USER MANUAL

Stainless spa bath

The manual applies to our built-in models in size 2x2, 2.4x2, 2.4x2.4, 2x3 & 2.4x3

Thank you for choosing us as your spa bath supplier.

We hope the bath will give you many lovely baths and pleasant moments.

Important! Read the manual carefully and follow our safety instructions, advice and recommendations.

This manual will describe what is important to consider before, during and after the installation of your bath. If you have any questions, you are welcome to contact us at info@svenskabadtunnor.se.

1. Safety Warnings

Electrical safety:
WARNING: Risk of electric shock - The spa must be installed by a qualified electrician in accordance with local rules and regulations. Check that the spa is properly grounded and that a residual current device (RCD) is installed.
POWER OFF – All electrical power to the hot tub must be turned off during maintenance or repair. Use only approved cables and components. Regular checking of electrical components and pipelines is recommended at least twice a year.
Water and chemical management:
WARNING: Risk of chemical burns - Use the correct dosage of chemicals to avoid overexposure. Follow all pool chemical manufacturer recommendations. Store chemicals in a safe place and out of reach of children.
NO SALT WATER – Do not use salt water in the spa as it can affect materials and components even though the spa is made of stainless steel.
Temperature and burns:
WARNING: Risk of burns - Do not use the hot tub if the water temperature exceeds 40 °C. High temperatures can cause overheating or unconsciousness, especially for children, the elderly or people with health problems. Always check the water temperature before you or someone else jumps into the bath. The maximum temperature in the bath is 40 degrees. A significantly lower temperature is recommended for small children.
Risk of drowning:
WARNING: Risk of Drowning - Never leave children or non-swimmers unattended in or around the hot tub. Always use a safety cover when the bath is not in use. It is your own responsibility to ensure that both children and adults are safe in the bath.
SAFETY LID - Make sure the hot tub has the lid on and locked when not in use to prevent accidents.
Slip hazard. Warn bathers, especially children and the elderly, of the risk of slipping in and around the bath. Ask them to take the utmost care when entering and exiting the bath and around the bath.
2. Installation instructions
Placement Requirements: Make sure the spa is placed on a stable, level surface that can support the total weight of the spa including water and user. See further in the manual for more detailed information on installation.
Ventilation: If the hot tub is installed indoors, ensure that there is adequate ventilation to avoid moisture build-up and damage to the structure of the building. Contact, for example, a building engineer or building architect. A Ventilation expert is recommended to contact.
Distance from electricity and water: Check that no electrical components are in direct contact with water, and keep all connections dry. Keep electrical components at least 1.5 meters from the bath. Do not place the bath under power lines.
3. Maintenance and service
Electrical Maintenance Warning: Any repair or replacement of electrical components must be performed by a qualified electrician. The power must always be disconnected during service or repairs.
Check seals and connections: Inspect seals and connections regularly to prevent leaks that can lead to moisture damage.
Stainless steel maintenance: The spa is made of stainless steel, it is recommended to rinse off any residual chlorine and chemicals regularly to prevent discoloration. If the spa bath is emptied of water, the bath must be rinsed clean of water residues that may contain chlorine.

4. Warranty conditions
The warranty applies provided that the instructions in the manual are followed - You can find the specification of the warranty period and what the warranty covers on our website.
Exclusions from the warranty - The warranty does not apply if salt water is used or if installation or repairs are carried out by unauthorized personnel. Nor in case of incorrect maintenance, incorrect assembly/installation. Damage/discolouration due to water quality is not covered by warranty.

5. Troubleshooting guide
In the event of error messages, see the manual for the display.

6. Environment and responsible use
WARNING: Avoid Overfilling – Do not overfill the hot tub, and monitor the water level to prevent flooding.
Environmental and water saving tips
To protect the environment and minimize water consumption, follow these recommendations:
Use an insulating cover: Keep the hot tub covered when not in use to reduce evaporation and retain heat, reducing the need to refill water and saving energy.
Reuse water when possible: If the water needs to be drained from the bath, use it to water the garden or wash patios, provided the chemical levels are safe for plants and the environment and it is approved by your municipality.
Adjust Chemical Use: Measure and add chemicals exactly as directed to avoid overuse that may require unnecessary water changes.
Clean filters regularly: Keep filters clean to optimize water flow and reduce strain on the purification system, which in turn can extend the life of the water in the bath.
Top up instead of replacing: In case of evaporation, top up with water instead of replacing all the water, if chemical levels and water quality are still good.
Plan bathing times: Use the hot tub efficiently by planning bathing times and avoiding leaving it running when not in use, saving both water and energy.


Show your electrician our instructions for connecting electricity.


All of our Spa baths are CE marked.

7. Prevent injuries

- Do not use glass or other fragile materials in or around the bath.
- Use plastic glass to avoid personal injury in the bath and damage to the spa.
- Do not remove any part from the spa.
- Do not use the hot tub if any part is damaged or broken. Never prepare anything without contacting us first.
- The water temperature in your bath must never be more than 40C. A temperature between 37-40 degrees is a safe temperature for healthy adults. A lower temperature is suitable for children and for use for more than 10 minutes. Have access to drinking water while bathing to avoid dehydration.
- Feel the water to ensure it is a good bathing temperature before you or someone else jumps in.
- Pregnant, overweight, people with heart problems, low or high blood pressure, diabetes or other circulatory problems should consult a doctor before using the spa.
- Ingestion of drugs, alcohol or medication before or during use of your hot tub is not recommended and may lead to unconsciousness and possible drowning.
- Do not use the hot tub immediately after hard work.
- People with wounds or external infections should not use the hot tub. Hot water can stimulate the growth of infected bacteria if the spa is not sufficiently disinfected and the chemical balance is not properly maintained.
- Only use the hot tub for a reasonable amount of time. Prolonged exposure to high temperatures can lead to a high body temperature, which can lead to dizziness, nausea, drowsiness, unconsciousness, reduced awareness and an inability to get out of the spa. These effects can lead to possible drowning.
- Be careful when getting in and out of the bath.
- To avoid accidents, make sure that the surface around the hot tub has good drainage and a good non-slip surface. As a private person, you inform your bathing guests of this and at public baths a warning sign about the risk of slipping must be mounted.
- Do not use the hot tub by yourself.
- Do not jump or dive into the hot tub.
- Be aware of the maximum number of bathers in the hot tub.

Maximum number of people in spa:

2x2 - 6 people
2.4x2 - 8 people
2.4x2.4 - 10 people
2x3 - 12 people
2.4x3 - 14 people

If you have a specially ordered bath, use these measurements as a starting point or ask us if you are unsure.

Build-in

The underwork

- The foundation is an important part of the installation as the bath with water and many bathers can add up to great weights.
- The part-time work differs slightly depending on the conditions you have. The bath must be placed on a flat and stable surface such as packed gravel, cast slab or reinforced plank. If the bath is to be buried completely or partially, you need to check if the ground may need to be drained. Contact a structural engineer or building architect if you are unsure whether or not the substructure holds the weight.
- The bath must never stand so that it becomes filled with water around the bath, the bath must be on a dry and drained surface.
- Improper installation and damage that may occur as a result are not covered by the warranty.
- Review how and where to release the water so that problems do not arise in the future.
- When you build in your bath, it is important that you consider that it will be accessible in the future for possible service and/or replacement of parts. Connection side and sides with massage need to have a free zone of 80 cm so that there is room for possible service.
- If the bath is to be placed indoors, make sure you have a sufficiently good ventilation system. Also that you have a waterproof and non-slip protection around the bath.
- It is your responsibility to ensure that an approved electrician connects the electricity.
- The bath is delivered in a solid construction of Eps insulation. Therefore, you have an extremely well-insulated bath. No additional support needs to be built for the bath.

Warning: Do not turn on the power until the bath is completely filled with water and all parts are assembled according to instructions. Be sure to use an external approved earth-fault circuit breaker. the hot tub must be directly connected to the mains, without plugs, extension cables, or phase sharing with other appliances. The hot tub requires you to use solid copper wire, depending on the size of the RCD you are using. The power supply must have a suitable residual current device and can be used as a disconnect switch.

All parts are always tested and the bath is test driven before we deliver your bath. See your test report that comes with the bath. It is nevertheless good that you check that all the lights work and that no connections are leaking before you build your bath so much that it becomes difficult to adjust these parts. When the bath reaches over 35 degrees, you need to check the connections again, as the hot water can affect the connections and may then need to be tightened when the bath has been in hot water.

Receipt of delivery

Check that no transport damage has occurred during delivery, if it has occurred, read further instructions during open purchase. If the bath is lifted off with a tractor or truck, the bath is lifted in the pallet it stands on. If you have ordered crane truck delivery, the bath is lifted by the tension straps that are under the bath according to the markings on the pallet. The studs do not need to be removed but can remain where they are. The joists have no load-bearing function when the bath is in place.
The bath must not be wiggled and it is important that the bath is handled carefully during delivery and assembly.

On delivery, the technology box is in the bathroom. The technical box weighs approx. 40 kg and it is lifted out of the bath by two people, it is important that it is handled carefully so that no parts get shock damage. The two straps around the technical box can be used for lifting. The technical box must be lifted from the floor and not from the walls.

The technical box is placed at the same floor level as the bath and it is important that the filter, which is the highest point, ends up below the water surface. Otherwise, you risk getting air in the system, which will lead to the system not working as it should. The technology box must be placed within 7 meters of the bath and preferably as close as possible. Hoses that end up outside the insulation must be insulated. It comes with hose and culvert to place the technology a maximum of 2.5 meters from the bath. If the bath is to be further away, additional hose and culvert need to be purchased.

If installation and start-up do not take place immediately, the technology box needs to be stored in a warm space until it is to be started.

Assembly of the bath

Once the baths and technical facilities are in place, the parts must be connected together.

Step 1. Take out the carton that is in the technology box, in the carton there should be 2 stainless connections with sleeves and four hose clamps. Also take out the roll of 50 mm hose.
Step 2. Install the connections with sleeves on the two pipes that go out from the bath and the two pipes that go out from the technology box. Lay out the supplied culvert where the hose will go between the bath and the technology box. Then measure the distance between the connection on the bath and the connection on the technical box. Then cut the 50 mm hose to the correct length. Cut the hose with a knife, for example. Place the hose in the culvert and check the measurements.
Step 3. Mount the hose to the connectors. The hose is mounted with hose clamps. You tighten the hose clamp with a 7 mm hose chisel. It is very important that the hoses are not installed when the connections are mounted on the bath, you then risk breaking other parts of the system when the hose is threaded on.
Step 4. The lights should now be plugged in. There is a long black cord mounted in the heater. This cable should be plugged into the short black cable sticking out of the white junction box by the bath.
Step 5. The display from which you will control your bath is located in the technology box and is connected to the heater. Install the display in a suitable location near the bath. The display should be as weatherproof as possible to avoid direct contact with rain and snow, which means that it is best mounted on a horizontal part of the decking/house wall or similar. If it has a less protruding roof over it, you will have a longer service life of the display. There are splicing cords to order for the display.
Step 6. Your bath comes with wi-fi control. You need to download the balboa app to use it. The app to be used is called Control my Spa. The code is KTE 69496
Step 7. The drain is mounted on your filtration system. To be able to drain the water when it's time to empty the bath, you need to install a Gardena coupling (male) into the Gardena coupling (female) mounted on the filter. The drain valve should always be closed except when you're emptying the bath and change the filter (see separate instructions for how to change the filter). Attach a garden hose, 1.5 inches in size, to the Gardena coupling so that you can easily direct the water away from the bath.
Step 8. Vacuum the bath and then carefully remove the plastic from the inside of the bath.
Step 9. It is now time to fill the bath with water. The bath should have water up to and including about 10 cm from the top edge. The bath is tested and checked without leakage in our factory before delivery, but still check all connections in the bath so that nothing leaks.
Step 10. Now the electrician will connect the electricity to the bath. It should be wired according to the wiring diagram provided.
Step 11: The bath needs to be grounded. The pump and the slave heater have grounding connectors that go to the grounding of the main heater. The electrician also grounds the bath by putting an earthing contact on one of the screws on the back of the skimmer and then attaching it to the main heater. Grounding should be done with a minimum of 4m2 of cable.
Step 12. Pull up the handle of hatch valves 1 and 2. The technical system will now be filled with water.
Step 13. Turn the black nut (marked in the picture with 3) on the top of the filter head about 1 to 1 & 1/2 turns. There will be some air blowing and finally some water flowing. Then tighten the nut.
Step 15. You can now reinstall the insulation that will cover the plumbing in the bathroom. You can also put the upper part of the culvert on the hose between the bath and the technical installation. To increase protection against pests, you may want to foam the cavity left by the pipes.

Adjustment
Fill the bath with drinking water. Do not fill with cold water only. If the water temperature is too cold, error messages will appear. Keep the temperature over 10 degrees.

Too hot water also gives error messages and prevents the bath from starting. Max temp is 40 degrees.

The electricity must be switched off until the water level has reached the skimmer in the bath. Filling the bath can take time depending on water pressure in the hose. Do not overfill the bath it will cause the spa to flood.

Turn on the power when the bath is full of water and you have checked that no leaks have occurred.

Start the bath
Now the bath is ready to be started. Turn on the power and follow the separate manual to the display (All manuals are posted on our website) to set the clock, temperature and purification cycles. We recommend starting with two purification cycles of 2x3 hours. The length of the purification cycles may then need to be adjusted depending on how the bath is used.

Make sure there is no air in the filter container. Otherwise, you may get air in the container, which will lead to poorer purification.

To vent the filter, use the black nut (no. 3 in the picture, see previous page) on the filter.

Open purchase & shipping damage

As your bath is a custom-made product, open purchase does not apply. In the unlikely event that you feel that this bath upon delivery was not at all what you had expected, please contact us to review the possibilities for a possible return. You will be charged for shipping costs and any additional costs, Such as assembly and/or handling costs, other deductions may also occur. We do not offer open sale of baths designed according to our own drawings or commercial baths.

If the bath has been damaged in transit, it is important that you take photos of the damage before unloading from the transport vehicle.

A signature by the driver on the delivery note is also necessary to claim any compensation.
Send an email to info@svenskabadtunnor.se with pictures and an explanation of what happened within three days.

Otherwise, we comply with the Consumer Purchase Act and the Distance Contracts Act. In the event of a dispute, we follow the recommendations of the General Complaints Board.
For more information, read our terms of purchase on the website.

Maintenance

Only fill your bath with tap water. If you have a lot of iron, lime, hard or soft water, this needs to be adjusted so as not to cause damage to the bath.

To maintain good water hygiene, it is important that you keep track of your water values. Normally, it is pH and chlorine you need to test and adjust. If you have very hard or soft water or iron-rich water, you also need to adjust this to avoid the risk of deposits, discoloration or damage to your bath.

It is extremely important that you are careful not to overdose or shock chlorinate your stainless steel bath. Too much chlorine can damage your bath, no guarantees apply in case of damage caused by high chlorine dosage.

The filter you have in your bath is a cartridge filter. These filters need to be picked up and cleaned regularly, how often depends on how your bath is used. You can advantageously have two filters at home so you can clean one and let it dry while the other is used. There is a special agent for cleaning these that you can find on our website.
The technology box must have a temperature of 10 degrees or more to ensure that all parts work properly.

The bath must never be turned off with water in it. If you turn off and empty your bath, be sure to rinse the bath clean so that no water with chlorine remains in the bath, this can cause damage to the bath.

Frost damage or chlorine damage to the bath or technology is not covered by the guarantee.

SALT WATER

Do not use salt water in these baths. There is no warranty on the bath if salt water is used.

UV LIGHT

Your pool is equipped with UV light, which means you don't need as much chlorine in the water. The UV light needs to be checked to make sure it's working at regular intervals, a good rule of thumb is to check this when you change the filter (the light should be on)

The light needs to be replaced at least every two years.

Ideal values for your bathing water

pH-value	7,0 – 7,4
Alkalinity value	80 - 120 mg/l (ppm)
Hardness level	125 - 200 mg/l (ppm)
Chlorine	0,5 - 1,0 mg/l (ppm)

It is good if you leave the lid of your bath off for about 20 minutes after adding chlorine. This is to protect the lid from the chlorine vapors that are produced during dosing.

- As soon as you fill your bath with water, you should start checking your water quality.
- All dosing instructions are average values that may need to be slightly adjusted to your measured values.
- Clean hoses every time you change the water.
- NOTE! Never mix the chemicals, it can lead to strong reactions and release dangerous gases! Chemicals should never be added at the same time.
-Take care when handling chemicals, use safety glasses and gloves to your advantage.

Test your water values

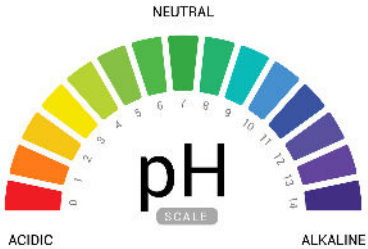
To test your bathing water you will need test sticks/autocheck or Scuba tester. If you use chlorine, you will need to test the pH, chlorine, alkalinity and in some cases the hardness of your water. Salt cannot be used in our stainless spa baths.

It is good to know that if your chlorine levels are too high (above 6 mg/l), the color of your test strips will only be visible for a few seconds before fading. If you suspect that your chlorine levels are too high or you notice that the color is fading, do the following: Dilute the water you are measuring with tap water (1/10) and test again. If you get a color rash now, your chlorine levels are too high for swimming. Wait until the chlorine levels have gone down or use DELPHIN AntiChlorine. **Excessive chlorine levels are harmful to your bath and any damage caused is not covered by the warranty.**

Normally, all chemicals should be diluted with water in a bucket before being added to the bath. Make sure that the circulation is on in the water when the chemicals are added. This applies unless otherwise stated on the bottle/can when dosing. **Make sure you only use products suitable for spa baths, NOT for pools.**

The right pH in your bath

The right pH value is essential for good water quality. It is therefore absolutely necessary to set the pH value so that it is within the ideal range of 7.0 - 7.4. The pH value affects all water values.



pH above 7.4 is too high and can cause:

- skin and eye problems
- Lime deposits
- The effectiveness of the disinfectant is reduced.
- The greater the deviation from the ideal pH of 7.4, the greater the side effects.

pH below 7.0 is too low and can cause:

- May cause irritation to mucous membranes and eyes.
- Corrosion on metallic parts

To regulate your pH, use pH + or pH - in your bath. A strongly fluctuating pH can be due to a low alkalinity value.

Alkalinity

In a spa, it can be difficult to set the correct pH value compared to a pool. It can also vary greatly when adding a pH agent. In many cases, a too low alkanity value is the reason for the strong variation. You can increase the alkalinity with the Delphin spa alkalinty up, which makes it easier to adjust the pH value. The optimal alkalinity value is between 80-120 mg/l.

Hardness

The ideal total hardness is 125 - 200 mg/l. Water with too low a hardness level can be very aggressive. Metal parts corrode and the surface can be attacked. The hardness of water is mainly determined by minerals such as calcium and magnesium. The Delphin spa Hardness Up adds calcium to the water, thus increasing the hardness level and ensuring an even level of hardness in the water.

If the water is hard, there is a risk of calcium deposits and the spa water may become cloudy and discolored. Lime and metal ions are usually dissolved in the water, but if the water is too hard it can lead to deposits on the walls and in the filter. Delphin spa Lime Stabilizer reduces the hardness of the water and thus prevents precipitation and deposits. **It is very important that you check the hardness of the water in our stainless spa baths.**

Disinfection based on chlorine

Ideal chlorine value: 0,5 - 1,0 mg/l (ppm)

When disinfecting with chlorine, the chlorine content should always be in the range of 0,5 - 1.0 mg/l (ppm). We recommend dolphin chlorine in granular form which is mixed in a bucket of water before being added to the bath. The chlorine needs to be tested regularly.

As the stainless spa baths are sensitive to harsh chlorination, it is important that you keep an eye on them and add chlorine in small amounts regularly to keep an even chlorination. Shock chlorination of stainless spa baths is not recommended and should be avoided. **Also, do not use chlorine pucks in dispensers but use chlorine in granules that are dissolved before dosing.**

Remember that disinfection always follows testing and adjusting the pH value. If the pH is wrong, the chlorine agent will not work. The chlorine value must not exceed the recommended range. If the test results show that the chlorine value is too high, there are two options. The quickest way to reduce the value is to add Delphin Antichlor, which removes excess chlorine from the water. Alternatively, all or part of the water can be replaced.

There are also other disinfectants that can be used such as active oxygen or bromine, these contain smaller amounts of chlorine, which is less risk of damage to your bath as a result of dosing with chemicals. **However, salt water cannot be used in our baths.**

Cleaning of pipe systems

The spa's piping system needs to be cleaned regularly to prevent bacterial growth in the coating that forms in the pipes. Coating in the pipes also impairs the functionality of the spa. Delphin SPA Pipe Cleaner removes this biological layer and cleans the pipe system. Clean the pipes just before each water change. To clean the pipes, add the Delphin SPA Pipe Cleaner to your spa which should be completely filled with water, run the water circulation for a short time, drain the water and then rinse the spa. Fill up with fresh water again.

Troubleshooting for water problems

Do you have cloudy, milky brown or green water? or the water smells bad or foams? Then you need to troubleshoot to find out what is causing these problems.

Step 1: Test the water values. Start by checking pH and chlorine. Then alkalinity and hardness may need to be tested.
The pH must be between 7.0 and 7.4. This is important because the pH affects disinfection and other water values. If the pH is too high, the chlorine will not work. Double check the pH value again after performing a chlorination and adjust if necessary. If necessary, adjust the pH value so that it is between 7.0 and 7.4. If you measure a pH value below 7.0, increase the pH value with Delphin Spa pH Plus. If the test result is higher, lower the pH with delphin SPA pH Minus.
Step 2 : What does the filter look like? The filter needs to be cleaned regularly. If you bathe a lot or have bad water and growth, it needs to be cleaned more often. A good tip is to always have an extra filter at home to clean the dirty filter while the other one is in use. If the filter is very worn and ugly, it needs to be thrown away and replaced with a new one. The filter must dry completely after washing before being reused.
Step 3: What filter cycles do you have set? How much the filter needs to run varies between seasons, how many bathers, how often you bathe. Usually you need to let the filter run more during the summer months when the bath is often used more. If you have problems with water quality, set the filter cycles to 2x10 hours and then reduce the hours accordingly.

Step 4: Chlorinate your water. Wait a day and measure the chlorine level again. The chlorine value should now be between 0,5 - 1 mg/l (ppm). If the chlorine value is zero after chlorination (no free chlorine in the water), carry out another chlorination. NOTE! Always check that the pH is correct before performing a chlorination. As the stainless spa material is sensitive to excessive chlorination, shock chlorination is not recommended.
Step 5 : Check the hardness and alkalinity of your water if you still haven't achieved good water quality. Read more under hardness and alkalinity if you need to change these values.

Contamination of the piping system

Coatings or contaminants in the piping system can make good disinfection impossible. How long has it been since the plumbing system was cleaned? It is recommended to clean the plumbing system at every water change.

The water doesn't get really clear

Are there small particles in the water that make it cloudy but are too small to be caught in the filter? They can be flocculated with DELPHIN SPA Gentle Clarifier so that they get stuck in the filter. Clean the filter after dosing a flocculant, otherwise they will clump together.

It smells of chlorine

Chloramines are the cause of chlorine odor. Chlorine odor occurs when free chlorine in the water is "used up" and there is no or little free chlorine left. As such, it is a sign that the water quality is becoming poor and more free chlorine is needed. Go through the five troubleshooting steps, if there is still a chlorine smell after that, we recommend that you replace all or part of the water.

Cyanuric acid

It is fine to have a cyanuric acid level of 30-50 mg/l in the water. If the level increases to over 100 mg/l, our recommendation is to reduce the amount by draining some of the water and replacing it with new water.

Discoloration of water

Metal particles in the water can cause discolored green, brown or black water. Usually you solve the problem by going through the five previous problem solving steps. If that does not help, you can add Delphin SPA Calcium Stabilizer which binds metal particles in the water. Adding Delphin SPA Gentle Clarifier also helps to get the particles out of the spa water. Keep the filter running and then change the filter after dosing these agents.

Cloudy water and limescale deposits

Cloudy water can be caused by lime in the water. Lime particles are normally dissolved in the water, but if the water is too hard, it can lead to lime precipitation and deposits on the wall. Check the hardness when you suspect or know that you have hard water and add Delphin SPA Lime Stabilizer if the hardness level is above 200 mg/l.

Foaming water

Soaps, body care products and detergents are often the cause of excessive foam in the spa. Spray Delphin SPA Foam Fighter on the foam. Replace the water or part of the water if there is a lot of foam. Always rinse very thoroughly if you have used soap or similar to clean your bath, it is usually enough to wipe the walls with a cloth of warm water after changing the water.

Metal parts corrode

The reason is probably that the pH is too low or has been too low for a longer period. Increase the pH with DELPHIN SPA pH Plus to the ideal range of 7.0 to 7.4. Also check the hardness level and increase the hardness if necessary with DELPHIN SPA Hardness Up. The hardness should be between 125 - 200 mg/l (ppm).