air suction circuit

The water is suctioned by the massage pump through the drainpipes and is returned to the Spa via high speed jets.

There can be several massage circuits in a single Spa, each activated by a massage pump. Depending on the Spa and the number of jets it has, there may be one, two or even three massage pumps.

In order to boost the water massage a connection is made with an ambient air intake. This way, when the water circulates through, thanks to the Venturi effect, the air is suctioned, creating the air-water mix and producing a more intense massage.

2.4. AIR MESSAGE CIRCUIT

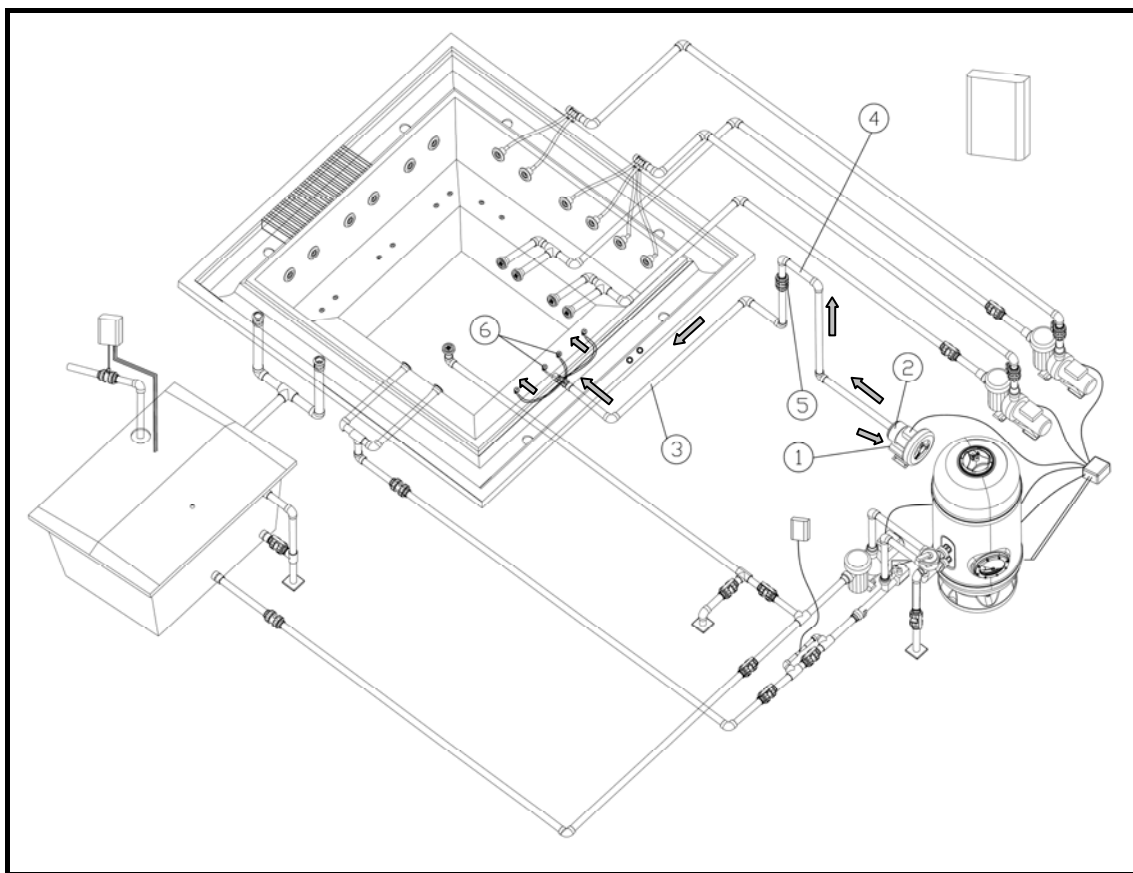


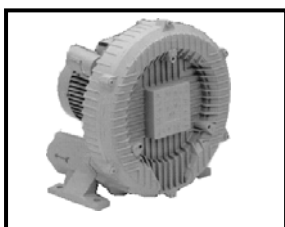
Fig. 9 Diagram of Spa Air Massage.

1	Air suction	4	Protection siphon
2	Blower pump	5	Check valve
3	Air return circuit	6	Air injection nozzles

Blower pump.

Designed in accordance with the air flow necessary for the blowing nozzles.

There are 2 types of pumps for Compact Kits:



- Continued use blower pump for Compact Kit in public use installations. They operate with a 400 V AC III electrical supply as standard.

Fig. 10 Continued use blower pump. Generic photograph.



- Discontinued use blower pump for Compact Kit in private use installations. They operate with a 230 V AC II electrical current as standard.

Fig. 11 Discontinued use blower pump. Generic photograph.

Air circuit.

The mission of the air circuit is to return air from the blower pump to the Spa. The air is distributed inside the Spa via a series of blowing nozzles located on the floor or on the seats of the Spa.

2.5. GENERAL ELECTRIC DIAGRAM

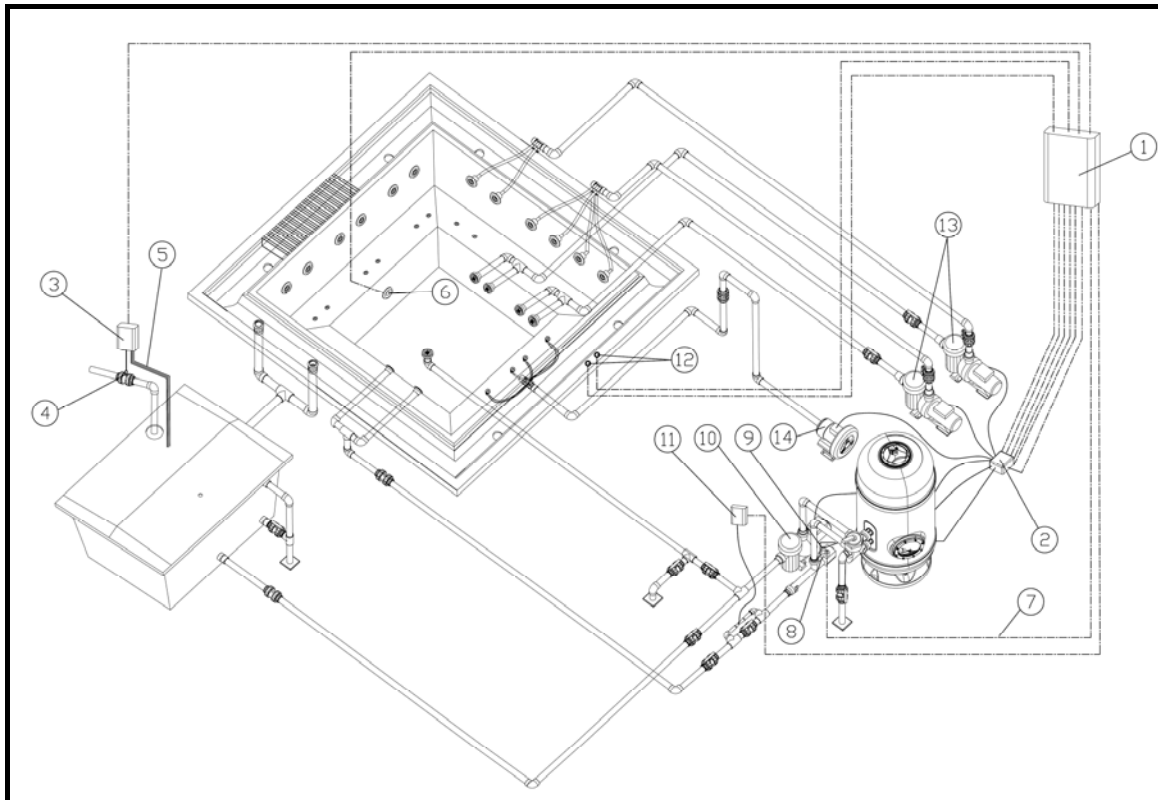


Fig. 12 General Electric Diagram

1	Main electricity cabinet	7	Electric heating
2	Junction box	8	Temperature probe
3	Tank level probes control	9	Flow detector
4	Filling solenoid valve	10	Filtration pump
5	Level probes	11	Ozonator
6	Projector	12	Air / water massage push buttons

All electrical components of the Spa must be connected to the main electricity cabinet.

The cabinet is in charge of controlling the different pumps, programming the filter cycles, controlling the heating, the level of the balance tank, the provision of water to the network, the operation of the lamp, the ozonator ... And it also receives and manages the signal of the push buttons for the activation of the massages.

3. INSTALLATION - RULES TO FOLLOW

3.1. FITTING AND INSTALLING THE SPA

Handling of the Spa must be done very carefully and in a controlled manner by several persons. The Spa must never be held by the pipes.

The Spa should be installed following the criteria below.

No material should be used or located below the Spa and around it (in a minimum perimeter of one meter) unless it is completely resistant to humidity and water. The Spa warranty does not cover any damage to materials, decorative or ornamental objects that may deteriorate due to flooding or atmospheric humidity.

The Spa must be located in a duly adapted space which is adequate for withstanding significant damp and condensation. If this is not so, the warranty will not cover material or personal damages.

It is essential to have an adequately sized drain for draining out any water that could reach the area under the Spa.

The base where the Spa will be installed should be large and strong enough to withstand the weight of the Spa, the water and the users. If this is not so, the warranty will not cover the damages caused. Check the building regulations in force.

Prior to the installation, if you believe that for any reason you may have to extract the Spa from its initial location, you should take this factor into account, and avoid having to break down masonry or structures and pipes should the Spa have to be unassembled. The warranty does not include repair of any damages caused in this instance.

Below we provide some basic advice as to how to build foundations for the Spa. It is essential to comply with building regulations in force in all cases.

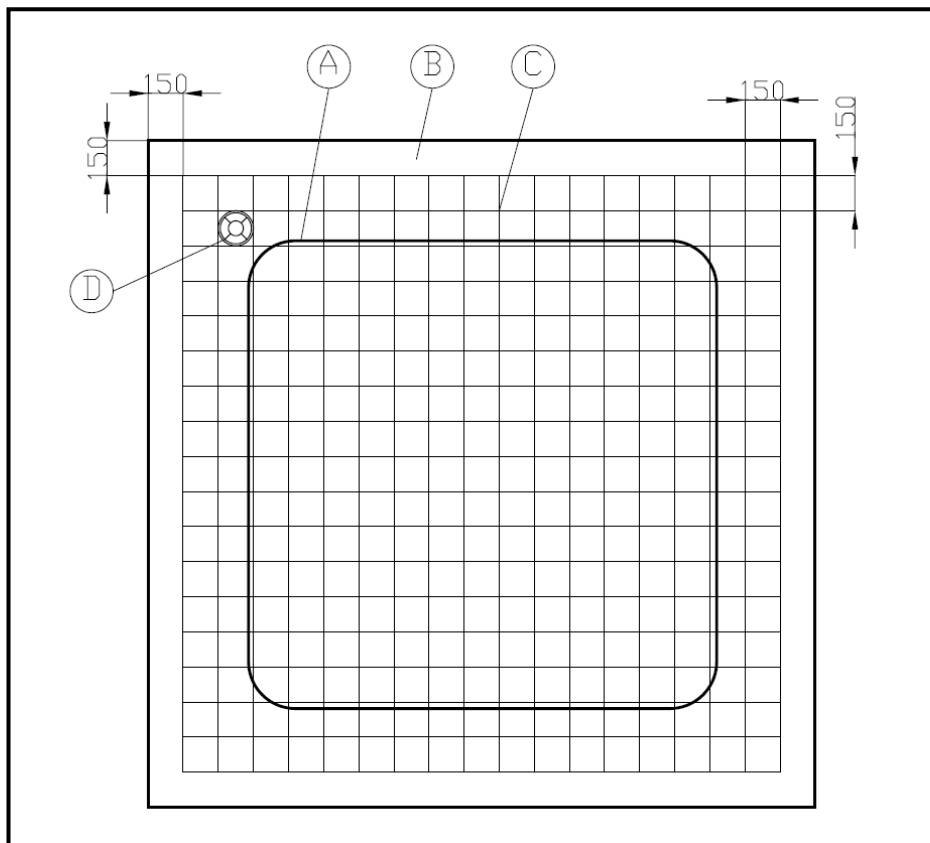
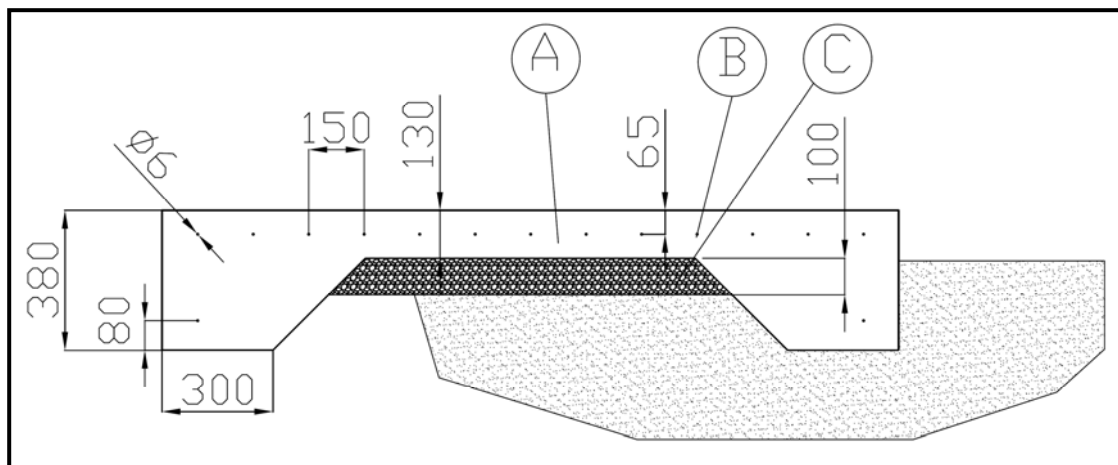


Fig. 13 Foundations Diagram.

All measurements in mm.

- A) Spa surroundings.
- B) Reinforced concrete slab.
- C) Equidistant reinforcement rods in both directions.
- D) Cubicle drain.

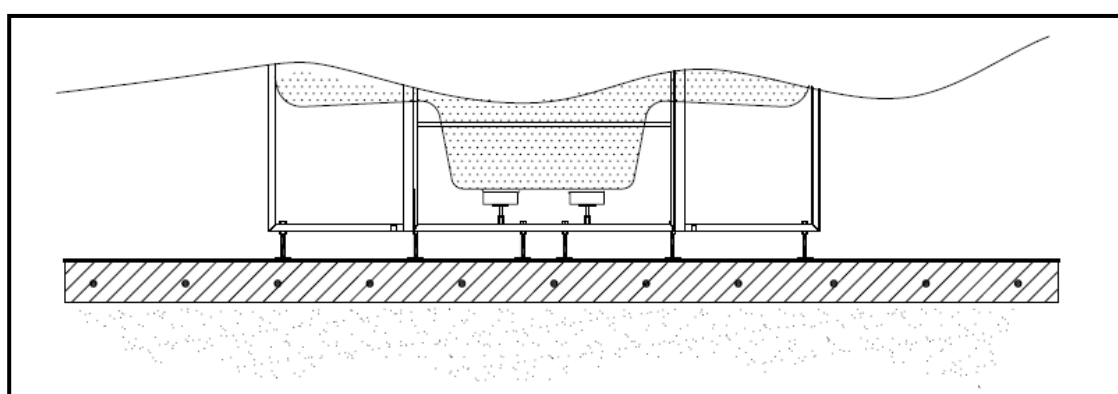


A: Concrete slab B: Steel rod C: Compacted sand

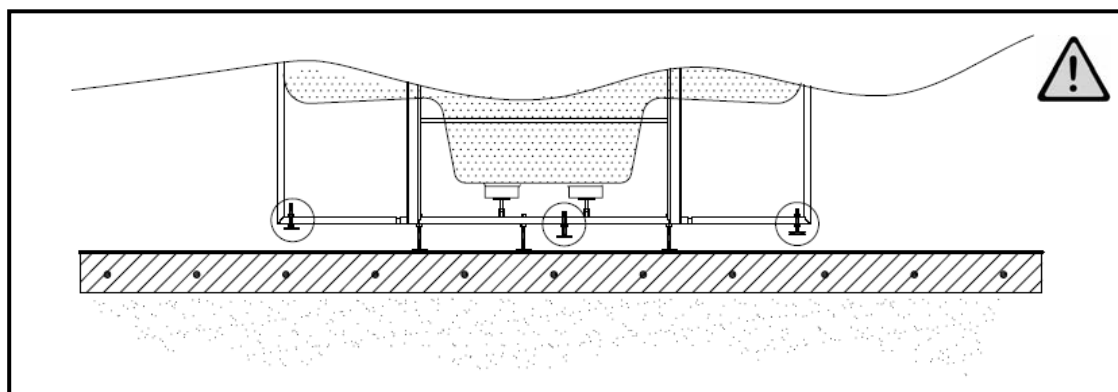
All measurements in mm.

Fig. 14 Detail of Foundations.

The Spa is supplied with a metal structure to make installation easier. This structure has several support points. Before filling up the Spa, these levelling points must be regulated so that all of them are in contact with the ground.



RIGHT



WRONG

Fig. 15 Diagram of Spa height regulation.

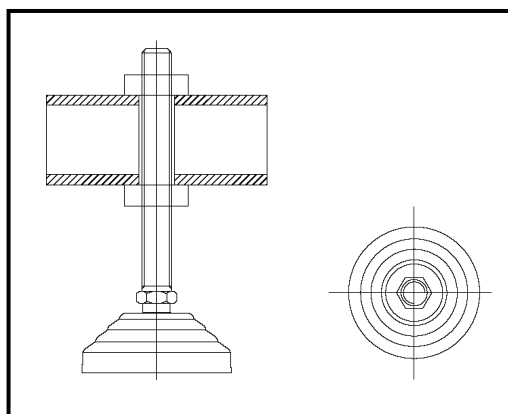
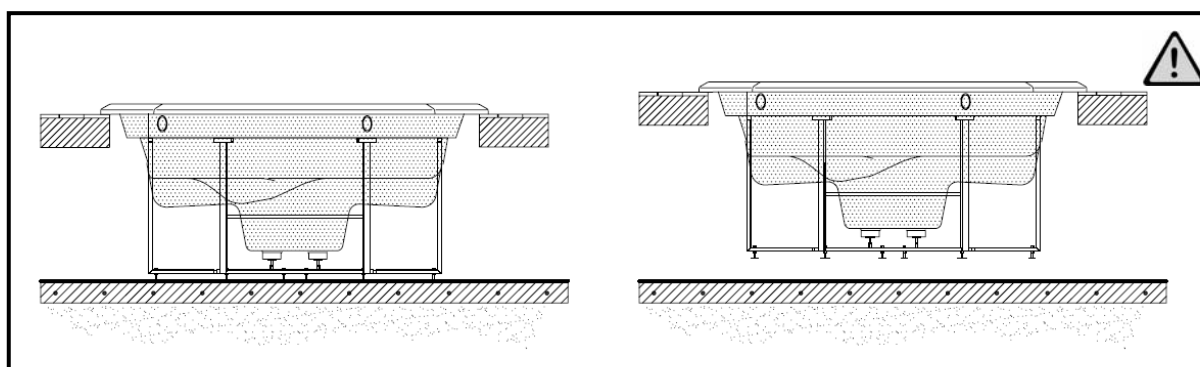


Fig. 16 Detail of regulation support.

The Spa must be completely supported by the support structure, and must never be supported by its upper edge; otherwise the possible bending would cause the Spa shell to break.



RIGHT

WRONG

Fig. 17 Spa support diagram.

In order to seal the lip of the Spa to the foundations, use elastic silicone special for water installations.

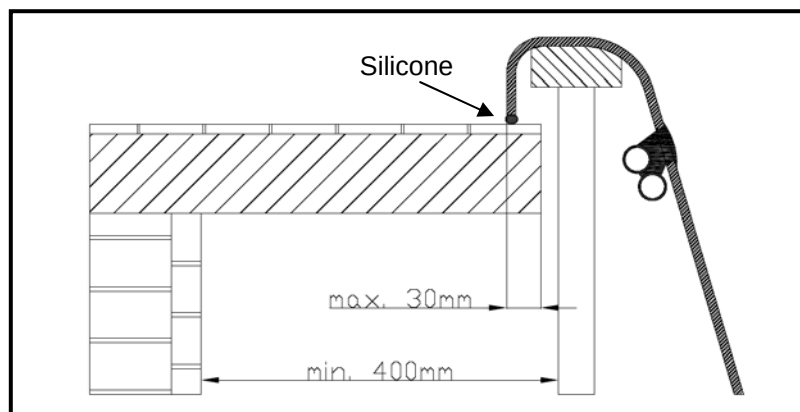


Fig. 18 Detail of Lip Sealing.

Once the Spa has been correctly fitted, finish the installation taking into account that you must leave a free passage of at least 400mm around the shell for possible maintenance works. Never place elements that may touch the body of the Spa, pipes or accessories in this area. Leave a trapdoor or access way around the Spa for maintenance.

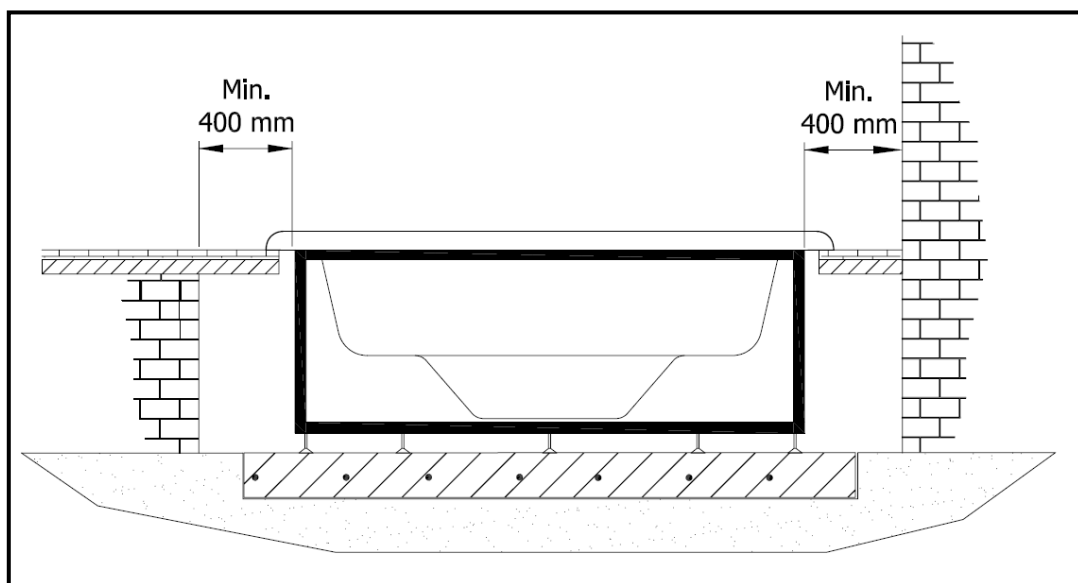
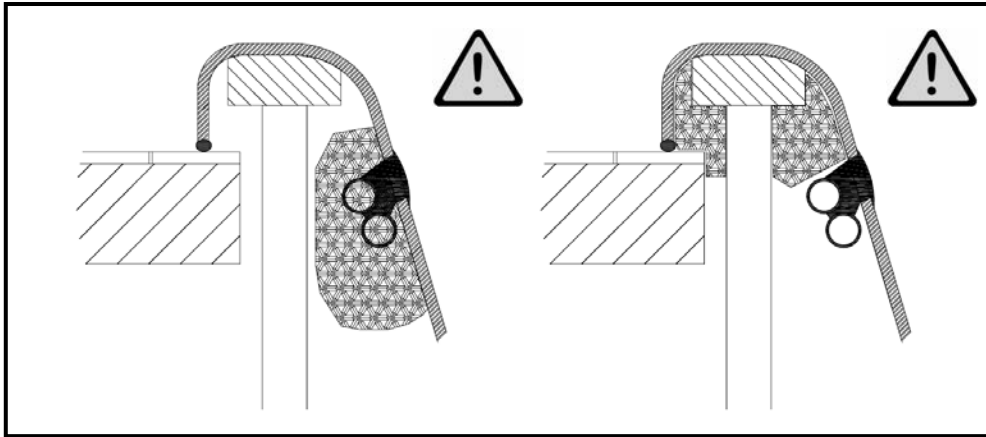


Fig. 19 Diagram of minimum distance around the Spa.

Never fill in the Spa's upper edge with cement or any other material that may have an expansion / contraction different to that of the Spa shell. The Spa would end up cracking.

Never fill in with concrete the Spa's pipes or accessories.



WRONG

Fig. 20 Detail: Do not fill in.

3.2. FITTING AND INSTALLING THE KIT



Avoid any location in which water may enter the electrical equipment compartment.

Place the kit in a location near the Spa. The maximum distance at which the kit may be installed with regard to the Spa is 7 metres ($D \leq 7\text{m}$).

Warning: this maximum distance refers to the route of the connection pipe between the kit and the Spa.

If it were not possible to respect these measurements, you will have to contact your supplier.

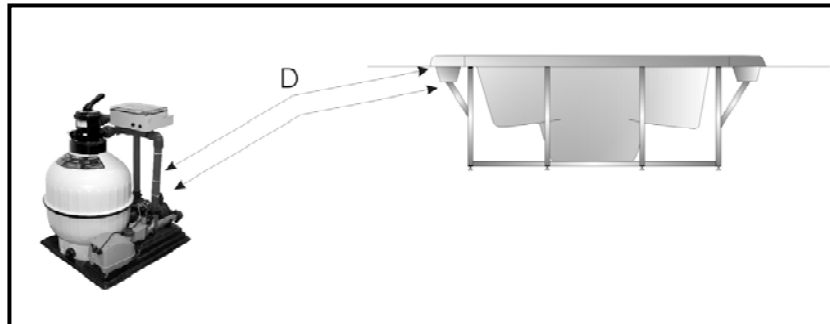


Fig. 21 Diagram maximum distance Spa - Kit.

The compact kit must be below the Spa level. This avoids having to prime the pumps. The maximum difference in level is 2 metres below ($h \leq 2\text{m}$).

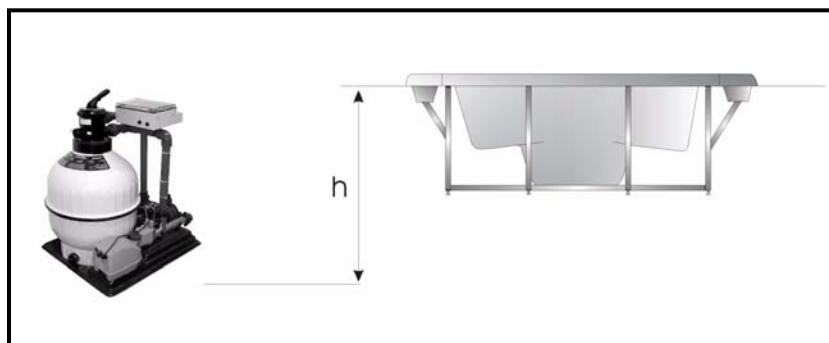


Fig. 22 Diagram maximum height Spa – Kit.

Spas with overflow have a balance tank, which has a double function:

- Absorbing the water displaced by the people who enter the Spa.
- Ensuring the filtration pump is never left without water.

To correctly install this tank, it should be placed as near as possible to the Spa, below the level of the overflow, so that the overflow can evacuate all the water.

3.3. CONNECTION OF THE SPA TO THE KIT

Use a hard pipe or flexible hose of an appropriate resistance. Check the regulations in force in each country. You must use the same pipe diameter as that of the Spa's connection; these diameters are sized for optimal performance of the kit. Use the right glue for each material.

In any case, it will be necessary to minimize the installation of elbow fittings and pipe length to reduce the drop of pressure in the installation.

The Spa's connections with couplings are marked with stickers indicating the circuit and the water flow direction.

To assemble the circuits, follow the diagrams described in **section 2** and take into account the assembly indications indicated below.

Before and after each pump and on the heat exchanger outlet, place a ball or guillotine valve for carrying out maintenance or replacements on these elements.

3.3.1. Connection of the Recirculation Circuit

3.3.1.1 SPA WITH OVERFLOW:

Spa Connection – Balance Tank

Connect the overflow pipes to the balance tank. The pipes should be sloping sufficiently to ensure the water evacuates by gravity. Under no circumstance should siphons be created that could prevent water circulation.

The diameter of the pipes for collecting water from the overflow should be calculated in such a way that the water does not exceed the recommended speed by the regulations in force.

Connect a drainpipe in the upper part of the balance tank; its function is to evacuate possible excess water preventing the deposit from overflowing.

Connect the balance tank outlet with the filter pump suction, placing a check valve between the deposit and the pump. The outlet will have to be placed below or at the same level as the bottom of the balance tank.

Connection between Balance Tank – Compact Kit

Connect the filter pump outlet to the filter's selector valve (depending on the kit model, this connection may already been made).

Connect the selector valve outlet with the water inlet of the heat exchanger (depending on the kit model this connection may already be made).

If your Spa has the ozone option, follow the instructions indicated in the **Ozoniser installation sheet** now.

For the selector valve connections, always use plastic accessories, gasket and Teflon tape. Under no circumstance should you use metal accessories or tubing, which could seriously damage the plastic components.

Connection between Spa – Compact Kit

If your spa has a spa floor cleaning connection; connect the floor cleaning outlet with the filter pump inlet making the connection in parallel with the other inlets to this pump. You must place a ball valve between the outlet and the pump which will normally remain closed.

Option A Spa Floor Suction (see Fig. 3): Connect the Spa floor drain to an inlet in parallel to the filter pump. Place a ball or guillotine valve between this connections.

Option B Spa Floor Return (see Fig. 4): No operation is required.

Connection between Compact Kit – Spa

Connect the heat exchanger with the Spa filter return sleeves.

Option A Spa Floor Suction (see Fig. 3): Place a check valve between the exchanger outlet and the inlet to the spa.

Option B Spa Floor Return (see Fig. 4): Connect the exchanger outlet with the Spa floor drain, in parallel with the filter return via the return nozzles.

Installation of level probes

In order to ensure that the recirculation circuit always contains water, you must install the level probes in the balance tank. These will control the opening and closing of a filling solenoid valve. Look at the following diagram.

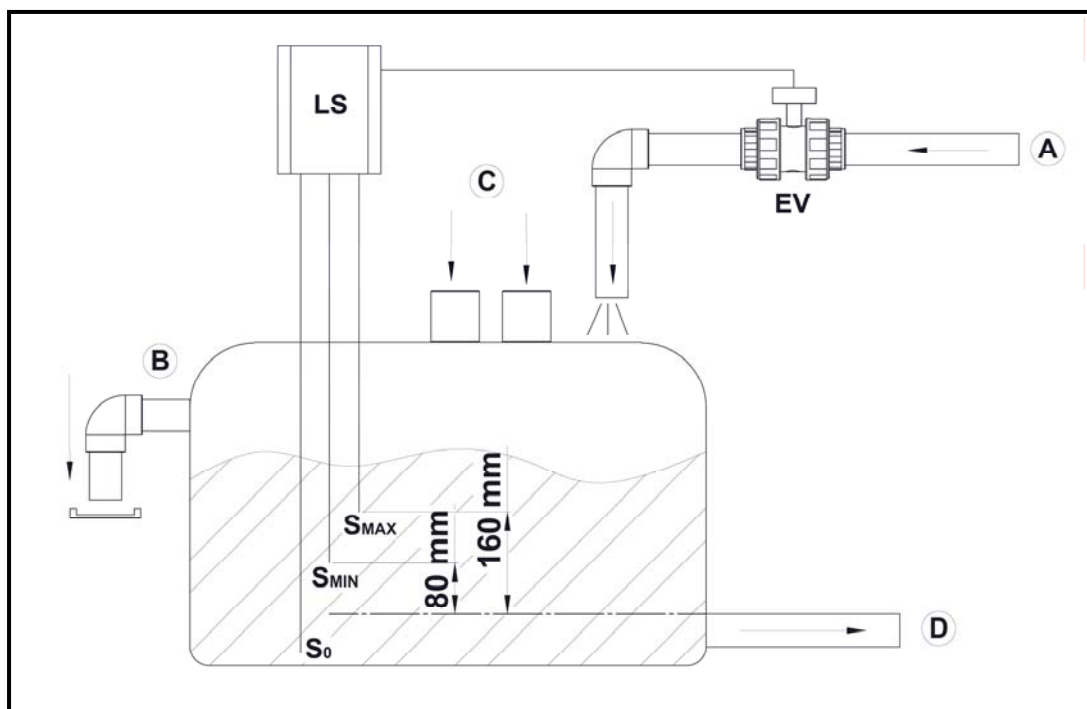


Fig. 23 Diagram of Installation of Surge Tank.

S_0	Safety probe	A	Network water inlet
S_{MIN}	Minimum level probe	B	Deposit overflow
S_{MAX}	Maximum level probe	C	Spa overflow water inlet
LS	Level control cabinet	D	Water outlet towards filtration
EV	Electric valve (not included)		(Levels in millimetres)

Probe S_{MIN} will be placed 80 mm above the tank outlet (pipe leading to the filter pump) and probe S_{MAX} will be placed 160 mm above said outlet. Probe S_0 will be placed on the tank floor. Levels are approximate and calculated on the basis of a 1,000 to 2,000 litre Balance Tank.

Electric valve **EV** will be activated (the tank will start filling) when the level drops to below S_{MIN} and will be deactivated when it exceeds S_{MAX} .

In order to install level probes:

- Take the three probes from inside the electric switchboard (probe cabinet). Fully tighten in the screw and then take off the plastic sleeve.
- Take the 1mm² cross section cable, connect it to the core and put the plastic sleeve back on the sensor. Repeat the procedure with the other sensor.
- Connect the probes to the electrical probe switchboard, terminals 5, 6 and 7.
- Connect the power supply of the electric valve to the electrical probe switchboard, terminals 3 and 4.
- Connect the power supply of the electrical probe switchboard (terminals 1 and 2) to the main control cabinet.

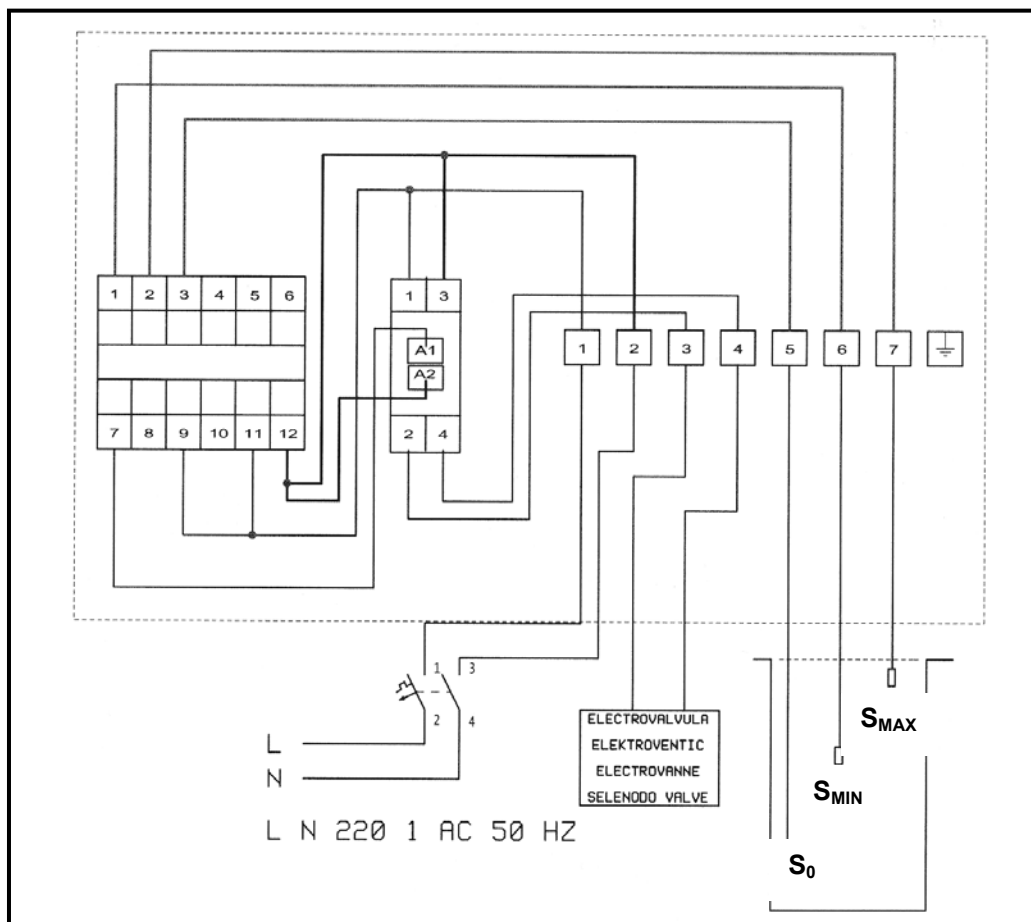


Fig. 24 Diagram of electrical switchboard controlling level probes.

Place silicone between the connection of the probe and the cable in order to avoid false contacts caused by water oxidation.

3.3.1.2 SPA with SKIMMER:

Connection Spa – Compact Kit (See Fig. 5)

Connect the skimmer outlet with the heat exchanger inlet.

Connect the Spa floor drain with the filtration pump inlet in parallel to the rest of the inlets.

Connect the filtration pump outlet to the filter's selector valve (depending on the kit model, this connection may already be made).

Connect the selector valve outlet to the water inlet of the heat exchanger (depending on the kit model, this connection may already be made).

If your Spa has the ozone option, follow the instructions indicated in the **Ozonator installation sheet** now.

For the selector valve connections, always use plastic accessories, gasket and Teflon tape. Under no circumstance should you use metal accessories or tubing, which could seriously damage the plastic components.

Connection Compact Kit– Spa (See Fig. 5)

Connect the heat exchanger outlet with the Spa's filter return nozzles, placing a check valve in this connection.

3.3.2. Connection of the Water Massage Circuit

(See Fig. 8). Connect the pipe to the water suction drains with the inlet to the massage pump (each pump will suction the water of 2 drains).

Connect the outlet of each of the massage pumps to the connections in the Spa battery that will guide the water to the jets.

Place a ball or guillotine valve in the inlet and outlet of each pump.

3.3.3. Connection of Air Massage Circuit

(See Fig. 9). Leave the air pump inlet free and connect the pump outlet to the Spa's corresponding connection.

Note: It is essential to install a 150mm siphon above the maximum water level and to place a check valve between the siphon and the Spa.

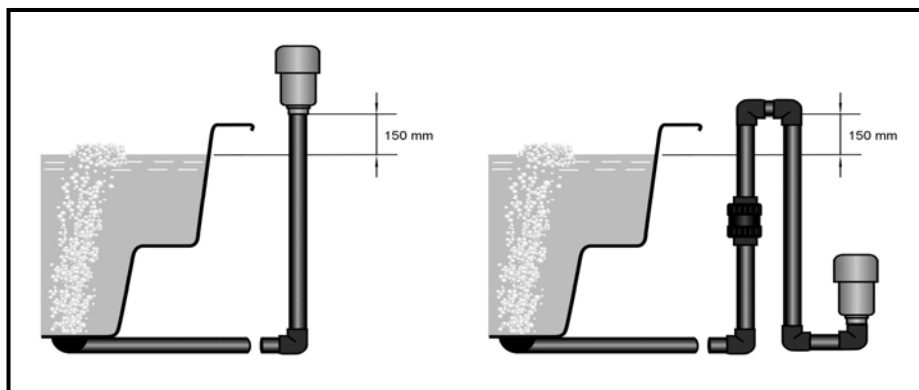


Fig. 25 Diagram of installation of air circuit siphon.

3.4. ELECTRICAL CONNECTION

The main electricity cabinet is in charge of controlling all of the Spa's functions. Consult the following manuals which explain in detail each of the connections to make and the cable cross sections to use:

- **Operation Manual for Compact Kit for Public Use.**
- **Installation and Operation Manual for Compact Kit for Private Use.**

Once the connections specified in the above manuals are made, **keeping the main circuit breaker on the OFF position**, connect the kit to the operation cabinet and in turn the operation cabinet to the power supply, previously checking the voltage.

3.5. START UP

With the main circuit breaker on the OFF position, clean the Spa shell to avoid particles of the works being absorbed and obstructing the components or circuits.

Open all the valves except the drainage.

a) Spas with Overflow and Balance Tank:

Open the Spa's filling valve and fill up the Spa until the water exceeds the S_{MAX} level of the balance tank by 5 to 8 cm.

Important: When you start up the filtering equipment for the first time, the water level of the balance tank will decrease substantially. This is due to the fact that the piping between the balance tank and the Spa, filter and pump is practically full of air.

b) Spas with Skimmer:

Fill up the Spa up to the line marked on the Skimmer. The water should never be below this level.

Wait for 15 minutes and inspect all the connections to ensure there are no leaks.

Provide electrical power to the cabinet by switching on its main circuit breaker (ON position).

Start up the filter pump, the massage pump and the air pump and check that there are no leaks in the pipes and connection elements after 30 minutes of operation.

Stop the filter pump and fill the water filter up to half, and then subsequently fill with sand (the type of sand to be used is specified in the Filter Manual annexed to the Compact Kit).

Place the selector valve of the filter with the lever in the wash position. Manually activate the filter pump; carry out a wash in the filter lasting approximately 2 minutes, stop the pump and set the lever to the rinse position. Start up the pump again and rinse for approximately 15 seconds.

Stop the pump and change the lever to the filter position. Fill up the Spa once again.

Program the thermostat to the desired temperature. Read the Compact Kit manual. (Reaching the desired temperature after filling up the Spa may take several hours).

Program the filter clock. (Read the Compact Kit Manual).

In the main electrical cabinet, activate the massage and heating switches. Set the filtering switch to the desired position, and the Spa will start to function carrying out the filtering and heating cycle.

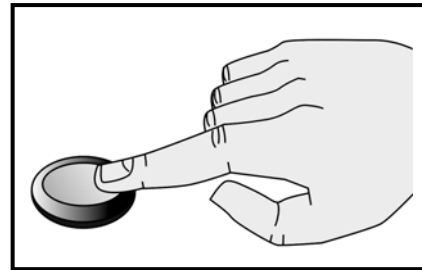
Once these checks have been made, fill in the attached Warranty form and send it to the manufacturer.

3.6. OPERATION

Once the Spa has been installed by authorised personnel and filled up with water to the level indicated, the operation of the air and water massage circuits will be controlled through pneumatic or electronic push buttons (depending on the Spa features).

The push buttons activate the water massage pumps and the air blower pump.

Once both circuits have been activated, they can be stopped by pressing their respective push buttons. Should the massage function be left on, if the kit includes timers the pumps will stop when the programmed massage time has elapsed. Check the compact kit manual.



The water jets provide a pressure hydrotherapy jet. It is a closed circuit, where the water is absorbed through one or more pumps (depending on the Spa model) via drains and taken to the different jets.

When the circuit water mixes with ambient air, the hydromassage effect produces in the jet an effect called Venturi.

Depending on the Spa model you may graduate the quantity of air expelled by the jets, you just need to twist the air inlet dial (Venturis) as follows:

- Turning the dial diminishes the amount of air mixed in the jets. This causes a decrease in the intensity of the jet.
- Turning the dial anti-clockwise increases the amount of air mixed in the jets. This causes an increase in the intensity of the jet.



Each air inlet activates a specific group of jets.

If your Spa does not have adjustable air inlets, they will be fully open by default.

Jets can also regulate the intensity of the flow by opening and closing the water flow. To do so, proceed as follows:

- Turning the outer dial clockwise a quarter of the way, the jet will be closed.
- Turning the outer dial anti-clockwise, the jet will be opened.



WARNING! – Do not try to force turning the outer dial of the jet, as it may lead to malfunctions or leaks.

4. MAINTENANCE

Spas are built to the highest standards with the most durable materials available. The right maintenance and care will be key factors to ensure your Spa and its components have a long life.

4.1. MAINTENANCE OF THE ACRYLIC

Easy care for an elegant surface:

- Use common cleaners for general use. For normal care and cleaning, use a soft cloth or sponge with a little soap and water. Rinse it well, and dry with a clean, dry cloth. If you are using a household cleaner, please ensure it is recommended for acrylic surfaces by the manufacturer.
- 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, smears and dry dirt with a soft, moist cloth.
- Clean off grease, oil, paint and ink stains with isopropyl alcohol and dry it with a clean, dry cloth.
- Avoid using razors or any other kind of sharp instrument that could scratch the surface. Small scratches can be removed by applying a fine layer of automotive varnish and lightly polishing it with a clean cloth.

Once a week, clean the area of the Spa which is not under water with a quality polish for Spas.

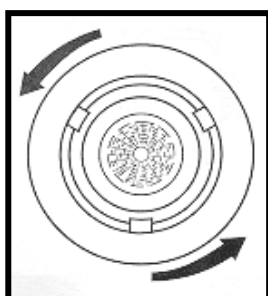
Remember to never leave the Spa uncovered, empty and exposed to the sun, as it could cause damages that the warranty does not cover.

4.2. MAINTENANCE OF THE SPOTLIGHT

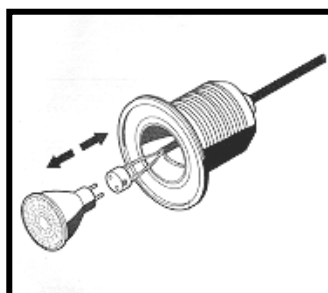
(Only for Spas with this option).

The only maintenance needed by the spotlight is changing the bulb. To change it, follow these steps:

- Ensure that the main circuit breaker is on the *OFF* position.
- Empty the water from the Spa.
- Unscrew the spotlight cover (see figure) and then proceed to extract its transparent screen. This operation must be made with the white ABS tool supplied with this manual.



Turn left and extract



- Carefully extract the bulb or LEDs of the reflector and separate from the holder.
- Change the bulb and proceed to assembling the spotlight following the above steps backwards.

- It is essential to ensure that the projector is perfectly watertight; otherwise, water could enter the device and could harm the bulb or LED.

WARNING:

Before handling the spotlight in any way, ensure that it is NOT connected to the power supply.

The new bulb must have the same features as that supplied with the spotlight:

- For halogen lamps: 50W 12V AC halogen with aluminised reflector.
- For LED lamps: 11W RGB, 15W white, 12V AC.

Under no circumstance should you install lamps without a frontal lens.

In order to ensure watertightness, you must clean the seat of the flush joint of the fitted glass or replace it if it shows any dents or permanent deformation.

4.3. MAINTENANCE IN PERIODS OF NO USE OR ABSENCE

SHORT PERIODS (3-5 DAYS)

- Adjust the pH and treat the water (see section on water Maintenance)
- Cover the Spa
- On your return, readjust the pH and treat the water again.

LONG PERIODS (5-14 DAYS)

- Program the temperature at its lowest level.
- Adjust the pH and treat the water (see section on water Maintenance).
- Cover the Spa
- On your return, reset the temperature to the desired level, readjust the pH and treat the water again.

PREPARING FOR THE WINTER PERIOD

Should you not be using the Spa during the winter or during long periods, you must carry out the following operations:

- Disconnect the electrical equipment.
- Empty the water from the Spa.
- Leave the drain valve open.
- Clean and dry the Spa.
- Cover the Spa.

You should not leave water in the Spa without an electrical connection outdoors in temperatures below 0°C, given that the pipes could freeze and damage the Spa.

It is necessary to comply with Regulations in force in each country regarding Legionella. All responsibility for compliance with these falls on the owner of the Spa.

4.4. MAINTENANCE OF THE WATER

Water maintenance is one of the areas where the user should provide greatest attention, given its importance. This maintenance will depend on the mineral content of the water used, of the Spa's frequency of use, and of the number of people using the Spa.

There are three main points to take into account in water maintenance:

- ❑ WATER FILTRATION
- ❑ CHEMICAL ANALYSIS AND PH CONTROL
- ❑ DISINFECTION OF THE WATER

4.4.1. Safety in the use of chemical products

Before using any chemical product, carefully read the instructions for use on its product label.

- It is advisable for it to always be the same person to use the chemical products. Keep these products outside children's reach.
- Add to the water the exact amounts specified, not more and not less.
- Maintain the containers closed, in dry and well-ventilated places.
- Do not inhale the chemical products, and do not allow them to enter into contact with your eyes, nose or mouth. Wash your hands thoroughly after use.
- In case of accident or ingestion, follow the emergency indications described on the product label.
- Do not smoke while handling these products. They may be flammable.
- Store these products in an appropriate place.
- Do not mix products. Add to the water first one and then another product in order to avoid reactions between them.
- Do not put chemical products into the water while there are persons inside the Spa.

4.4.2. Adjusting the pH

It is recommended to maintain the pH index between 7.2 and 7.6.

The pH level measures acidity and alkalinity. Values above 7 are alkaline, whereas values above 7 are acid.

It is very important to maintain an adequate pH level both for the good operation of the disinfectant and to avoid corrosion or scaling in the Spa.

- If the level of pH is very low, the effects are as follows:
 - The disinfectant will dissolve rapidly.
 - The Spa kit may start to show corrosion.
 - The water may start to produce irritation in bathers.
- If the level of pH is very high, the effects are as follows:
 - The disinfectant is less effective.
 - The acrylic and the kit may start to show scaling.
 - The water may turn cloudy.
 - The filter cartridge pores may be obstructed.

Check the pH of the water with the pH analyser case on a daily basis.

If the pH is above these indexes, use pH MINOR SPA. Wait for two hours before doing the pH test.

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

4.4.3. Disinfecting the water

Disinfecting the water is of utmost importance in order to destroy algae, bacteria and any other organisms that may grow in the water. However, excessive disinfection can cause irritations to the skin and eyes.

The appropriate disinfectant for your Spa water is BROMINE TABLETS. Place this product in the pre-filter for it to gradually dissolve.

Check the level of residual bromine using the Br analyser case on a daily basis.

Residual bromine levels of between 2.2 and 3.3 ppm are recommended.

Should you use Chlorine, in order for it to be effective, you must maintain a concentration of Free Residual Chlorine of between 0.5 and 1.5 ppm.

4.4.4. Use of special products

In addition to products for maintaining pH and disinfectant levels, there are others especially designed for use in Spas which will help you to maintain the water and the installations in perfect conditions.

- **LIMESCALE REMOVER FOR SPAS:** Avoids the formation of calcium salts (scaling), especially in hard water. This product is added weekly and every time the water is renewed.
- **ALGAECIDE FOR SPAS:** This algaecide prevents the growth of algae in the Spa water. The product is added weekly and every time the water is renewed.
- **FOAM REMOVER FOR SPAS:** Due to the agitation of the water and the grease present in it, foam often forms in Spas. Whenever you notice a significant amount of foam in the water, you can eliminate it with this product.
- **GREASE REMOVER FOR SPAS:** For eliminating the rings of dirt and grease that form on the walls of the Spa. To use this product we advise emptying the water from the Spa, and applying the grease remover with a sponge on the areas to be cleaned. Then rinse immediately with abundant water.

4.4.5. Ozone Generator (Only for Spas with this feature)

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

Its disinfectant properties are based on its oxidising 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.

4.4.6. Quick guide for chemical product application

	Reason for use	Amounts per m ³ of water	Frequency of use
PH MINOR SPA	Add if the pH test comes out above recommended values (7.2-7.6 ppm)	Add according to recommendations of the chemical product manufacturer.	Analyse the pH daily with the pH Test
PH MAJOR SPA	Add if the pH test is below recommended values (7.2-7.6 ppm)	Add according to recommendations of the chemical product manufacturer.	Analyse the pH daily with the pH Test
BROMINE TABLETS	Add if the Br test is above recommended values (3-5 ppm)	Add according to recommendations of the chemical product manufacturer.	Analyse the Br daily with the Br. Test
LIME SCALE REMOVER	Avoid the formation of calcium salts (scaling)	Add according to recommendations of the chemical product manufacturer.	Once per week, and each time the water is renewed
ALGAECIDE FOR SPAS	Prevents the growth of algae in the water.	Add according to recommendations of the chemical product manufacturer.	Once per week, and each time the water is renewed
GREASE REMOVER	Eliminate rings of dirt on the Spa walls	Scrub with a sponge and immediately rinse with abundant water	Whenever dirt is observed on the Spa walls.
FOAM REMOVER	Presence of foam in water	Add according to recommendations of the chemical product manufacturer.	Whenever foam appears in the water

5. PROBLEMS AND SOLUTIONS

PROBLEM	REASON	SOLUTION
No element is activated.	Circuit breaker on OFF position.	Switch circuit breaker to ON.
No pump or heating is activated.	Operating switch in OFF position.	Change operating switch to ON.
Filter		
Low water flow during filtration.	Obstructed or dirty filter.	Wash filter.
Filter pump is not activated.	Filter pump faulty.	Check pump / Change brushes.
	Faulty or poorly connected contactor.	Installer: Check connection wires. Change contactor.
	Poorly regulated thermal magnetic breaker.	Adjust thermal magnetic breaker according to motor consumption.
	Faulty thermal magnetic breaker.	Change thermal magnetic breaker.
	Pump selector on stop.	Change to manual or automatic.
Water Massage		
Massage pump is not activated.	Tube* / signal transmission cable disconnected.	Connect tube* / cable.
	Worn push button air bulb.*	Change bulb *.
	Faulty pump.	Check pump / Change brushes.
	Faulty or poorly connected contactor.	Installer: Check connection cables. Change contactor.
	Poorly regulated thermal magnetic breaker.	Adjust thermal magnetic breaker according to motor consumption.
	Faulty thermal magnetic breaker.	Change thermal magnetic breaker.
	General massage switch on OFF.	Set switch to ON.
Low air flow in jets. Water comes out the Venturi jet.	Closed and obstructed venturis.	Open Venturis. Eliminate obstructions
	Incorrectly placed jet front	Check jets
Air Massage		
The massage pump is not activated.	Tube* / signal transmission wire disconnected.	Connect the tube * / cable.
	Worn push button air bulb.*	Change bulb *.
	Faulty pump.	Check the pump / Change brushes.
	Faulty or poorly connected contactor.	Installer: Check connection wires. Change contactor.
	Badly regulated thermal magnetic breaker.	Adjust thermal magnetic breaker according to motor consumption.
	Faulty thermal magnetic breaker.	Change thermal magnetic breaker.

	General massage switch on OFF.	Change switch position to ON.
Heat exchanger		
The thermostat does not indicate the correct temperature.	Poorly fitted temperature probe.	Fit the probe properly into its housing.
	Faulty temperature probe.	Change the probe.
	Faulty temperature control.	Change the control.
The water does not heat up.	Faulty or poorly wired resistance.	Check resistance wiring / Change resistance.
	Faulty or poorly connected connector.	Installer: Check connection wires. Change connector.
	Thermal magnetic breaker faulty.	Change thermal magnetic breaker.
	Exchanger switch on OFF.	Change switch position to ON.
	Poorly wired / faulty flow meter.	Check flow meter wiring / Change flow meter.
	Safety thermostat has detected $T > 65^{\circ}\text{C}$.	Reset safety thermostat.

*Only if your Spa has pneumatic push buttons.

6. RECYCLING AND THE ENVIRONMENT

Your Spa contains electrical and/or electronic material. When it reaches the end of its useful life, it must be treated as special waste.

Contact your local authorities to find out about the procedure for collecting and treating waste containing electrical and electronic material.

