

Complete Algae Control Solution

A combination of high temperatures, stagnant water, and nutrient overload can result in excessive algae growth. This causes a depletion of oxygen in the water and the release of toxins, as well as taste/odor problems.



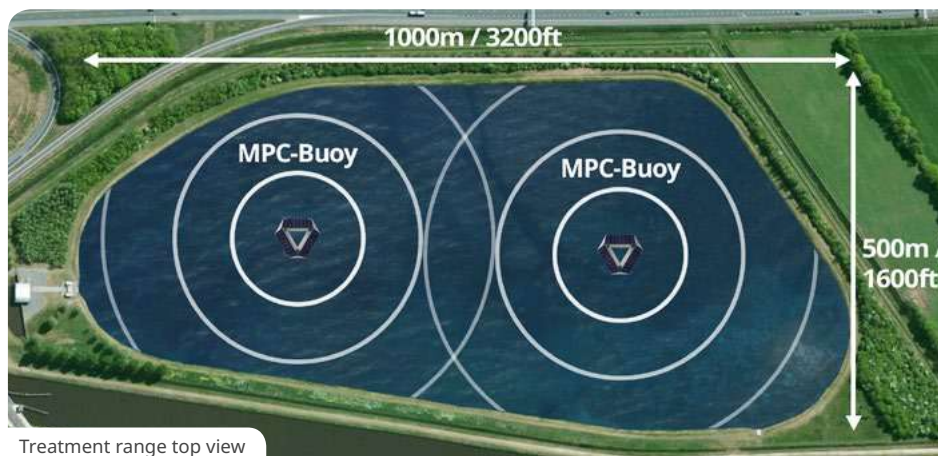
MPC-Buoy

The MPC-Buoy is a floating, solar-powered system that combines real-time water quality monitoring and ultrasonic sound waves to control algae in lakes and reservoirs effectively.

Advantages of LG Sonic ultrasonic technology

- ✔ Eliminate up to 90% of the algae
- ✔ Prevent the growth of new algae
- ✔ Reduce TSS, BOD and chemical usage
- ✔ Safe for fish, plants and other aquatic life

The solution is to anchor one or multiple systems that transmit specific ultrasonic parameters depending on the type of algae.



Each MPC-Buoy device can control algae in areas up to 500m/1600ft in diameter

Control Algae in Large Fresh Water Surfaces

The MPC-Buoy is especially designed to control algae in large water surfaces such as lakes and reservoirs.

Drinking Water Reservoirs



Reduce chemical consumption, odor and taste problems

Irrigation Reservoirs



Prevent the clogging of pumps, filters and sprinklers

Lakes



Reduce odour problems and prevent dangerous toxins

Industrial Reservoirs



Increase water quality and the efficiency of your cooling water

Wastewater Lagoons



MPC-Grid

For wastewater lagoons, LG Sonic offers an MPC-Buoy solution without solar panels, called the MPC-Grid. The system is powered from the mains (AC, DC optional) to treat smaller water bodies such as wastewater lagoons.

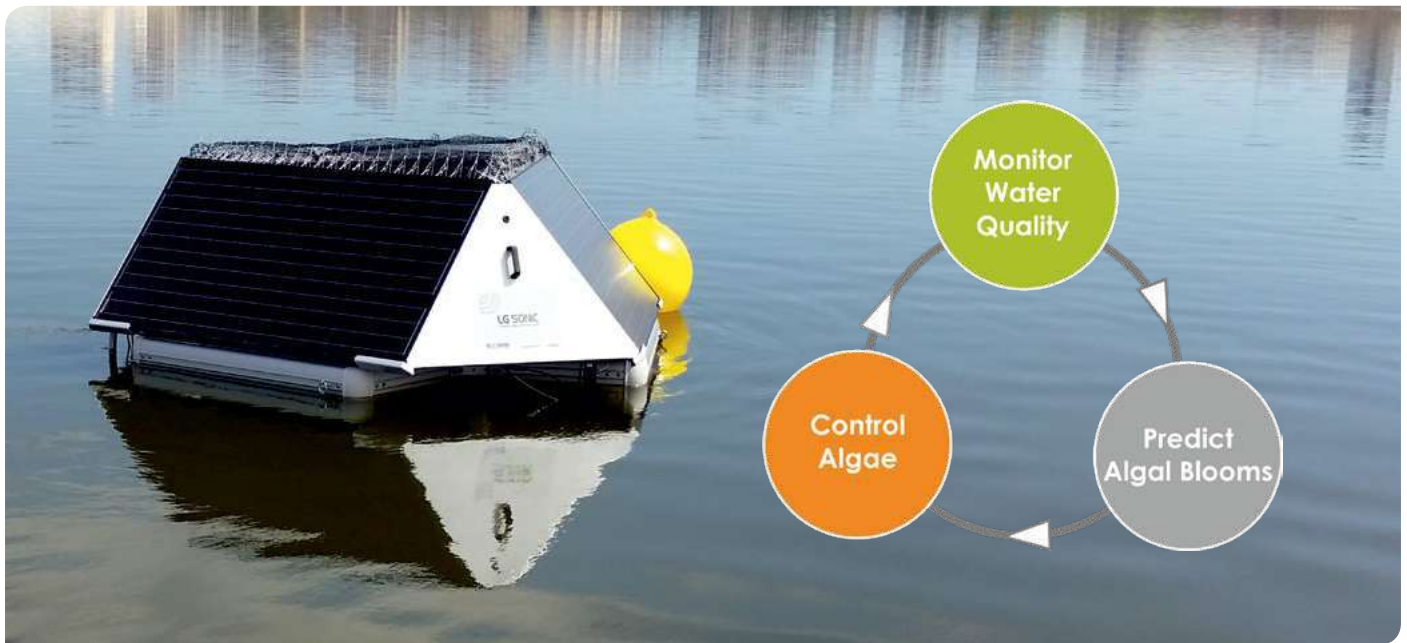
- ✔ Improve the water quality
- ✔ Reduce TSS and BOD before discharge



PUROXI T- (604) 826-8369 T/F- (877) 466-8252
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Green Lake S. Rd. 70 Mile House, BC V0K 2K2 *clean, clear, nutritional water*

Monitor, Predict and Control Algae with the MPC-Buoy

The MPC-Buoy is a floating solar-powered system that combines real-time water quality monitoring and ultrasonic sound waves to control algae effectively.



1. Monitor Water Quality

The MPC-Buoy provides a complete overview of the water quality by collecting the following parameters every 10 minutes:

- Chlorophyll α (green algae),
- Phycocyanin (blue-green algae),
- pH,
- Turbidity,
- Dissolved Oxygen,
- and Temperature.

2. Predict Algal Blooms

The collected data is delivered in real-time via radio, GPRS, or 3G to a web-based software.

The web-based software gives a real-time insight in the water quality.

Based on our developed algorithm we can modify the ultrasonic program to the specific water conditions and predict an algal bloom a few days ahead.

3. Control Algae

Based on the received information, ultrasonic transmitters are activated and/or optimized.

The ultrasound creates a sound layer in the top layer of the water. The sound layer prevents the algae from rising to the surface to get sunlight, the algae will sink to the bottom of a reservoir and are degraded by the bacteria present.

The effects of LG Sonic products have been tested by various universities and are proven to be safe for fish, plants, zooplankton, and insects

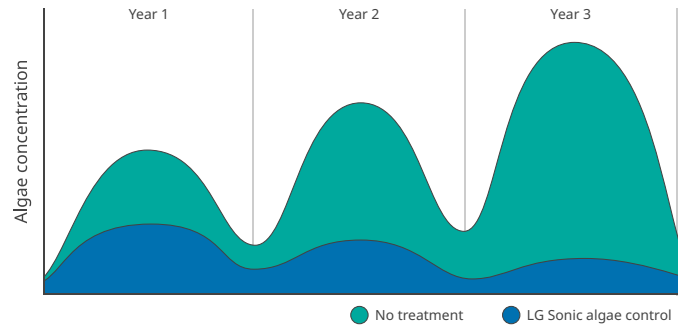


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LG Sonic Ultrasonic Algae Control Treatment Process

Why it is Important to Control Algae Growth

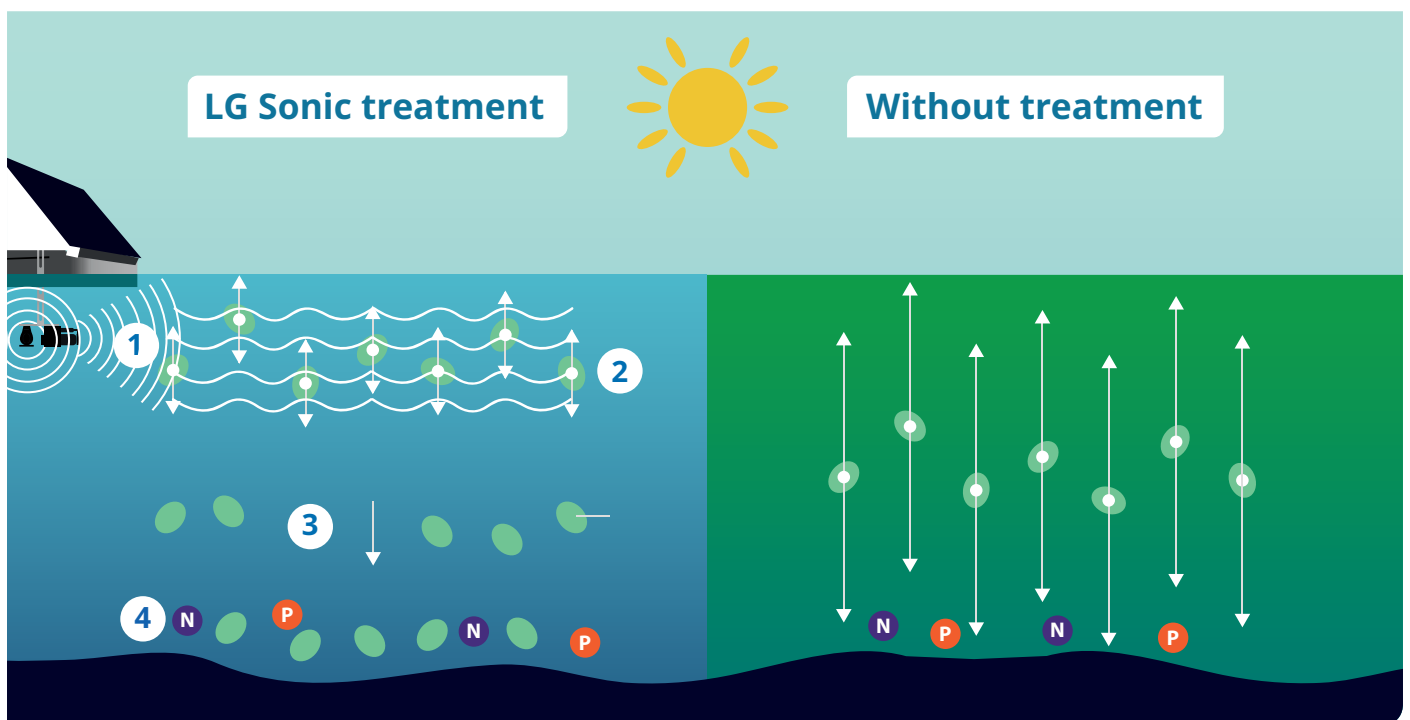
Algal blooms cause a reduced light penetration, depletion of oxygen, and release of toxins from the algae, which are unfavourable conditions for fish and plants. LG Sonic ultrasonic technology contributes to a healthy ecosystem by controlling the algae growth. After one year of treatment, the algal levels will reduce even more as the increased clarity of the water will result in plant growth and increased oxygen levels.



Ultrasonic treatment by LG Sonic can reduce algal blooms by 70 – 90% in concentration, compared to no treatment

How Ultrasound Targets the Algae

- 1 The ultrasound creates a sound layer in the top layer of the water.
- 2 The ultrasound affects the buoyancy of the algae, fixing them in the water column.
- 3 Due to a lack of sunlight and nutrients, the algae will die and sink to the bottom of the reservoir.
- 4 The algae are degraded by the bacteria present.



For an effective treatment the ultrasound is adapted to the specific water conditions



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MPC-Buoy Features



1 4 ultrasonic transmitters

- ✓ Treatment range of 500m/1600ft in diameter
- ✓ Integrated Aquawiper™, an automatic cleansing system for the ultrasonic transmitters
- ✓ Real-time water quality monitoring to adjust the ultrasonic program to the specific water conditions

2 In-situ water quality sensors

- ✓ Monitors chlorophyll α , phycocyanin, DO, turbidity, temperature pH, and redox
- ✓ Automatic antifouling wiper ensures optimal readings
- ✓ Optional sensors are available according to your needs and preferences

3 Solar panels as power supply

- ✓ 3x 195 Wp high-quality solar panels that provide power, all year round in any country
- ✓ Switches to energy-saving program during periods of low sun radiation
- ✓ 1x 24 Volt, 40 AMP lithium battery

4 Anchored floating construction

- ✓ Aluminium powder-coated frame
- ✓ UV and corrosion resistant construction
- ✓ Unsinkable floats

5 Smart communication system

- ✓ GSM/GPRS Telemetry Quadband (CDMA, Radio, GPS and Iridium Satellite optional)
- ✓ Real-time water quality data with the MPC-View software
- ✓ Integrated alarm functions

Our Clients

LG Sonic works together with top-level water utilities



"Extensive testing conducted during 2014 showed that the buoys had a significant impact on the algae, allowing the plant to reduce chemical consumption by more than 20 percent, and reducing the concentration of undesirable taste and odor causing compounds in the treated water delivered to customers".

Orren Schneider, Manager Water Technology



"The algae and cyanobacteria control has been an excellent investment. We achieved by means of an environmentally friendly technology to improve the water quality and decrease the treatment costs, furthermore we have today a monitoring and control which is more adjusted to the behaviour of our reservoir".

Santiago Barrera, Professional Business Operations



"This is a new and exciting technology that has the dual advantage of being low capital cost and being solar powered, giving low operational costs. The environmentally friendly technology offers the potential of algae removal using ultrasound, resulting in an improvement in the water quality".

Martin Bradley, Head of Innovation



"We're working closely with the supplier who is able to fine-tune the sound frequencies to deal with specific outbreaks of algae. "It's early days and we haven't hit the peak time for algae but following the first significant outbreak, we've already seen a dramatic reduction which is very encouraging".

Tim Latcham, Head of Water Supply

