

Outdoor SPA Owners Manual



Please record the following information

Serial number : _____

Purchase date : _____

Dealer : _____

Address : _____

As trained professionals, they are familiar with the product and understand the issues facing new users. And there is a special technology to let you to enjoy the infinite fun of outdoor bath.

Important note!

1. All power supplies must be grounded.
2. Prevent children under 10 from entering the outdoor spa.

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Safety information

Important safety statements

(Please read all instruction and follow them!)

Avoid danger of electric shock

Danger – electric shock

The power supply must be provided with a grounding device.


Do not bury power cord at will. If the power cord is buried and the cable is not directly buried cable, or improper excavation occurs, it will cause serious injury or even death due to electric shock.

Warning

In order to reduce the risk of electric shock, the cable should be replaced immediately after breakage. Otherwise, people will be seriously injured or even killed by electric shock.

Be sure to detect leakage protection before using an outdoor SPA. If it does not work properly, the grounding leakage current may cause electric shock. Please disconnect the power of the SPA until the fault is repaired.

In order to avoid any danger caused by accidentally resetting the overheating circuit breaker, this device shall not be connected to an external switch gear, such as a timer, or to a circuit periodically switched by a utility.

“” is the equipotential mark. If there is any other electrical equipment that requires equipotential connection, the nominal cross-sectional area shall be 4mm^2 , the appropriate copper core wire reliably connects the equipotential terminal of the machine with the equipotential terminal of other equipment in order to reduce the potential difference.

Description.

The leakage switch should wait 30 seconds before reset, otherwise the outdoor SPA power indicator on the control panel will flicker.

When this happens, re-detect the leakage switch.

Your outdoor SPA power supply must be connected to a leakage protection device with rated tripping current not exceeding 30 mA through the power supply side panel.

When installing an outdoor SPA, provide proper drainage for the electrical parts compartment

Should.

To ensure that the outdoor SPA is properly connected to the power supply, please select a professional with an electrical certificate.

The power supply of the outdoor SPA must be cut off before drainage or electrical parts are repaired.

Check the leakage protection switch before each use.


Only the same components can be used to replace Bluetooth audio (if the outdoor SPA is equipped with Bluetooth speaker device).

Do not.

Use an outdoor SPA when the equipment repair door is removed.

Use extension wire to connect outdoor SPA power to avoid improper grounding of wire or electrical hazard due to joint. The extension line will cause pressure drop, which will cause overheating of massage pump and damage of pump.

Trying to open the electrical control box. There are no parts inside the electrical control box that can be repaired by the user.

 Danger - electric shock

The installation site is at least 1.5 meters from all metal surfaces. For metal surfaces less than 1.5 m, 6 mm diameter must be used. Above solid core copper wire, permanently connected to cable grounding connector on junction box.

No electrical appliances such as electric light, telephone, radio or TV are allowed within 1.5 meters (5 feet) around the outdoor SPA, so as not to fall into the outdoor SPA due to insufficient safety distance, and cause serious injury or even death due to electric shock.

Prevention of risks for children

 Danger - drowning of children

Use must be extremely careful to prevent children from entering the outdoor SPA without authorization. In order to avoid accidents, ensure that children do not have access to outdoor SPA without adult full care.

 Warning

In order to reduce the risk of injury, children are not allowed to use this product unless they are closely monitored throughout the course.

In order to reduce the risk of injury, it is recommended that children use lower water temperature. Children are particularly sensitive to hot water.

Persons with limited physical, sensory or mental capacity, or lack of experience and knowledge, including children, may not use this product unless supervised or trained.

Should.

For child safety reasons, ensure that the child safety lock is always locked after using the outdoor SPA. Outdoor SPA should be equipped with a lock insulation cover.

Before allowing children to enter the outdoor SPA, test the temperature of the water by hand to ensure that the water temperature is appropriate. Children are particularly sensitive to hot water.

Remind children that wet ground is very easy to slip. Ensure that children are more careful when entering and leaving the SPA.

Do not.

Let children climb the outdoor SPA insulation cover.

Allow children to enter the outdoor SPA without guardianship.

Risks to be avoided** Danger - injury**

In order to reduce the risk of injury, do not remove the outdoor SPA inner wall suction hood.

The size of the outdoor SPA suction device matches the flow rate generated by the pump. The rated flow rate of the replaced suction device shall not be less than the rated flow rate marked on the original suction device.

Risk of slipping

Remember that wet ground is very easy to slip, be careful when entering and leaving the outdoor SPA. When the suction device is broken or missing, do not operate the outdoor SPA.

Patients with infectious diseases should not use outdoor SPA.

Loose items, long hair or hanging jewelry on clothing should be kept away from massage jets or other moving parts.

Increase drug side effects

Taking or drinking alcohol before or during the use of an outdoor SPA may lead to confusion and may cause drowning.

Drug users should consult a doctor before using an outdoor SPA. Some drugs can make the drug user drowsy, others can affect heart rate, blood pressure and blood circulation.

People who take somnolence drugs such as tranquilizers, antihistamines or anticoagulants should not use outdoor SPA.

Health problems arising from the use of outdoor SPA

Pregnant women should consult a doctor before using an outdoor SPA.

Obesity, low blood pressure, circulatory disease, diabetes or a history of heart disease should consult a doctor before using an outdoor SPA.

Dirty water

Keep pool water clean and sterilize with correct chemical maintenance. The recommended concentrations for outdoor SPA are as follows.

Free residual chlorine 1.0~5.0 ppm	General alkalinity 80~120 ppm
Pool water PH 7.2~7.8	Calcium hardness Standard 75~150 ppm Salt water disinfection system 25~75 ppm

Important Note. Clean the filter element every month to remove the accumulated dirt and minerals, they will affect the performance of the massage jet, limit the flow rate or cause overheat protection temperature control switch tripping (the outdoor SPA will stop after tripping).

Avoid the risk of hypothermia

Excessive soaking in hot water can lead to hyperthermia.

Hyperthermia is a dangerous condition that occurs when the body temperature exceeds normal (37°C or 98.6°F).

Symptoms of hyperthermia include risk awareness disorders, temperature perception disorders, lack of awareness of the need to leave the outdoor SPA, physical inability to leave the outdoor SPA, maternal fetal injury and confusion about the risk of drowning.

Warning

Drinking, taking drugs or taking drugs can greatly increase the risk of fatal hyperthermia in outdoor SPA.

Reduce risk of injury

Outdoor SPA water temperature shall not exceed 40°C (104°F).

To healthy adults, 38°C to 40°C (100°F to 104°F) are considered as SPA water safe water temperatures. Low water temperature is recommended for longer use (more than 10 minutes) or for young children.

Excessive use of time may lead to hyperthermia.

Pregnant or potentially pregnant women should limit the pool water temperature to 38°C (100°F), otherwise it may cause permanent injury to the fetus.

Do not use an outdoor SPA immediately after strenuous exercise.

Avoid scalding risk

In order to reduce the risk of scalding, users should use an accurate thermometer to measure the pool water temperature before entering the outdoor SPA.

Before entering the outdoor SPA, please test the water temperature by hand to ensure that the water temperature is suitable.

Important information on outdoor SPA

The following contains important information about the outdoor SPA, which is strongly recommended for you to read and use.

Should.

When the outdoor SPA is not used, whether or not there is water, cover the insulation cover and lock.

Follow the recommended outdoor SPA maintenance and maintenance methods in this manual.

Use only required outdoor SPA chemicals and detergents.

Provide adequate drainage measures to cope with pool water spills.

Do not.

Let the outdoor SPA be exposed to the sun without water or cover to avoid direct sunlight damage to the shell material.

Roll or slide the outdoor SPA with the side, which can damage the side wall of the outdoor SPA.

Lift or drag the insulation cover with a lock belt; be sure to lift or carry the insulation cover with a handle.

Trying to open the electrical control box. There is no component inside the electrical control box that can be repaired by the user piece. Once the control box is opened by the outdoor SPA user, the warranty is invalid. If you encounter an operational failure, follow the steps described in the “Troubleshooting” section carefully. If you can not troubleshoot, you can contact the company.

Authorized maintenance personnel can effectively solve a variety of failures by telephone.

Installation instructions

Products must be installed by qualified technicians and leakage protection switches must be installed in easily controlled areas)

Electrical requirements

Important note. Before turning on the power supply, the outdoor SPA should be filled with a safe water level. (Remark: Over Maximum jet 2-3 cm.)

The outdoor SPA has been carefully designed to minimize electrical shock. But if it is connected to an incorrect circuit, it can cause electric shock, fire and other human injury hazards. Please read the electrical installation requirements and operation instructions for the specific type of outdoor SPA, and abide by them!

The outdoor SPA must be connected in accordance with all applicable local electrical regulations, and all electrical work should be done by an experienced licensed electrician. It is recommended to use correct cable tubes, fittings and conductors in all circuits. After installation, except for a safe specific voltage supply part of not more than 12V, ensure that personnel in the outdoor SPA are not exposed to the rest of the live parts.








Please determine the location of reserved power supply and drain according to the location of electric box and drain port of different types of outdoor SPA.

Customers are requested to reserve a self-controlled leakage switch before installation of the outdoor SPA not less than 3*6 mm² power cord for connecting outdoor SPA power supply; large swimming outdoor SPA must reserve at least two sets of 3*6 mm² power cord. 32A leakage switch is placed in the appropriate position, (if customers require customized 380V electrical appliances, please reserve 380V leakage switch and power supply not less than 5*4mm². Large swimming outdoor SPA should reserve at least two groups of 5*4 mm² power cord.)







As shown in the diagram.

Wiring of outdoor SPA power cord

1) Balboa control system (BP6013G、BP200、GS100)

Balboa control system panel, electric box control and wiring diagram			
Control panel			
Electronic Control Box			
Type of electric box	BP6013G	BP200	GS100
Electrical wiring			
Remarks	When connecting, select the appropriate voltage and distinguish the fire line from the zero line with reference to the mark above the terminal		

2) Gecko control system

Gecko control system panel, electric box control and wiring diagram		
Control panel		
Electronic Control Box		
Type of electric box	YE-3/YE-5	YJ-2/YJ-3
Electrical wiring		
Remarks	When connecting, select the appropriate voltage and distinguish the fire line from the zero line with reference to the mark above the terminal	

Water draining

The water supply and drainage interface of the outdoor SPA is **ø48mm PVC** (cylinder block with ø50 turns ø48 converter), customer must reserve PVC pipe with diameter ø 50 to connect (if the customer reserve water supply with PPR pipe, it need to be converted to ø50 PVC pipe), outdoor SPA water supply interface and drainage interface, water supply pipe customer reserved hot and

cold mixed water, after mixing water temperature is not more than 40 degrees, (water temperature too high will cause damage to cylinder block and accessories), the valve reserved on the product pipe is mechanical, only for testing before the factory, not for customer operation.

Water and drains reserved for outdoor SPA



Site preparation

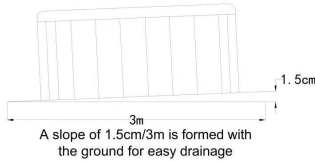
You may have selected a location for the new outdoor SPA, either indoors or outdoors, or in the courtyard or on the platform. Be sure to check the following:

- 1.The outdoor SPA must be placed on a solid and horizontal surface. The outdoor SPA with full water is very heavy. Ensure that the selected position can withstand this weight.
- 2.Don't forget to level the tub before it is filled.
- 3.All electrical components are installed in the equipment compartment to ensure that their location is away from the drain. If water run into the equipment cabin can cause damage to electronic devices or trip circuit breakers on residential distribution boards.
- 4.Circuit breaker to be installed in a convenient position.
- 5.Do not block the equipment compartment for regular maintenance and maintenance of the outdoor SPA.

⚠ Warning. Damage to outdoor SPA equipment compartment or internal piping due to rodent damage is not covered in the warranty!

Outdoor and courtyard installations

Wherever the new outdoor SPA is installed, it is important to have a solid foundation that can support it. Structural damage to outdoor SPA caused by improper installation or insufficient bearing capacity of foundation is not a limited warranty for outdoor SPA.



When outdoor SPA is installed outdoors, it is recommended to use at least 10 cm thick reinforced concrete cushion. According to the national electrical regulations, the steel bar or steel mesh in the concrete cushion should be connected to a ground wire of Line 6 (6mm), (please contact the local electrical supervision agency for details). It may be necessary to check that the grounding is correct before pouring the concrete foundation.

If an outdoor SPA is placed on the ground, even if it is temporary, place a stepping stone under the leveling area (see the SPA leveling instructions). Even if a stepping stone is placed, it can not avoid subsidence and tilt. In addition, if filled with soil or grass, the user's feet of soil and grass will be brought into the outdoor SPA.

Therefore, it should be installed on a strong foundation as soon as possible.

Platform installation

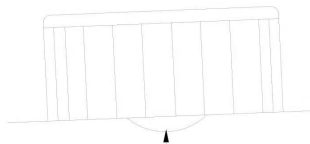
You must understand the maximum load-bearing capacity of the platform to ensure that it supports the outdoor SPA. For specific matters, consult a qualified construction contractor or structural engineer and refer to the Outdoor Bath Specification for weight of the outdoor SPA, water and personnel. The weight per square meter must not exceed the rated bearing capacity of the building structure, otherwise it will cause serious structural damage.

In order to ensure that the outdoor SPA works properly and the internal pipe can be completely emptied, the outdoor SPA must be kept horizontal.

Outdoor SPA adjustment preparation

It is best to choose a concrete surface with a tilt angle of 1.3 cm /3.5 m so that Rain Water and overflow pool water can flow away and will not accumulate in the SPA (long time of water under the SPA will rot the wood floor). You can also choose bricks, stepping stones or blocks.

Be careful. On the soft ground, even stepping stones are used to evenly distribute the weight of the outdoor SPA horizontal, the ground will also have a tendency to settle, resulting in its no longer horizontal.



Foot stones or brick may sink, causing the SPA tub is fail to stay even with the floor

Description. Placing an outdoor SPA on the grass or mud may increase stains, and accidentally bring stains into the pool water, resulting in damage to the surface of the equipment and the SPA, and no warranty.

Use Introduction and Operational Instructions

Quick Start Note

Before injecting your outdoor tub

Please ensure that your outdoor SPA has been properly installed in accordance with all local regulations, including installation location, foundation and electrical installation.

In order to ensure the reliability of the product and long-term customer satisfaction, the outdoor SPA has been carefully tested in the manufacturing process. After testing, there may be a small amount of residual water in the pipe, dirty the shell or plate wall of the outdoor SPA before delivery. Before flooding the outdoor SPA, wipe the shell with a soft cloth.

To ensure successful startup and water injection, you must read carefully and strictly follow the following instructions.

Warning,

Do not connected the empty outdoor SPA to the power supply. When the outdoor SPA is electrified, key components such as controls, heaters and other systems in the outdoor SPA will be automatically activated. In the absence of water, these parts will be damaged after electrification, resulting in component failure may not be guaranteed.

Do not use after flooding in the outdoor SPA, but do not complete all

the following steps. Never use polyhexamethylene biguanidine (biguanidine, PHMB, for example BaquaSpa® SPA disinfectant) adding chlorine to disinfection.

Do not use chlorine salt system, otherwise will damage the parts, and no warranty.

Before the first water injection of the outdoor SPA, the equipment repair door should be removed for inspection to ensure that the massage pump, filter pump and the live joint on one side of the heater are closely connected, and the gate valve is open.

Close the drain and open the intake pipe to inject water into the outdoor SPA. For outdoor SPA, the water depth should be maintained at 2 cm–3cm above maximum jet level.

Important note.

It is recommended not to inject "soft" water into the outdoor SPA to avoid damage to the outdoor SPA equipment.

Need to supply power to the outdoor SPA after it is filled with water and the equipment repair door is closed.

Use the residential main box supplies power to the auxiliary electric box.

Product Description.

1.Material: vacuum molding the acrylic sheet and reinforced with fiberglass.

2.Features: hydraulic surfing massage, optional constant temperature, filtration, ozone disinfection, external CD (optional), underwater lighting, computer control, plastic skirt, etc.

3.Optional accessories: insulation cover, staircase, cylinder block and skirt insulation layer, 12–40 colorful small LED lights, some

models can choose TV, DVD, aromatherapy, Bluetooth, fountain, waterfall and other accessories.

Instructions for the use of other components.

Description of use of air pumps.

The correct boot time is 15–25 minutes (no continuous boot more than 120 minutes, otherwise it will cause the pump body to burn out or the service life is not long). During the use of the SPA, be careful not to exceed the horizontal plane of the SPA to the vertical height of 7 cm, otherwise the water level is too high and the air pump will burn out.

Water Quality and Maintenance

Basic information

It is of great significance to keep water quality clean. Water quality maintenance is the least known but most important problem for outdoor SPA users.

Be sure to read and refer to the user manual for complete information.

Test the SPA water once a week or every time you use an outdoor SPA.

Do not frequently add a small amount of chemicals to the outdoor SPA to avoid excessive use.

Remember to change water every three to four months.

Water Quality Data			
Parameters	Target value	Lower limit - Normal range - Upper limit	
PH value	7.4	7.2	7.8
Basic	100 ppm	80 ppm	120 ppm
Hardness	100 ppm	75 ppm	150 ppm
Chlorine concentration	3 ppm	1 ppm	5 ppm

You should be responsible for maintaining water quality and cleaning the outdoor SPA. Maintaining water balance helps to prolong the service life of outdoor SPA components and ensure the comfort of SPA water.

Drug safety

When using chemicals, read the labels carefully and strictly follow the instructions. Although chemicals can protect you and your SPA when used correctly, they can be harmful when the concentration is too high. The following principles should always be observed.

1. Only allow reliable adults to handle outdoor SPA chemicals.

Chemicals should be kept out of reach of children.

2. Accurate measurement of the prescribed dose, not too much.

Do not add excessive chemicals to the outdoor SPA.

3. All containers should be handled carefully and stored in cool, dry and ventilated places.

4. Chemical containers must be sealed when not in use. cover the lid on the corresponding container.

5. Do not inhale smoke, do not let chemicals get into your eyes, mouth and nose. Wash your hands immediately after use.
6. If accidentally touch or swallow chemicals, follow the emergency advice given on the product label. Call a doctor or local poisoning control center. If you need a doctor, please carry the chemical container with you to determine the composition of the substance.
7. Do not let chemicals fall on the surrounding ground or green plants. Do not use vacuum cleaners to remove spilled chemicals.
8. Do not smoke near chemicals. Smoke from certain chemicals is highly flammable.
9. Do not store any chemicals in the outdoor SPA.

Basic rules for outdoor SPA maintenance

Use convenient test paper or more accurate liquid / flake kit to test water quality every week or every time you use an outdoor SPA. Key parameters: disinfectant concentration, pH, value, calcium hardness (CH) and total alkalinity (TA). Testing equipment should be stored in a dark, cool and dry place to maintain performance.

pH value control of chemical equilibrium: make sure that the initial pool water parameters (total alkalinity, calcium hardness and pH value) are adjusted to the recommended range to achieve water quality stability or balance. Each time new water is added to the outdoor SPA and during water use, the chemical characteristics of the pool water must be balanced. Maintain water quality balance, maintain safe range of pH value, and prevent scaling of outdoor SPA equipment, prevent equipment damage. Too low pH value will damage the metal assembly, and too high pH value will cause too high calcium content, resulting in scaling.

The following three pool water components should be balanced to

avoid damage to the outdoor SPA. Be sure to balance these components in the order shown here, using a minimum amount of chemicals, because balancing each component helps to balance the next component.

1. Calcium hardness (CH) is a measure of the total amount of calcium dissolved in water. Too low calcium hardness pool water corrosive, too high will lead to outdoor SPA components scaling. Recommended range of CH values is 75~150 ppm. If the CH value is too low, use calcium remover to reduce the CH value. After reaching equilibrium, the CH value usually remains stable until more water is injected. When flooding the outdoor SPA from the water softener, care must be taken to ensure that the calcium hardness balance is maintained and the outdoor SPA is not damaged.

2. Total alkalinity (TA) is a measure of water's ability to withstand changes in pH values or water quality buffers. Too low TA can cause the pH value to fluctuate easily. Recommended range of TA values ~80-120. You can use a

Alkaline pool water (scaling area)	8, 2	Add a pH depressant to reduce the pH
	7, 8	
Comfort zone	7, 6	The ideal range
	7, 4	
Add pool water (corrosion zone)	7, 2	Add a pH enhancer to increase the pH
	6, 8	
	pH	

pH value / alkalinity booster or baking soda if you want to add TA, pH value / alkalinity inhibitor or sodium bi-sulfate can be used if TA is to be reduced. We suggest you check the TA value once a month. The increase and decrease of TA value may lead to a large fluctuation of pH value. For balancing TA values, ignore pH value displayed on the test paper.

3. pH value is a measure of acidity and alkalinity. Maintaining the appropriate pH value can optimize the effect of disinfectant, prevent

damage to outdoor SPA and cause discomfort to outdoor SPA users. If the pH value is too low, it will dissipate the disinfectant and form corrosion, causing discomfort to outdoor SPA users. If the pH value is too high, it will neutralize the disinfectant, aggravate the scale and form a water cloud. The recommended range of pH values is 7.2~7.8. pH value / alkalinity inhibitor or sodium bi-sulfate can be used if pH value is to be reduced. You can use a pH value / alkalinity booster or baking soda if you want to add TA.

Water purifier. outdoor SPA water injection varies according to the installation position and user of outdoor SPA.

1. Each water injection and filling, a front filter should be used to remove contaminants from the pool water, especially iron, copper and manganese. Many sources of water, including well water, are rich in minerals, causing cylinder blocks and plastic parts to form scale.
2. Dirt control agent. For water rich in calcium and minerals, it may be necessary to use scale remover, such as dirt control agent. With the evaporation of pool water in outdoor SPA and the addition of new water, the dissolution of minerals such as calcium, copper, iron and manganese will increase. (Cover the outdoor SPA as much as possible to minimize moisture evaporation.) Excessive iron or copper content in the water can form green or brown dirt in the outdoor SPA.
3. Anti-foaming agent. When using the jet, the soap on the outdoor SPA user and the swimsuit will melt into the water and form foam in the outdoor SPA pool water. Soft water with low calcium hardness promotes foam formation. Although ozone can oxidize residual soap water, it is necessary to add foam suppressants to inhibit foam.

If there is too much soap in the pool water, you may need to change water to solve it.

4. Oxidizing agent: Ozone and mono- per-sulfate (MPS) are oxidants used to prevent the accumulation of dirt, maximize disinfectant efficiency, minimize binding residual chlorine, and make water clearer. The product should be used in combination with disinfectant. The UV ozone system combines the corona discharge generator with the UV lamp. UV lamps can kill and destroy exposed bacteria DNA, provide the best solution for pool water disinfection. Chlorine-free oxidant, or mono per-sulfate (MPS), is a granular oxidizing drug.

5. Disinfectant: Maintains the residual level of the disinfectant in the pool water at all times, reduces the risk of unsafe bacteria and viruses, recommends free residual chlorine (FAC), i.e. free chlorine 1-5ppm. FAC too low can lead to rapid growth of bacteria and viruses in warm water, and FAC too high can lead to eye, lung and skin discomfort. Each disinfectant provides specific instructions on how to use and add pool water. Please consult your dealer for advice and instructions for proper disinfection of outdoor SPA.

Recommended use of the following SPA-specific disinfectant:

Sodium dichloride or chlorine

Metformin

dichlorohydri

Sodium hypochlorite solution

 **Warning.**

Do not use trichloroisocyanuric acid, bromochloromethyl acetylurea (BCDMH), or any other solid form of bromine or chlorine, acid.

SPA water maintenance programme

Adding water to SPA

Use filters to filter harmful dirt in tap water, such as rust, dust, detergents and algae. also remove metals, copper, iron and manganese dissolved in water. The filter is accompanied by instructions. Water should always be added to the outdoor SPA through the filter compartment.


SPA water dosing

All pool water chemicals, including unchlorine sanitizer, MPS, powder that increasing pH value agent and inhibitor, total basicity increasing agent powder, scale removing liquid and foam removing liquid, must be directly added to the filter chamber when the massage pump is running at high speed, and the cover plate must be removed to allow the massage pump to run for more than 10 minutes. To ensure that chemicals are fully mixed when added.

Perchlorination / Chlorination-free oxidation

You may choose to perform perchlorination (1.5 tsp per 950 litres of water) or oxidation (4 tsp per 950 litres of water) per week or month. After 2448 hours, increasing the chlorine concentration to 5 ppm can remove excessive waste and chloramine from the pool water. For outdoor SPA with more use, it is best to use a chlorine concentration of six times higher than MPS. After chlorination or oxidation of the outdoor SPA, open the heat preservation cover and start all jets for at least 20 minutes to remove the oxidized gas and prevent damage and discoloration of the insulation cover and pillow pad. Such damage is deemed to be a chemical misuse and is not covered by the limited warranty clause.

Important note. Before using an outdoor SPA, be sure to reduce the free residual chlorine to less than 5 ppm.

 **Danger:** Outdoor SPA cover should not be unattended! This is especially true when children are present!

Other pool water treatment products

FRESHWATER concentrated chlorine particles – sodium dichloroisocyanurate

FRESHWATER chlorine-free oxidants, mono-persulfate (MPS)

FRESHWATER II efficient ozone systems

FRESHWATER A+ silver ion –filter V ANISHING ACT calcium – remove

Silver ion filter with the help of silver beads erosion, put silver ions into the pool water, thereby inhibiting the breeding of bacteria.

If used in combination with MPS or chlorine, the waste in the pool water can be oxidized and removed. When using various products, it is important to follow the recommended application and maintenance plan. Outdoor SPA after long use (such as the whole afternoon or evening) need to increase the amount of disinfectant.

Requirements: the outdoor SPA is chlorinated and oxidized every week to restart the silver ion filter, release the silver ion, and quickly destroy the remaining pollutants. Without this weekly oxidation treatment, the silver ion filter may stop releasing silver ions into the pool water.

Important note: please use only you chlorine disinfectant. silver is not compatible with bromine and biguanidine. The use of water purifiers is prohibited. The water purifier can cause the pool water to be turbid.

Manual chlorination (perchloride)

We recommend the use of FRESHWATER concentrated chlorine particles (polychlorine) to disinfect water. Chlorine can dissolve completely and rapidly in water, and the pH value is close to neutral, so it is an ideal product. The recommended amount of free residual chlorine (FAC), the amount of free chlorine used to disinfect outdoor bathtubs, is 3-5PPM.

When the FAC is too low: You can add Euchlorine net particles to increase FAC.

If the FAC is too high: can wait for a period of time, the FAC level will gradually decrease naturally.

If the outdoor SPA gives off chlorine smell: chlorination or oxidation treatment. Free residual chlorine (FAC) has no odor, but combined residual chlorine (chloramine) has a strong chlorine flavor, which can be eliminated by oxidation treatment of pool water.

Important note: there are many forms of stabilized chlorine products for outdoor SPA. The choice of chlorine products must be an outdoor SPA specialty, which is extremely important. Improper use of the product will damage your outdoor SPA. For example, the pH value of trichloride products is very low (2.6) and dissolves too fast in hot water, resulting in extremely high chlorine content. The use of liquid or solid forms of bromine / chlorine or disinfectants other than specified can damage your outdoor SPA, especially if it is not covered by limited warranty.

Ozone maintenance

If the ozone bubble from the ozone generator tube is reduced or completely absent (the ozone jet is blocked) or without ozone, the jet should be cleaned.

1. Use a tea bowl or bucket and pour 0.5 liter (16 ounces) of white vinegar.
2. Find the ozone generator in the equipment compartment and carefully loosen the long rubber tube connected to the bottom of the ozone generator.

Danger

A possible accumulation of dip or annular corrosive condensation in a pipe. Do not empty. Please let ozone technicians remove acid liquids.

Hydrochemical damage is not covered by warranty. The chemical concentration and water quality in the SPA are under your direct control. With proper basic maintenance, the outdoor SPA can provide you with years of spa enjoyment.

3. Start the outdoor SPA until 0.5 liters (16 ounces) of white vinegar is drained. This allows enough white vinegar to flow through the jet and clear the clogging.
4. Reconnect the hose to the bottom of the ozone generator.

Should.

Be careful when using baking soda to clean plastic surfaces inside and outside.

Important note: it is recommended not to use any floating dispenser. Damage to outdoor SPA housing or components caused by floating dispensers is not covered by limited warranty. The floating dispenser will stay in a certain area, causing excessive disinfection or release of large disinfectants, resulting in rapid chemical reactions, burning cylinder blocks and heat preservation covers.

Do not:

1. Use solid disinfectant.
2. Use floating disinfection system in outdoor SPA maintenance plan as a low maintenance or even maintenance-free solution.
3. Use disinfectants that are not used exclusively in outdoor SPA
4. Use non-hot spring outdoor disinfectant.
5. Use acid (hydrochloric acid) for outdoor SPA pool to reduce pH value.
6. Spray chemicals on the water. This method can cause foaming on the surface of outdoor SPA due to chemical reaction (chemical misuse).

Other additives available for water quality maintenance

Appropriate water sanitation and mineral balance (pH value control) are essential in a complete outdoor SPA pool water maintenance program. Two other commonly used water treatment additives are available, as follows:

Mineral deposition inhibitors

With the evaporation of outdoor SPA pool water and the addition of new water, mineral dissolution will increase. (Cover the outdoor SPA with a heat preservation cover to minimize evaporation.) Sometimes the content of iron and copper in water is high, which may produce green and brown spots on outdoor SPA. At this point, scale remover may help reduce these metals.

Important note: the mineral concentration in well water is high. The use of a low-flow ultra-fine pore water filter (series front filter) during bath water addition helps to filter out many larger particles.

Foaming agent

Because the outdoor SPA pool water soap will accumulate more and more, so the pool water needs to be replaced. In general, when using jets, soap can cause water bubbles in the outdoor SPA pool. Soap enters the outdoor SPA in two ways: the user's body (soap remains after shower) and swimsuit (soap remains after washing).

Foam suppressants can inhibit foam, but can not remove existing foam in water. soap will not be oxidized by any chemicals added in the outdoor SPA, so it is difficult to remove from water. Only ozone can oxidize soap. Finally, the soap in the water accumulates to a higher concentration, making the user feel that the skin is not clean. At this point, drain the water from the outdoor SPA and refill it.

Terms related to water

The following chemical terms are used in the Water Quality and Maintenance section. Understanding its meaning helps you better understand water quality maintenance measures.

Bromine. A compound formed when bromine binds to nitrogen in sebum, urine, and sweat. Unlike chloramine, bromamine has no irritating odor and is an efficient disinfectant.

Bromine. halogen disinfectant (with chlorine). Bromine is commonly used as a rod, sheet, or granular. However, bars and flakes shall not be used in this system.

Calcium hardness. the amount of calcium dissolved in outdoor SPA pool water should be about 75-150 ppm. Excessive calcium content can lead to water turbidity and scaling. And too low content will lead to outdoor SPA equipment damage.

Chloramine. A compound formed when chlorine binds to nitrogen

in sebum, urine, and sweat. Chloramine stimulates the eyes and produces a pungent smell. Different from bromamine, the disinfection effect of chloramine is weak and slow.

Chlorine, an efficient disinfectant for outdoor SPA. We recommends the use of polychloride as a granular chlorine preparation.

Because it can dissolve completely and the pH value is close to neutral, it is an ideal product.

Residual chlorine (or residual bromine), refers to the gas (bromine) allowance after the gas (bromine) demand is met. So this allowance is the amount of chemical disinfectants that can kill bacteria, viruses and algae.

Corrosion, gradual loss of metal and plastic parts, usually caused by chemical reactions. generally, low pH values, or water TA、CH、pH values and disinfectant concentrations beyond the recommended range, can lead to corrosion.

Halogen, one of the five elements of fluorine, chlorine, bromine, iodine and rubidium.

MPS, mono persulfate, is a chlorine-free oxidant.

Nitric acid, a highly corrosive chemical that is a byproduct of ozone formation. The production of nitric acid is very small and easy to dissolve in ozone-containing water.

Oxidants, Oxidants prevent dirt accumulation, maximize disinfectant efficiency, minimize binding residual chlorine, and make water clearer. see "MPS" and "ozone".

Ozone, ozone is a strong oxidant, it can be produced naturally or manually. Ozone does not produce chloramines by-product and does not change the pH value of water.

pH value, a measure of the acidity and alkalinity of outdoor SPA pools.

ppm. the abbreviation of 1/1000000, the standard unit of measurement of chemical content in water. equals "mg/l" (mg/l).

Reagents. Liquid, powdered, or sheet-like chemicals used for chemical testing.

Disinfectant. disinfectant will be added to the outdoor SPA pool water and the recommended allowance will be maintained to protect the bath from pathogenic biological hazards and diseases and infections.

Scale. rough sediment containing calcium that can cover outdoor SPA surfaces, heaters and water pipes and block filters. Generally speaking, when the water contains minerals and the pH value is high, scale will be formed. In addition, the higher the water temperature, the easier it is to form scale.

Perchlorination. also known as "oxidation treatment".

Perchlorination is a process of oxidizing organic waste that can not be filtered and removing chloramine and bromamine by adding a large dose of instant disinfectant (recommended for use with youchlorine). The process of chlorination is a process.

Total alkalinity (TA), amount of bicarbonate, carbonate, and hydroxide contained in pool water. Appropriate total alkalinity is of great significance for pH value control. If the total alkalinity is too high, the pH value is difficult to adjust. But when the total alkalinity is too low, the pH value is difficult to maintain the appropriate level. An ideal range of total alkalinity is 40–120 ppm.

Water Quality and Maintenance








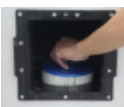
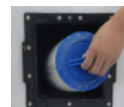

Although the outdoor SPA is made of high quality and durable materials, it is your maintenance plan that ultimately determines the

service life of the outdoor SPA and its components. Regular maintenance and compliance with the recommendations of this chapter will help you protect your outdoor SPA.









Filter

If you use outdoor SPA frequently, it is recommended to clean the filter paper core once a week.






Type 1:

				
Use a word screwdriver to rotate the filter counterclockwise screw		Remove screws		Pull up the cover on the filter
				
Pull out filter grille		Rotate the filter paper core counterclockwise		Rinse the paper core with high pressure water or dry it in the sun

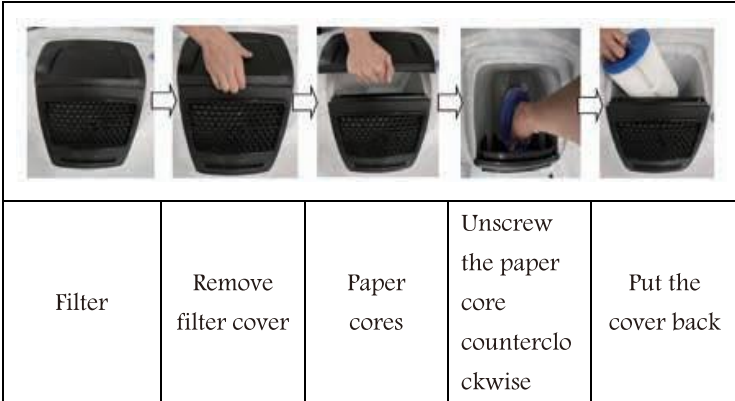
Type 2.

			
Unpack the filter core and place it in the filter barrel in the direction shown			
			
The paper core and the bottom of the filter barrel are aligned, the paper core is tightened clockwise, the paper core cover of the filter barrel is put into the filter barrel, and the paper core is replaced by this step.			

Type 3.

				
Filter	Remove filter cover	Paper cores	Unscrew the paper core counterclockwise	Put the cover back

Type 4.



Note. different outdoor SPA standard configuration is equipped with one or two of the above four filter devices, please choose different paper core installation and cleaning methods according to the filter provided by the actual purchase product.

Acrylic shell

The outdoor SPA is equipped with an acrylic shell. The surface of an outdoor SPA generally does not adhere.

Dirt and dust. Soft wipes should be able to easily wipe off most dust. Many household chemicals can damage the acrylic shell of the outdoor SPA (see below for details on detergents). The cleaner on the acrylic **shell** must be washed with clear water.

Important note.

1. Advise not to use non-specified household cleaners to clean the acrylic **shell**. Do not use any cleaning products containing

abrasives or solvents to avoid damage to the acrylic surface, such as products containing acetone, natural water, ammonia water.

Do not use corrosive chemicals! Damage to the acrylic due to the use of corrosive chemicals is not covered by warranty.

The cleaner on the acrylic must be washed with clear water.

Do not use blunt objects, cutting tools, etc. to tap and carve the surface of the SPA, and do not allow cigarette butts or heat sources above 600C to contact the surface of the outdoor SPA.

3. If not prevented, the iron and copper in the water will produce stains on the acrylic. When the concentration of dissolved minerals in pool water is high, scale inhibitor should be used.

4. All cleaners should be kept out of reach of children and be careful when used.

Outdoor SPA skirt

Outdoor SPA equipped with a strong and durable skirt, while adding colorful appearance. When cleaning the skirt, rinse the cylinder block with diluted soapy water to remove dirt and residual stains.

Do not use abrasive materials or detergents to wipe the skirt, which will damage its surface texture.

Outdoor tub insulation cover maintenance

In order to keep beautiful, it is recommended to clean and maintain once a month. The cleaning and maintenance methods of the insulation cover are as follows:

1. Remove the insulation cover from the outdoor SPA and lean carefully against the wall or fence.

2. Use hose to flush loose, wash off the dust stains on the insulation cover.

3. A large sponge and or a soft brush, dip in very light soap (1 teaspoon of dish washing liquid) (2 gallons of water) or sodium bicarbonate (baking soda), for circular motion wipe insulation cover. The heat preservation cover should be washed as soon as possible to avoid drying with soap film.
4. Scrub the insulation cover around and flank. Rinse with clean water.
5. Rinse the bottom of the heat preservation cover with clean water (do not use soapy water), then wipe it with a dry rag.

Should.

1. Remove snow to avoid additional snow weight resulting in foam core breakage.
2. In the outdoor SPA when not used to tie the lock to bring protection cover.

Do not.

1. Drag or lift the outdoor SPA heat preservation cover by pulling the flank or locking belt.
2. Walked and sat on the heat preservation cover.
3. Place any metal or heat transfer object on the insulation cover, and do not cover any type of plastic tarpaulin or cover on the insulation cover to avoid foam core melting. Such melting is not covered by warranty.

Pillow maintenance

If carefully maintained, outdoor SPA pillows can provide you with long-term comfort. Pillows above the water can minimize the decolorization effect caused by chlorinated water and other

chemicals in outdoor SPA pool water. In order to prolong the life of the pillow, when cleaning the outdoor SPA acrylic shell, be sure to remove the pillow and clean it. Wash off sebum with mild soapy water. Be sure to rinse the pillow thoroughly and rinse off all remaining soap. If you don't need an outdoor SPA for a long time (such as during a vacation) or during chlorination of the pool water of the outdoor SPA, remove the pillow until the next time you use the outdoor SPA.

Other Tips and Recommendations

1. Water return and jet if hair and other debris clogging, please unscrew cleaning.
2. Check leakage protection performance of leakage switch once a month.
3. Please check the power cord, switch, connector regularly, and protect properly to avoid damage to property and even safety accidents caused by mice and insect ants.
4. Please check regularly whether the water supply pipe and drain pipe are broken, zigzag, so as not to cause inconvenience in use, and check whether the drain is smooth.
5. This product is stored, do not invert, do not overlap stacking, do not mix with formic acid, formaldehyde and other organic solvents.
6. If it needs to be carried, it should be light to prevent heavy pressure, mechanical collision and strong vibration.
7. Long time, dry the water in the outdoor SPA and keep the surrounding environment dry and ventilated, non-corrosive gas.

Service information

General information

Outdoor SPA after special design, can be used for many years without trouble. But like any appliance, it sometimes has problems that need to be solved with the expertise of qualified maintenance personnel. Although some simple repairs (such as leakage protection switches or circuit breakers, or reset overheating protection temperature control switches) do not require a service call, they may imply a more serious situation. These situations may require experienced maintenance personnel. Please read the Troubleshooting Guide before calling the service number. The original sales invoice must be kept properly for future use.

Acts resulting in invalid warranty

If the outdoor SPA has improper installation, modification, misuse or abuse, the limited warranty is invalid. The modification of any component or pipe, any electrical conversion, and the act of installing unapproved sanitary equipment, water purification equipment or heating system, which promotes component failure, host failure or unsafe working condition, is defined as modification. Misuse and abuse include all outdoor SPA operations that are not carried out in accordance with the printed instructions of the use of outdoor SPA beyond design applications. Use of outdoor SPA for non-residential applications; Because the voltage exceeds the rated voltage (240 V soil 10) Or if the water temperature exceeds 1.1 pH damage caused by the operation of an outdoor SPA in the range

of °C (35) to 49(120°C F); damage caused by sudden rise or decrease in voltage; damage caused by dirt, obstruction or scaling of the filter element; damage caused by the use of trichloroisocyanuric acid, bromochlorine hydrochloride (BCDMH), chemical tablets in floating devices, acids or outdoor bath surface cleaners; Damage caused by the adhesion of insoluble pool water medicine to the surface of the outdoor SPA (no outdoor SPA surface material can withstand such abuse); damage to components (except NO-FAULT heaters) or outdoor SPA surfaces due to incorrect pH value adjustment or other hydrochemical maintenance; and damage to the surface of the outdoor SPA due to the lack of cover and direct exposure to the sun in the absence of water. All such cases are considered abusive and may result in invalid warranty.

The filter cover of the outdoor SPA is not designed to bear weight and can not be used as a seat. When the weight is too large, the filter cover will break. This is considered an abuse and is not covered by warranty.

Natural damage, as well as damage caused by animals, rodents and insects, is considered abuse and is not covered by warranty.

Simple maintenance operation instruction

1. Replacement of whirlpool water pump. disconnect power supply, open side plate of outdoor SPA, close valve of both ends of pump, remove wire, unscrew both ends of pump, loosen fixed screw, remove pump replacement, reconnect power supply and live knot, fix screw, inject a small amount of water into outdoor SPA, open

valve, check pump outlet for leakage, then cover outdoor SPA side plate.

2. Replacement filter pump: disconnect power supply, open SPA side plate, close pump end valve, remove wire, unscrew pump end live knot, loosen fixed screw, remove pump replacement, reconnect power supply and live knot, fix screw, Inject a small amount of water into the outdoor SPA, open the valve, check for leakage, and cover the outdoor SPA side panel.

3. Replacement thermostat: disconnect power supply, open SPA side plate, close thermostat end valve, remove wire, unscrew thermostat end live knot, loosen fixed screw, remove thermostat replacement, reconnect power supply and live knot, fix screw, inject a small amount of water into SPA, open valve, check pump mouth leakage, then cover outdoor SPA side plate.

4. Change filter element: disconnect power supply, open SPA side plate, close valve, unscrew filter top fixing screw, remove filter element to replace dirt deposited at the bottom of cleaning filter.

5. Antifreezing of filters: in some areas, filters may freeze locally in winter, in which case the outdoor SPA should stop using, unload, clean the filter, put it together in a safe place or move it indoors.

Troubleshooting

Phenomenon	Reasons	Solution
Press the panel button Response	1.Panel locked 2.Panel damage	Press the panel unlock key to unlock the panel Replacement panels
No power	1.Power line problem 2.Protection switch disconnected	Inspection routes Find and remove the short circuit and reconnect the

		protection switch
Jet without effluent	<ol style="list-style-type: none"> 1.Pump power supply problem 2.The pump did not start. 3.Massage pump damaged 4.Air intake in pipes 	<p>Check power cord to check message pump replacement message pump</p> <p>Clean pipe air by removing and connecting</p>
The bottom light is not on	<ol style="list-style-type: none"> 1.LED lamp damaged 2.The fuse of the control lamp in the electric box burned down 	<p>Replacement of LED lamp</p> <p>replacement fuse</p>
No filtering effect	<ol style="list-style-type: none"> 1.Filter pump not open 2.Filter not cleaned 3.Filter pump damaged 	<p>Turn on filter pump cleaning filter</p> <p>Replacement of filter pumps</p>
No constant temperature effect	<ol style="list-style-type: none"> 1.thermostat damaged 2.Power not connected 3.Filter core blocked 	<p>Repair or replace thermostat to check power</p> <p>Cleaning and replacement of filter paper cores</p>
Acrylic shell scratched		<p>Please consult the local classics depending on the color of the plates</p> <p>Salesman's approach to handling scratches</p>

This manual only for reference,the Company shall be entitled to change without notice,all the models in order to prevail in kind.