AQUATIC
TECHNOLOGIES

LG SONIC®

Advanced Ultrasonic Algae Control

AT029v3.2

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LG SONIC®

E-Line XL 120m

E-Line XXL 200m

MPC Buoy

Aquatic Technologies *LG Ultra Sonic* Algae Control units are the safe, effective and environmentally friendly way to control algae in large drinking water storages (potable water), lakes, irrigation storages, waste water lagoons, waste water treatment plants, aquaculture, industrial water systems (including storage tanks), dams, swimming pools and cooling towers.

LG Ultra Sonic Algae Control units emit specific ultra sonic sound waves that target different algae types including micro algae such as Blue Green Algae (BGA) / common green algae and macro algae such as filamentous algae species.

The ultra sonic sound waves are scientifically proven to eliminate many common algae types, including toxic Blue Green Algae (Cyanobacteria and Anabaena).

Aquatic Technologies *LG Ultra Sonic* Algae Control units are available several models; each model is available with various ranges to match you size water body.

features

The features of the *LG Ultra Sonic* Algae Control units are:

- It can be used to controls different kind of algae, including blue green algae.
- It controls biofilm formation.
- It is environmentally friendly.
- It is does not affect fish, water plants and insects.
- It is effective on large water surfaces, such as large lakes and reservoirs.

benefits

The Benefits of the LG Ultra Sonic Algae Control units are:

- It is a one-time investment and does not have consumables.
- Can be compared with additional treatments technologies like UV, Ozone or Bioremediation.
- Has a very low power consumption. Can be operated via solar power for remote sites and locations.
- Easy to install, maintain and use.

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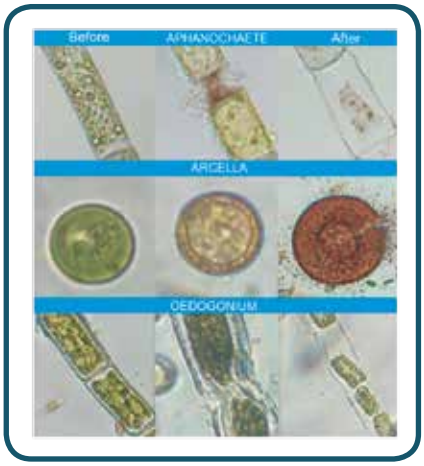

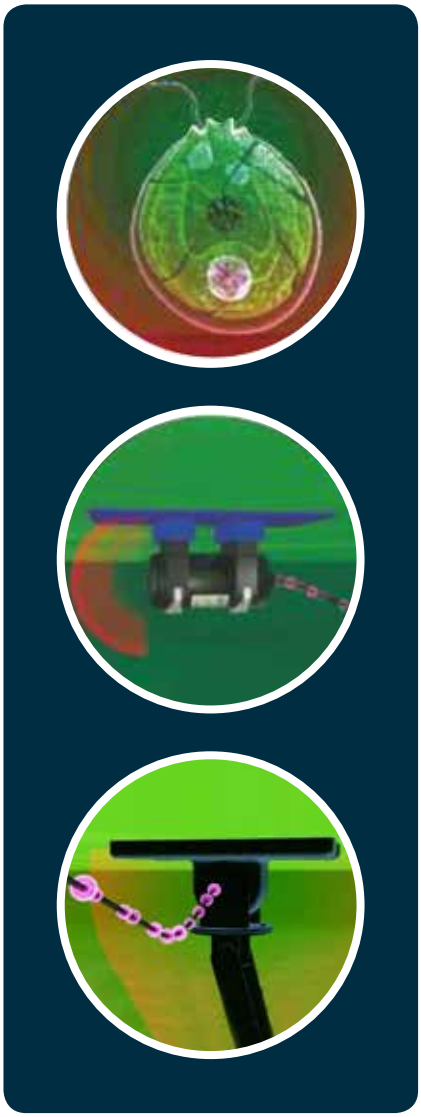

How does ultra sonic algae control work?

Ultra sonic sound waves emit from the *LG Ultra Sonic* units control algae in various ways, depending on the type of algae:

Collapse of gas vesicles:

Blue Green algae such as cyanobacteria are capable of travelling through the water column vertically through the use of their gas vesicles. The ultra sonic sound waves emitted from the *LG Ultra Sonic* ruptures these gas vesicles, thus preventing the algae from rising to the surface and absorbing light for photosynthesis, resulting in the death of the algae cell. The benefit of controlling algae in this manner, is that the cyanobacteria algae cell remains intact and is not ruptured, therefore the toxins from the algae are not released into the water column.

Lethal Resonance:

For algae types such as common green algae, the ultra sonic sound waves emitted from the *LG Ultra Sonic* uses lethal resonance to damage or rupture areas in the algae cell such as the tonoplast, thus releasing the contents of the vacuole to the inner cell. It also effects the adhesion of the cell membrane and ruptures the cell wall.

Creating a Barrier:

The ultra sonic sound waves emitted from the *LG Ultra Sonic* creates a sound barrier in the top layer of the water which reflects on objects with a different density than water. This barrier affects the buoyancy of algae and prevents the algae from floating to the surface and absorbing light for photosynthesis, resulting in the death of the algae cell.

Preventing bacterial adhesion (reducing biofilm build up):

The ultra sonic sound waves emitted from the *LG Ultra Sonic* create a pressure area around surfaces that prevent bacterial adhesion.

Why do you need Chameleon Technology™?

Within a body of water, physico-chemical parameters, water flow and the micro-organisms present can defer. The type of algae in different reservoirs can also vary and even change during the season.

To use ultrasonic sound waves effectively for algae or biofilm control, it is important that very specific frequencies are used, issued under specific circumstances and with the right amplitude and burst duration. Only then, the micro-organism can be controlled effectively.

Current ultrasonic algae control products work with one selected, broadband frequency program that has to target all micro-organisms in the water. That means, only during a short time span, the ultrasonic unit will be actually emitting the right frequency for the present algae.

Chameleon Technology™ is able to change its frequency program based on the water quality, type of algae or other micro-organisms present in a specific water reservoir.

CHAMELEON™
TECHNOLOGY

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LG SONIC®

AQUATIC TECHNOLOGIES

Model:

LG Ultra Sonic E-Line

Algae Control Unit

Using Chameleon Technology™

CHAMELEON TECHNOLOGY

A safe method to control algae

Multiple Transmitter Outputs

Integrated Auto Wiper

Weatherproof Control Box

Push Button LCD

GSM Remote

Aquatic Technologies LG E-Line Ultra Sonic Algae Control Unit is the most advanced method of control for algae and biofilm on the market today.

The Benefits are:

- Different ultrasonic programs are used for more efficient algae control
- Integrated wiper for minimal maintenance
- Controlled and monitored remotely with GSM module
- Connect multiple transmitters for better coverage of a water surface or [different] multiple sites

Multiple Transmitters

The LG Sonic e-Line offers the possibility to install up to 4 transmitters on one single electronic control box for treatment of multiple ponds or larger lakes. Every transmitter can be programmed via the same e-box and work on separate programs, depending on the water parameters.

Integrated Automatic Wiper

The LG Sonic e-Line is the first and only ultrasonic system world-wide that has an automatic cleaning system that wipes the transmitter head to prevent calcite deposits and other fouling.

Weatherproof Control Box

The Aluminium control box offers protection from weather being water resistant & has better cooling capabilities.

LCD Display with User Interface

The E-Line includes an LCD screen that displays the status of each transmitter. Up to 10 different frequency programs per transmitter can be selected.

GSM Remote Control

The GSM control unit allows you to monitor and change the ultrasonic program of your unit remotely, receive status updates or alerts if power outages. Aquatic Technologies support systems are also available to upload new programs remotely.

Solar System Available - The E-Line model operates on 24 VDC, using between 10-40 Watts. An option of solar panels, batteries and charge regulator is also available.

Transmitter type	E-XL	E-XXL
Range	120 m	200 m

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Model:

LG Sonic MPC-Buoy

'Monitors, Predicts & Controls' Algae

3-way communication between LG Sonic, sensors and web

Automatic antifouling wiper ensures optimal readings.

With 3x 195Wp solar cells and a monitor range of 500m, these units are perfect for larger bodies of water.

The MPC-BUOY model allows the user to view data in real time by using state-of-the-art technology.

Overview

Applicable for use on natural or recreational lakes, reservoirs for drinking water and large irrigation dams, these units provide state-of-the-art treatment against algae and cyanobacteria.

LG Sonic MPC-BUOY

The LG Sonic MPC (Monitor, Predict, Control)-Buoy offers top-of-the-line, state-of-the-art online water quality monitoring, telemetering and ultrasound technology. With a monitored radius of up to 500m, this enables the user to monitor larger bodies of water remotely.

This unit continually tests the water quality. This information is then streamed to the MPC-View software. This software recognises water quality changes and is predicts algae types that could exist in such environments. It then automatically changes the frequency to that required to pre-empt the algae species that would grow in such circumstances.

The MPC software receives, summarizes and publishes data available for your personal online viewing.

With real-time water quality data, existing algae blooms can be determined and future algae blooms can be predicted.

The MPC Buoy Unit comes with 3x 200WP solar panels that provide power to the three transmitters. This unit ensures a complete coverage of 360 degrees with a 500m diameter range.

Ultrasonic programs can be changed, based on the algae type. The MPC Buoy Unit also comes with an automatic antifouling wiper, ensuring optimal efficiency at all times.

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