



# Control Algae and Biofouling with the LG Sonic Industrial Line

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- ✔ Eliminate up to 90% of the algae
- ✔ Prevent clogging of filters and pumps
- ✔ Reduce chemical usage



# Chemical-free Algae Control



## LG Sonic Industrial Line

The LG Sonic Industrial Line (Wet) is a cost-effective algae and biofouling solution for reservoirs, ponds, irrigation reservoirs by using ultrasound technology.

## The Advantages of our Technology

- ✔ Eliminate up to 90% of existing algae
- ✔ Prevent the growth of new algae
- ✔ Improve the water quality

## LG Sonic Industrial Line Options

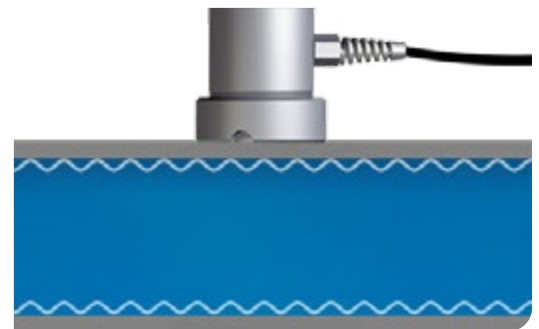
Within the Industrial Line, there is an Industrial Wet or Industrial Dry option available depending on the specific situation.

### LG Sonic Industrial Wet

Featured in this brochure



### LG Sonic Industrial Dry



#### How the ultrasound is transmitted

Throughout the water body, within a pipe or mounted alongside a submerged surface

Through the dry side of a surfaces such as a pipe. The ultrasound is effectively transmitted through the material

#### Which problem will be solved

Reduce floating algae, prevent the growth of biofouling on the walls

Prevent the growth of biofouling in heat exchanges and pipes.

#### Typical applications

Reservoirs, larger ponds, irrigation reservoirs, clarifiers, cooling basins

Heat exchangers, sea chests, pipes

[Algae control case studies](#) ↻

# Applications for the LG Sonic Industrial Line (Wet)

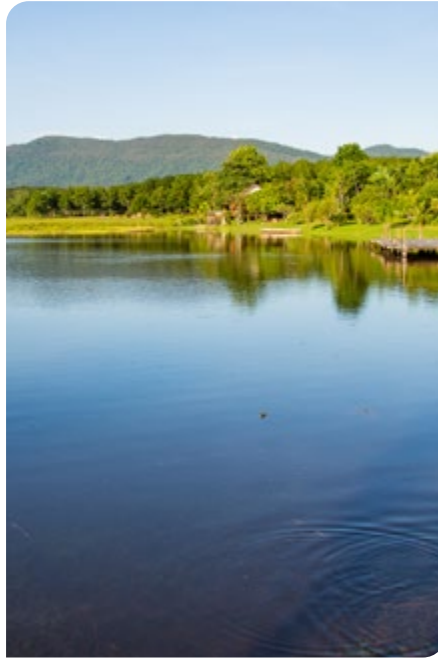
The LG Sonic Industrial Line (Wet) is an advanced system that emits specific ultrasonic parameters in order to control algae effectively.

## Reservoirs



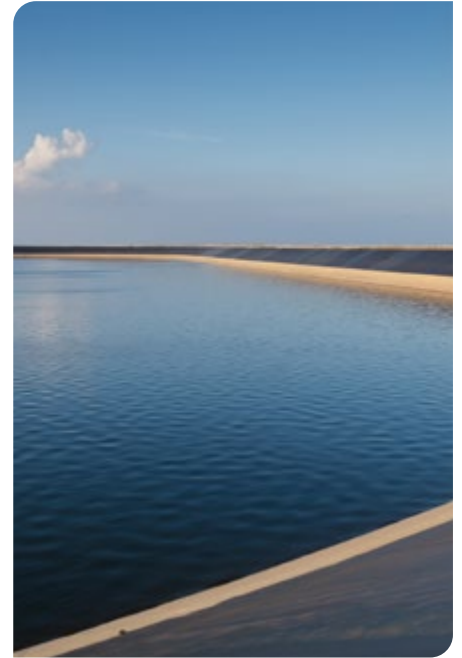
Control algae in reservoirs without harming the ecological balance of the water body.

## Larger ponds



Reduce maintenance and improve the water quality of larger ponds without using chemicals.

## Irrigation ponds



Prevent the clogging of pumps, filters and sprinklers in irrigation ponds.

Over 10,000 LG Sonic products have been successfully installed in a wide range of applications in 52 different countries.

## Treatment of large water surfaces



### Control and Monitor Algae

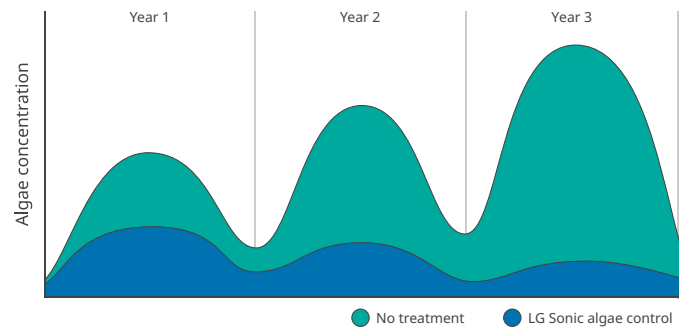
The MPC-Buoy is a floating, solar-powered system that combines real-time water quality monitoring and ultrasonic sound waves to effectively control algae in large lakes and reservoirs.

[Learn more about the MPC-Buoy](#) 

# LG Sonic Ultrasonic Algae Control Treatment Process

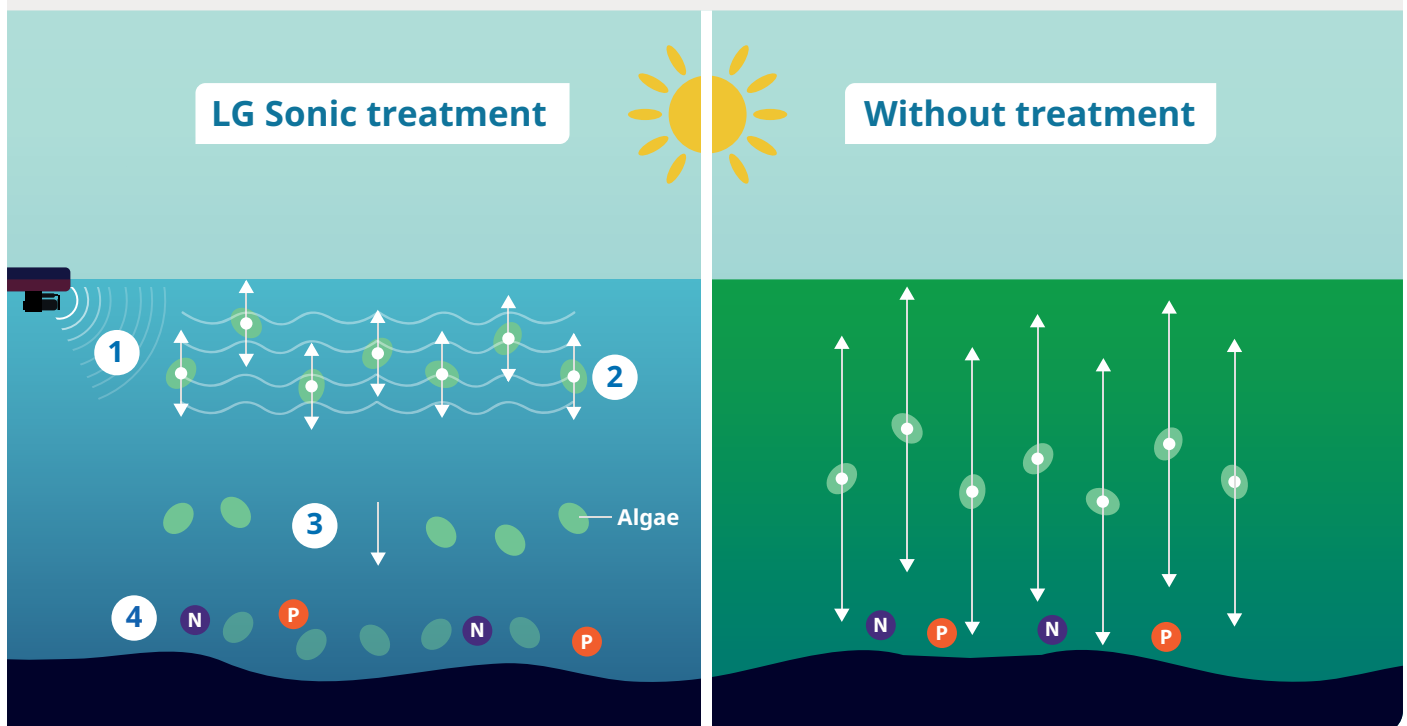
## Why it is Important to Control Algae Growth

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.



## 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.



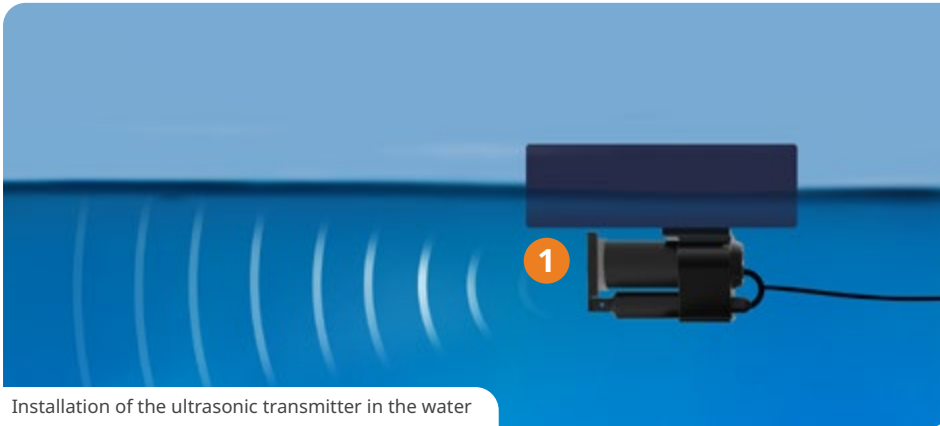
## Chameleon Technology™ to Adapt the Ultrasonic Treatment to the Type of Algae

Chameleon Technology™ makes it possible to change the ultrasonic program according to the water conditions, type of algae, and type of application, thereby providing the most effective solution for each specific situation.

- ✔ More efficient algae control
- ✔ Shorter treatment time
- ✔ Prevent the occurrence of resistant algae

[Learn more about ultrasonic algae control](#)

# LG Sonic Industrial Line Features



Installation of the ultrasonic transmitter in the water



Control box to select treatment program

## 1 Ultrasonic transmitter for effective algae control

- ✔ Treatment range up to 200m/650ft per device
- ✔ Integrated Aquawiper™, an automatic cleansing system for the ultrasonic transmitters
- ✔ Chameleon Technology™, adjusts the ultrasonic program to the specific water conditions

## 2 Weatherproof control box

- ✔ Weatherproof design to protect against outdoor conditions
- ✔ LCD display with control buttons to select 12 different ultrasonic programs
- ✔ It is possible to add multiple ultrasonic transmitters to one control box for the treatment of multiple tanks or water surfaces with curves

## 3 Remote control monitoring to prevent frequent site visits

- ✔ GSM/GPRS control allows the user to monitor and change the ultrasound program remotely
- ✔ Receive status updates and alerts when power outages occur.

## Optional

### Installation bracket

Bracket to install LG Sonic Industrial Line (wet) without a float. Easy removable for maintenance checks.

### Easy installation with the flexi-arm

The flexi-arm can be adjusted to fit every application and can be extended up to 5 meters.

### Onshore solar system for autonomous power supply

The LG Sonic Industrial Line (wet) can work autonomous on solar energy. LG Sonic provides a complete solar system including a solar panel, batteries, and a charge regulator.



# Technical Specifications

|                                |  |
|--------------------------------|--|
| <b>Ultrasonic transmitter*</b> | <ul style="list-style-type: none"> <li>• Unique Chameleon Technology™</li> <li>• 12 pre-installed ultrasonic programs</li> <li>• Max freq/program, 80</li> <li>• Ultrasonic generator integrated in the ultrasonic transmitter</li> <li>• Transmitter cable, 20m/65ft (extension possible)</li> <li>• Float</li> </ul>   |
| <b>Control box</b>             | <ul style="list-style-type: none"> <li>• Choose between 1, 2 or 4 transmitter outputs to one control box</li> <li>• LCD display with control buttons</li> <li>• Remote control monitoring, GSM/GPRS</li> <li>• AC input voltage, 100-240V AC, 50/60hz or DC input voltage, 24V DC</li> <li>• Energy consumption, 5-40 Watt</li> <li>• Weatherproof design, Aluminum</li> <li>• Ingress protection, IP67</li> </ul> |
| <b>Aquawiper™</b>              | <ul style="list-style-type: none"> <li>• IP69 underwater housing</li> <li>• 180° turning angle</li> <li>• Industrial-designed brush</li> </ul>   |
| <b>Solar power system**</b>    | <ul style="list-style-type: none"> <li>• 195 WP solar panel</li> <li>• 2x 12 Volt, 60Ah batteries</li> <li>• Solar regulator</li> <li>• Panel mounts or poles are optional</li> </ul>  |
| <b>Flexi-arm™</b>              | <ul style="list-style-type: none"> <li>• 1 meter arm for easy installation</li> <li>• The flexi-arm can be extended up to 3 meters</li> </ul>  |
| <b>Installation bracket™**</b> | <ul style="list-style-type: none"> <li>• Install ultrasonic transmitter without float</li> <li>• Easily remove ultrasonic transmitter for maintenance checks</li> <li>• Coated stainless steel</li> <li>• Length of 40 cm</li> </ul>   |

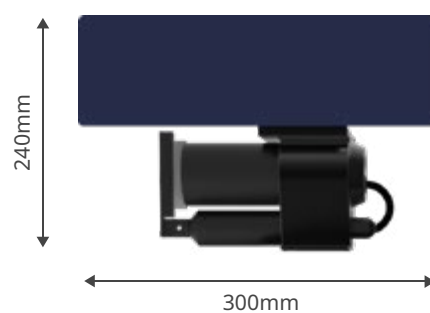
\*For an effective treatment it is important that the minimum depth of the water is least one meter

\*\* The solar powered system, e-line tester, flexi-arm and installation bracket are optional

**Control box**



**Ultrasonic transmitter**



# Case Studies

## Biofouling Prevention in a Wastewater Treatment Plant



Several LG Sonic devices were installed in a Wastewater Treatment Plant (WWTPs) in Melbourne, Australia to prevent biofouling. High algae concentrations created problems for process performance and increased operating expenditure for cleaning and maintenance activities.

### Results

The LG Sonic devices show a viable solution to prevent biofouling in the balance tanks. Significant operating expenditure related to cleaning maintenance has been saved.

- ✔ **Reduction in cleaning and maintenance**
- ✔ **Less frequent backwash required of tertiary cloth filters**
- ✔ **Aesthetic improvement in balance tank**

## Biofouling Prevention in a Water Treatment Plant



Figure 1: Before treatment

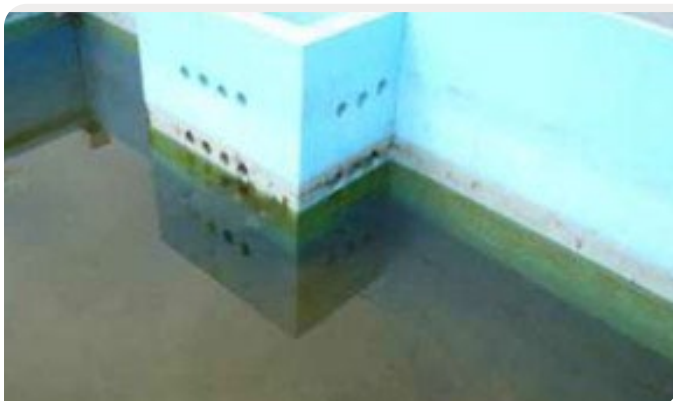


Figure 2: After treatment

A potable water treatment plant in Kuse (Japan) installed several LG Sonic systems in the sand filters to prevent the formation of biofouling. Filamentous algae grew abundant in the sand filters, creating problems with the taste of the water and clogging of the filters.

### Results

After several weeks of treatment, it was visible that the number of filamentous algae has decreased. The filters were not clogged due to less biofouling formation and the maintenance of the filter beds could also be reduced.

- ✔ **Reduction of biofouling formation**
- ✔ **Reduction of filamentous algae**
- ✔ **No more clogged filters**

# Company Profile

## Mission

We at LG Sonic have the mission to eliminate harmful chemicals in the water treatment industry. Therefore, we developed a chemical-free technology that controls algae without disturbing the natural balance within water ecosystems. We work together with different European Universities and Research Institutes, many of which are European funded research and development projects.

Since 1999, LG Sonic has been a leading international manufacturer of ultrasonic algae control and biofouling prevention systems



## Our Solutions

- **MPC-Buoy**  
Control and monitor algae in lakes and reservoirs
- **LG Sonic e-line**  
Control algae in ponds
- **LG Sonic Industrial Line**  
Biofouling prevention in industrial systems
- **Monitoring Buoy**  
Combination of real-time water quality monitoring and user-friendly cloud software

## Track Record

- Coordinator of several European FP7 projects: ClearWater PMPC and Dronic (€3.2 million)
- Official Innovation Partner of American Water, U.S. largest water and waste water utility
- Winner of several innovation awards: Aquatech Innovation Award (2015), Global TAG excellence award (2015), WssTP Water Innovation Award (2014)





Over 10,000 LG Sonic algae control products have been successfully installed in a wide range of applications in 52 different countries



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