

Lotus

Biological filtration
isn't what you think!



Lotus

No chlorine,
no ionisation,
no bromine,
no active oxygen,
no phyto-purification...

Just clear,
healthy water!



aquatic**science**

Biological filtration

Biological pool filtration has historically been associated with the concept of natural swimming or lake swimming, based on phyto-purification. However, this noble, ancient technique shows its limits when it comes to guaranteeing healthy pool water. This has contributed to an often negative image of biological filtration.

Growing interest in alternatives to chlorine has led several companies to offer so-called «biological» solutions, which generally involve replacing chlorine with a different disinfectant – so this is not biological filtration!

Disinfected water with no disinfectant !

In a pool with biological filtration as we see it, the water is regenerated naturally. The Lotus technology, which reproduces natural phenomena under full control, provides soft, clean, clear pool water. No more need for disinfectants to maintain water quality in line with demanding health standards – the water is disinfected with no disinfectant!

As with a traditional pool, many optional extras can be added: heating, covers, endless pools, indoor aquabike... no concessions are required in terms of comfort.

More than just an alternative to chlorinated pools, the Lotus filtration system from Aquatic Science is a new approach to swimming pools, discovering new sensations in tune with nature and protecting swimmers' health.

How the Lotus Filtration System Works

1

Water circulation

A pump (1), equipped with an eco-friendly flow controller (2), circulates the water through the filtration circuit. The water is drawn from the pool surface via skimmers and the bottom via floor drains. The quantity and position of these sealed-in elements determine the efficiency of the filtration.

2

Mechanical pre-filtering

Before the actual biological filtration process, matter in suspension must be removed from the water. This is the role of the Polyvortex (3), a «dust collector» that removes particles larger than 30 µm by creating miniature cyclones.

3

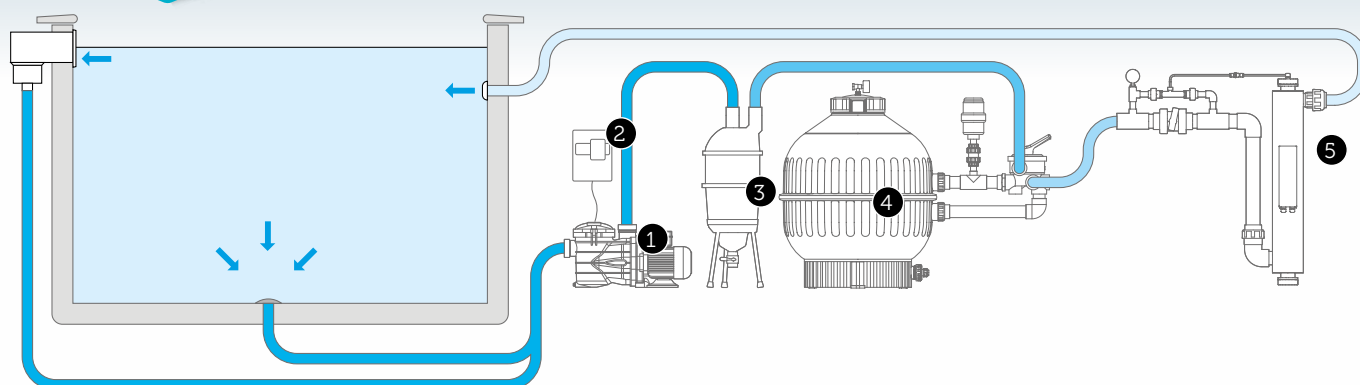
Biological filtration

The Shark Bead (4), a biological pressure filter developed exclusively by Aquatic Science, uses micro-organisms to digest all the organic residue in the water.

4

Purification

Finally, an Uvozone® or UV Synergy disinfects the water by combining UV with advanced oxidation. The water is returned to the pool, with 99.9% of germs removed, every two to four hours (six times more often than required by the standard in force!).



Lotus

Advantages of the Lotus filtration system

No chemicals are used

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Phyto-purification is optional, the **available space** can be used entirely for the bathing area

•

Meets the **health quality standards** of Belgian and French public swimming pools

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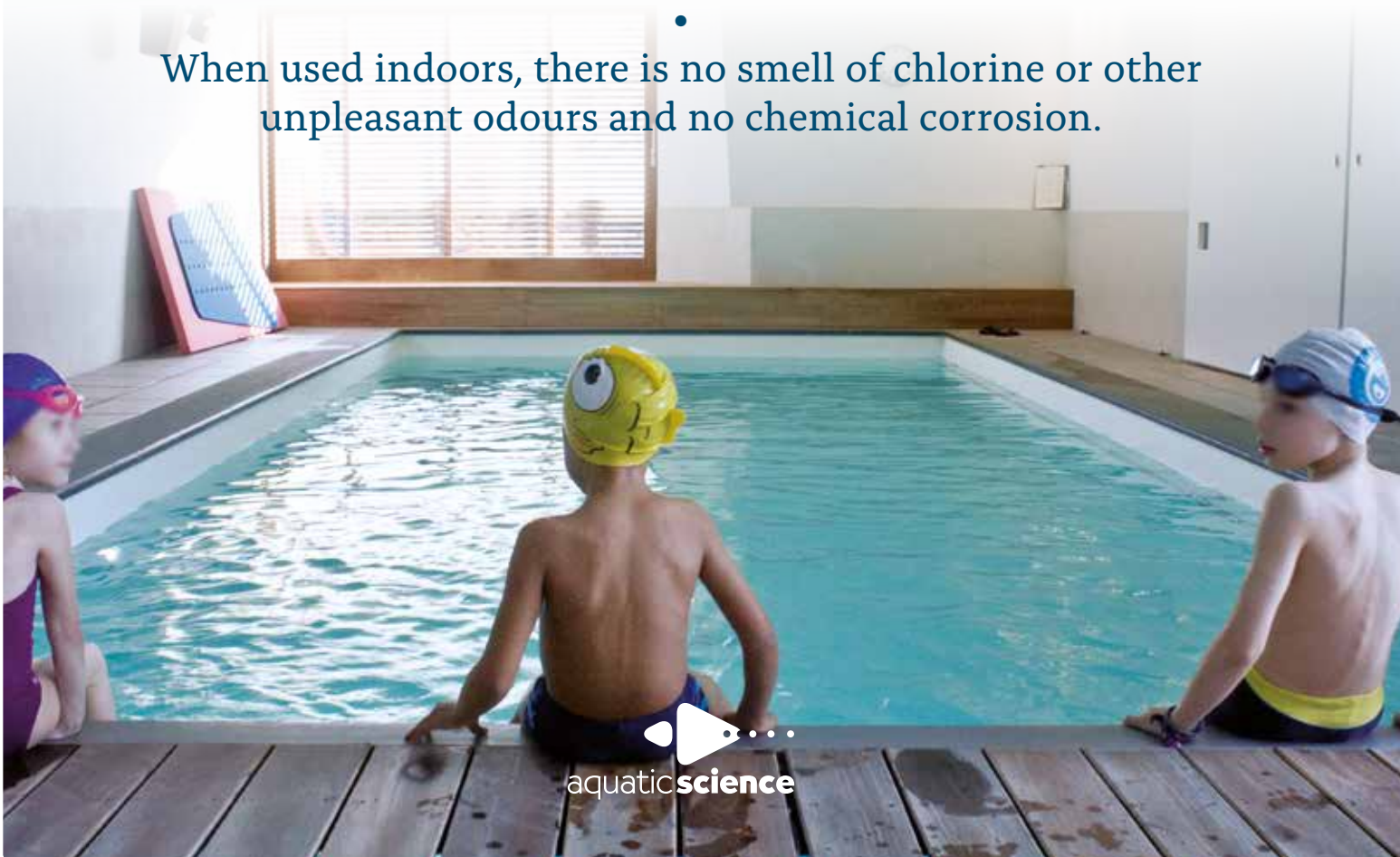
Bio-renovation : the system can be fitted to existing pools

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Compatible with equipment such as heating, covers, endless pools etc.

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When used indoors, there is no smell of chlorine or other unpleasant odours and no chemical corrosion.



Lotus Box

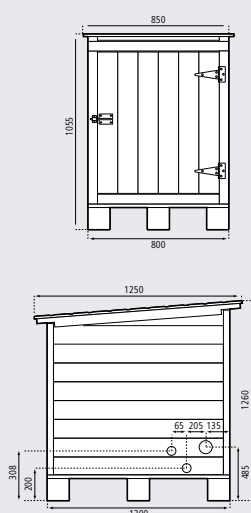
Complete biological filtration system
for swimming pools



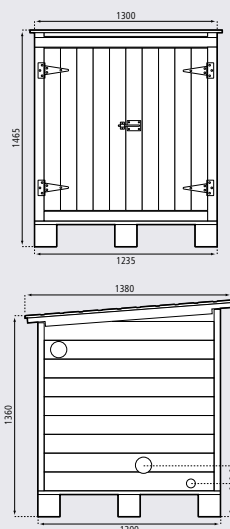
The Lotus Box is a transportable machine room incorporating a complete Lotus biological filtration unit for swimming pools. The Lotus Box is made of untreated Douglas fir fitted to a rot-proof recycled PP pallet. Douglas fir is a naturally durable wood that can be painted or stained to fit harmoniously into your garden.

	LOTUS BOX 40	LOTUS BOX 45 V	LOTUS BOX 80	LOTUS BOX 80 V	LOTUS BOX 80 FC2
PUMP	Pro-Jet 10/6	Pro-Jet VE	Pro-Jet 22/8	Pro-Jet 28/8T	Pro-Jet 28/8 T
PREFILTRATION	Polyvortex mini	Polyvortex mini	Polyvortex	Polyvortex	Polyvortex
BIOLOGICAL FILTER	Shark Bead 45/25	Shark Bead 45/25	Shark Bead 80/45	Shark Bead 80/45	Shark Bead 80/45
STERILISATION	AS-UV Synergy 10	AS-UV Synergy 15	Uvozone 750	Uvozone 750	Uvozone 750
ECOCONTROL	-	Variateur	-	Regulador	Flow Control
KIT ASPIRATION	-	-	option	option	option
KIT REFOULEMENT	-	-	option	option	option

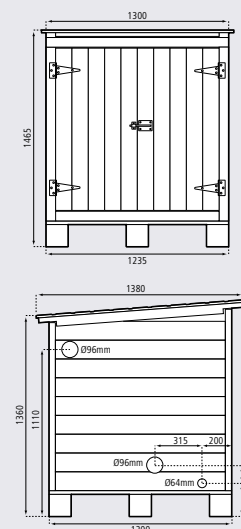
LOTUS BOX 40 Y 45V



LOTUS BOX 80



LOTUS BOX 80V

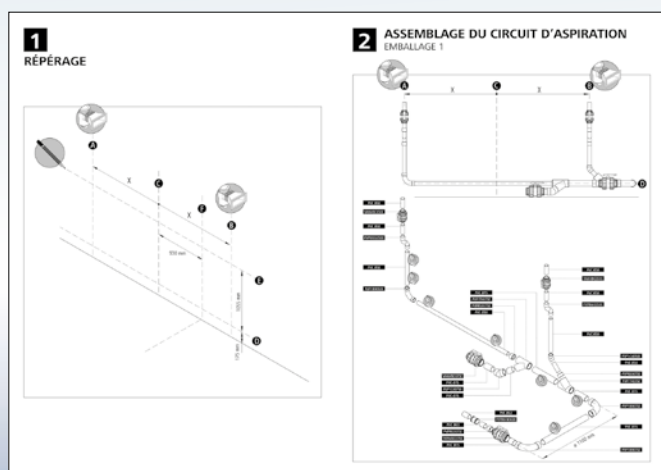


Filtration system

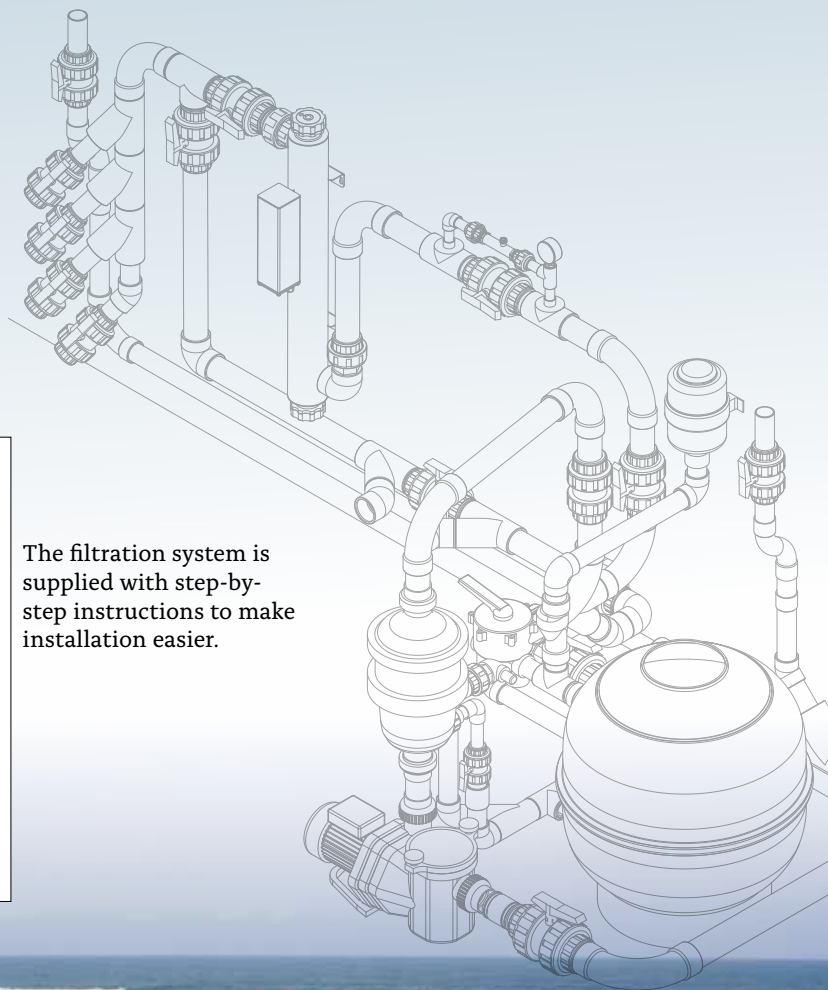
Complete biological filtration systems for swimming pools of up to 80 m³

Save valuable time, increase the efficiency of your installations, control costs... for better cost-effectiveness and creativity. The Lotus biological filtration system from Aquatic Science includes the equipment and accessories required to filter a swimming pool of up to 80 m³ :

- A Pro-Jet SE 22/8 pump (28/8 T for the FC2 version)
- A Polyvortex pre-filter
- A Shark Bead 80/45 biological filter
- An Uvozone 750
- All the pipes, connectors and accessories



The filtration system is supplied with step-by-step instructions to make installation easier.

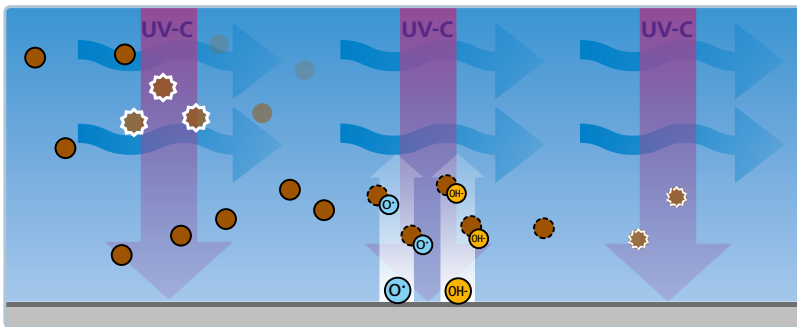


AS UV Synergy

Dual-action photocatalytic UV reactors

The new AS-UV Synergy technology is based on the synergy between UV radiation and an advanced oxidation process, photocatalysis. In all traditional UV reactors, the potential for destroying germs and pathogens is limited by the reduced capacity of UV rays to penetrate the various shells, cysts and membranes protecting these organisms. To counteract this phenomenon and increase the effectiveness of our sterilisers, the interior surface of the stainless steel AS-UV Synergy reactor is coated with a photocatalytic nano-layer (TiO_2).

Activated by UV radiation, this catalyst causes hyperoxidation, leading to the destruction of the pathogens' protective structures and considerably increasing the biocidal effectiveness of the UV rays.



The other advantages of the advanced oxidation process :

- The hydroxyl radicals (OH^\cdot) generated by the catalyst's activation are twice as oxidising as chlorine, with no harmful effects on health!
- The hyperoxygenation caused by photocatalysis leads to a beneficial acceleration of the nitrogen cycle.
- In a so-called "traditional" swimming pool, the chlorine odours are reduced thanks to the degradation of chloramines.
- Photocatalysis slows the formation of scale on the quartz sleeve.





Uvozone

Triple-action UV-reactor

Part of solar light is not visible to human eye. That's the case of ultra-violets. These light rays have a particular interest in the treatment of water. They literally destroy undesirable microorganisms in just a few seconds thereby insuring efficient water disinfection. Such technique is commonly used in drinking water purification for example.

These UV rays show another advantage. They can act on oxygen molecules (O_2) to produce Ozone (O_3). Ozone is a true cleaner which, in nature, attacks (oxidizes) numerous toxic substances sustaining highest quality standards of water.

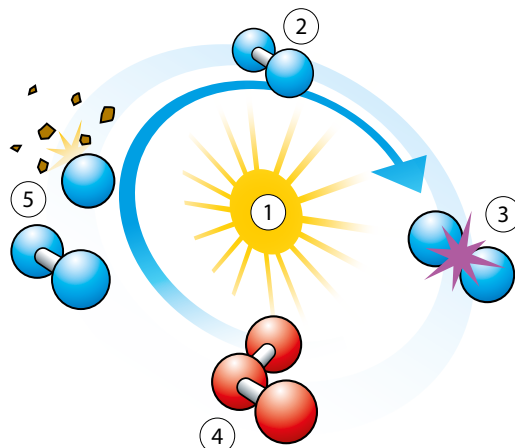
Uvozone® simply works in a similar manner inspired by nature. It utilizes UV rays to disinfect and purify water through a combination of solar rays and ozone.

Advantages :

- Double efficiency of UV lamp
- Up to 99.99% destruction of adverse microorganisms
- Oxidization of numerous pollutants
- Increase of oxygen content in the water
- Improvement of the biological filtration's performances
- Pure, clean, crystalline and healthy water
- Economic and ecological water treatment
- Reduced consumption of water treatment products, of water and energy
- Improved wellbeing
- Minimal maintenance work

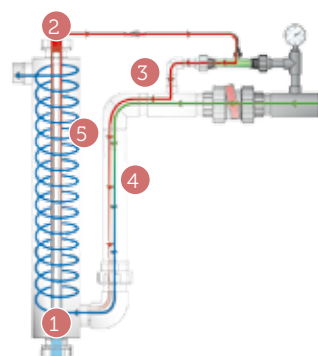
The ozone cycle in nature

Under the influence of sun light UV rays (1), oxygen (2) of the air splits into two atoms (3) which recombine to form the ozone molecule (4). Ozone will then react to eliminate pollutants (5) thereby releasing an oxygen molecule.



The ozone cycle in the Uvozone

A specific UV lamp (1) produced for Aquatic Science induces two effects: a destruction of pathogenic and adverse microorganisms and the conversion of oxygen from the UV treated air into ozone (2). The air-ozone mix is then injected into the water system upstream from the Uvozone® (3). The ozone (4) attacks (oxidizes) both pathogenic microorganisms of the water and toxic pollutants. The water then flows through the reaction chamber (5) where it is sterilized by the UV rays.



Start-up and maintenance of the Lotus swimming-pool

A few simple operations will maintain the biological balance of the installation throughout the year. For example, you need to keep an eye on the quantity of minerals present and the effectiveness of the bacteria responsible for filtration. Sometimes some of these parameters may need to be corrected, which is why Aquatic Science has developed a range of products dedicated specifically to the swimming pool's mineral and biological balance.

Start-up of the biological filtration

Optipool contains all the "good bacteria" and minerals needed to start or restart the biological filtration of the swimming pool.

At the start of the filtration, after maintenance, water treatment or change, when the water temperature exceeds 15 ° C, distribute Optipool on the water surface where the water is circulating better. Turn off the UV for three days. When necessary, by-pass the heat pump for three days.



Maintenance of the biological filtration

Bactopool is a mixture of minerals, oxides and natural germs specially selected for their purifying power. It maintains an ideal bathing water throughout the season.

Bactopool can be administered every three to four weeks. In certain conditions (excessive rain or abnormal pollution), more frequent application may be necessary.



Preventive treatment

Bioclean Care acts to protect the quality of the pool water in addition to the filtration system. It prevents any deterioration in the water quality following excessive exposure to inputs (accidental pollution, high number of swimmers, addition of organic matter from outside etc.).

Having set the Shark Bead valve to «recirculation», spread Bioclean Care over the surface of the water. Wait half an hour before restarting the Shark Bead.



Mineral balance

The mineral balance is the keystone of the aquatic ecosystem. It is thus important to measure these parameters regularly, especially after heavy rain, and to correct them if necessary to provide the best conditions for biological filtration.

GH Pool and KH Pool increase the total hardness (GH) or carbonate hardness (KH) of the water (mineral salts).

pH+ Pool increases and stabilises the water's pH.

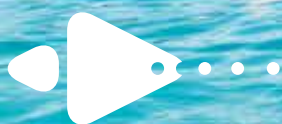






Lotus

Nature makes things right,
Nature inspires us.



aquatic**science**

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