

wellspa

MAINTENANCE INSTRUCTIONS  
OF MINI POOL WATER

**Efficient disinfection – before the mini pool is used, a cleaning substance that destroys bacteria must be added to the water.**

All mini pool users add a lot of microbes to your mini pool water, which can spread very fast in your pool. Microbes may be described as a mix of different bacteria. Along with the common *Legionella*, the *Pseudomonas aeruginosa* bacterium can often be detected in mini pool water. This typical pool bacterium can cause eczema, ulcers, small furuncles, and other similar issues. Efficient water cleaning agents have been created to protect your health and destroy microbes. If you maintain your pool water regularly, it is safe to enjoy water procedures, and you will not experience health issues.

**Safety and dosing of chemicals**

**IMPORTANT!** Only adults may add chemicals to your pool water! Adding chemicals to your pool water is forbidden if there are people in the pool. Place the tablets in the filter cover (telescope-shaped) and activate the massage pump(s). If the chemical is in liquid form, simply pour it into the mini pool water and activate the pump(s).

**Adding chemicals to your pool water is forbidden if there are people in the pool.**

**Shock chlorination, or superchlorination**

Shock chlorination means that 5–10 times the normal dose of chlorine is added to pool water. This has several purposes: it destroys any microorganisms that have survived a normal concentration of chlorine, stops algae from developing, and normally removes any chloramines. It makes regular shock chlorinations a routine part of pool maintenance. A quickly dissolving chlorine shock product is available for superchlorination; granulated and liquid sodium hypochlorite is also suitable for this purpose. It is important to remember that the unpleasant smell and eye irritation that usually occur when excessive amounts of chlorine are used are in fact caused by small amounts of free chlorine and ample amounts of bound chlorine!

**Chemicals and the application methods thereof that you need for safe water procedures**

**Chlorine**

Chlorine is an effective disinfectant that efficiently destroys different microbes. Add two chlorine tablets per each 500 litres of water at least 20 minutes before using your mini pool. This amount of time is needed to allow the tablets to dissolve and disinfect the water. Add a chlorine tablet per each 500 litres of water for effective water cleaning after each occasion of use. It is safe to use your pool after a short waiting time of 5 minutes. These chlorine tablets dissolve completely in water without leaving any residue, and they do not affect the pH of your pool water. The amount of free chlorine in your pool water must be between 1 and 3 parts per million (mg/l, ppm).

*Free chlorine is the amount of total chlorine (e.g. Cl<sub>2</sub>, HClO, ClO<sup>-</sup>) in water that has not been transformed by bacteria, algae or other organic matter and has great potential for oxidation and disinfection to keep the water clean and clear. The most effective disinfectant is hypochlorous acid. Hypochlorous acid (HClO) is a weak acid. However, it is unstable and a very strong oxidizer, which means that it is strongly germicidal—it destroys organic compounds (bacteria, viruses, algae) during oxidation.*

*Bound chlorine, or chloramines*

*Bound chlorine (or chloramines) is a residual product of chlorination. Bound chlorine is the amount of chlorine that is bound to nitrogen compounds (such as NH<sub>2</sub>Cl, NHCl<sub>2</sub>, CH<sub>3</sub>NCl<sub>2</sub>, and other alkyl chloramines), which is formed of sweat, sunscreen, urine, dead skin cells, microorganisms, etc. among other things. Chloramines (especially dichloramines and trichloramines that are in the chemical composition of bound chlorine) produce the so-called chlorine smell, which is mistakenly thought to be a result of excess chlorine.*

*Chloramines are formed when free chlorine, or hypochlorous acid, reacts with ammonium or other organic substances. These are relatively volatile substances, which is why they can also be detected in air (we can sense what we call the chlorine smell). Chloramines are more frequently formed in water with low pH or when a particular pool is used too intensely. The larger the load of a pool and the contamination of its water, and the less attention is paid to water maintenance (cleaning, pH, etc.), the larger the amount of bound chlorine. The recommended level of bound chlorine should not exceed 0.5 mg/l.*

**Active oxygen, or ozone (O<sub>3</sub>)**

The mini pool is equipped with an ozone gas generator, or ozonizer, which is preset to be activated simultaneously with the water circulation cycle (the time can be preconfigured on the control panel of the mini pool). The disinfective action of active oxygen that is squeezed into the water during this process destroys most of the bacteria found in the water. People are advised against

being in the pool during this process as you may experience irritation of the mucous membranes and other ailments if you breathe in ozone gas. The main weakness of ozone is the short duration of its effect. No residual ozone remains in the water.

### **Bromine**

Bromine is an alternative to chlorine. The chemical properties of bromine are similar to those of chlorine, but their activity differs. Bromine is a weaker oxidizer than chlorine. Bromine is eye- and skin-friendly. It also lacks the distinctive smell of chlorine.

#### **NOTE!**

If you use only active oxygen, i.e. ozone (O<sub>3</sub>), or bromine to disinfect pool water, it is still recommended to use chlorine shock tablets once or twice a month in order to ensure complete purity of your pool water. This is because active oxygen and/or bromine do not destroy all microorganisms.

### **Pipe cleaning agent**

Pipe cleaning agents are designed to maintain the hidden parts of the mini pool, and the massage system. Remove both filters and add 250 ml of the mini pool cleaner per 500 litres of pool water. After cleaning, replace the water in your mini pool! You must make sure that bacteria do not get into the water during the discharging and refilling process. Bacteria live and multiply in the fat and dirt found on the surface of the pipes of your mini pool. The bacteria in your mini pool can only be destroyed by using the cleaning agent (chlorine) if the pipes of the mini pool are clean. Clean the pipes of the mini pool regularly with a pipe cleaning agent, and do not forget to disinfect the water—this is the only way to ensure that the water is safe for you. In the case of a mini pool that is used in a family, it is recommended to clean it quarterly. A pipe cleaning agent should be used more often depending on the mini pool's intensity of use.

**Add two chlorine tablets per 500 litres of water 20 minutes before bathing  
and another tablet after bathing.**

### **pH Up and pH Down (increasing and decreasing the pH)**

These items are used to increase and decrease the pH. The dosing instructions can be found on the package. The pH number specifies the acidity or basicity of water on a scale of 0–14. The pH of neutral, clean water is 7. The lower the pH, the more acidic the water. The higher the pH above 7, the more alkaline the water.

The allowed pH of top-quality water is between 7 and 7.8. If the pH drops below 7.0, the water becomes aggressive and causes metal parts (pool devices) to corrode.

If the pH is above 7.8, the antibacterial effect of chlorine diminishes greatly, and the water may turn green even if the chlorine content is high. Such water irritates skin and eyes. This effect is usually associated with excessive amounts of chlorine, but the actual cause of this is caused by too high a pH. Calcium is deposited on the devices, which may result in damage to the water heater; the pipes and pumps may clog up. This may start to impede the operation of the filter system.

Test the pH level of your water regularly, using test strips for pool water; keep the pH between 7.2 and 7.4.

### **Filter cleanser**

Deep cleans the cartridge filters by removing any oil and dirt found on wet filters. Facilitates filtration. The dosing instructions can be found on the package.

### **Order of pool maintenance tasks**

- Test the pH. If the pH is not between 7.0 and 7.8, add either pH Up or pH Down during the operation of the massage pumps.
- Test for free chlorine and add chlorine by two tablets if necessary. The normal amount of free chlorine is 1–3 parts per million (mg/l, ppm).

Use water test strips for testing.

Check the pH of your water and the amount of free chlorine regularly. Add two chlorine tablets per 500 litres of water 20 minutes before bathing and another tablet after bathing.

### How often should the filters be changed?

Your mini pool includes a filtration system and it is recommended that two pairs of filter cartridges are used. When one pair is active, the other may be placed in a container that is filled with a solution of filter cleanser for disinfection. When it becomes necessary to replace your active pair of filter cartridges, you can take clean cartridges from the container and place the dirty pair in the container in a fresh solution of cleanser.

### When should you replace pool water?

The recommended interval for changing your mini pool water is 2–3 times a year. This applies in cases where the water maintenance recommendations have been carefully followed.

### The most common issues and solutions

Issue	Likely cause	Solution
Eye and skin irritation; chlorine smell	The pH is either too low or high.	Measure and adjust the pH level.
	A high concentration of chloramines, caused by a fusion of free chlorine and organic matter, and ammonium compounds.	– Use shock chlorination. – Replace the water in your pool.
The amount of free chlorine decreases rapidly	Intensive use	Create a chlorine shock by using chlorine tablets.
	High temperature.	
	There is a lack of stabiliser in the water.	Use stabilised chlorine.
Formation of calcium deposits (boiler scale)	The pH is too high.	– Measure the pH level and add the pH Down substance. – Replace the water if this does not help.
Corrosion of metal parts	The pH is too low.	Add pH Up until the pH is between 7.0 and 7.8.
Turbid or cloudy water	Insufficient filtration.	– Check the filtration system. – Change the filter.
	The water is so dirty that the filter is not able to clean it.	– Replace the water. – Change the filter.
	The pH is too high.	Measure the pH level and add the pH Down substance.
	A high concentration of organic contaminants.	– Measure the pH. Adjust if necessary. – Produce a chlorine shock. – Replace the water if it continues to be turbid after shock chlorination.
Clear but coloured water (blackish, brown, blue, reddish)	Metallic contamination (copper, iron, manganese)	Replace the water.
Spots (black, brown)	Deposits of metallic contaminants (copper, iron, manganese).	Empty the pool and wash the walls and bottom with an acidic cleaning agent.
Green, cloudy water (hazy, black spots)	Algae.	Empty the pool, clean it thoroughly, refill the pool.

If you are unsure about what to do, replace the water first. If the problem persists, contact your local dealer.