



## LG SONIC e-line

Most advanced ultrasonic algae and biofilm control

- Uses different ultrasonic programs 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 sites.

# How does ultrasonic algae control work?

## Collapse of gas vesicles

Blue-green algae are capable of travelling through the water column vertically due to their possession of gas vesicles. The ultrasound from the LG Sonic ruptures these vesicles, preventing the algae from rising to the surface and absorbing light for their photosynthesis.

## Creating a sound barrier

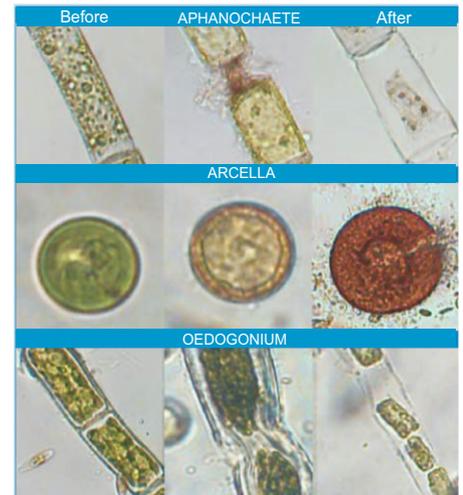
Ultrasound from the right frequencies creates a sound barrier in the top layer of the water, reflecting on objects with a different density than water. This affects the buoyancy of many types of algae and prevents algae from floating up to the surface, thus dying by lack of light.

## Damage of tonoplast

As an effect of ultrasound, the tonoplast of green algae can rupture, releasing the contents of the vacuole to the inner cell. Besides this, the adhesion of the cell membrane and the cell wall can be damaged.

## Prevent bacterial adherence

In an unstable environment bacteria adhere to a surface, creating a biofilm. LG Sonic devices create a pressure area around a surface, preventing bacteria to adhere.



Before and after ultrasonic treatment with the LG Sonic® solution

## Chameleon Technology™

### Why do you need the Chameleon technology™?

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

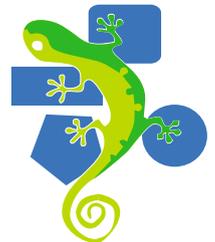
To use ultrasonic sound waves effectively for algae or biofilm control, it is important that very specific frequencies are used, issued under specific circumstances and with the right amplitude and burst duration. Only then, the micro-organism can be controlled effectively.

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.

### What is the Chameleon technology™?

The Chameleon technology changes its frequency program based on the water quality, type of algae or other micro-organisms present in a specific water reservoir. By changing the frequency program at any given time, new or different algae blooms can be suppressed when they arise.

The Chameleon technology can be used remotely, by sending a SMS message, or you can change the program with the interactive LCD screen on the control box.



**CHAMELEON™**  
TECHNOLOGY

Changing the ultrasonic program according to the water conditions, type of algae & application, results in:

- more efficient algae control
- quicker results
- limited growth of resistant algae

# LG SONIC e-line



Multiple  
ultrasonic  
programs

## 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

## Weatherproof control box



Aluminium control box to better protect the PCB from weather influences.

The aluminium box has better cooling capabilities and it is water resistant.

## 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.



## LCD display module with pushbuttons

An LCD screen is included in every LG Sonic e-Line that displays the status of each LG Sonic transmitter.

The LCD module includes 2 pushbuttons to select up to 10 different frequency programs for each of your transmitters.



## Remote control of the e-Line by GSM

The GSM-2 Control unit allows you to monitor and change the ultrasonic program of your unit:

- Send SMS to switch between programs
- Send SMS to receive status.
- Receive an alert if the transmitter is out-of power
- LG Sound's biologists can upload a new program by SMS

## Low Power- Bright Signal Technology™

The Lp-Bs technology™ enables the LG Sonic® devices to send out a sound signal under optimal conditions. This makes it unnecessary to apply high power to obtain a long treatment range.

## Highly advanced broadband transducer

The LG Sonic® transducer has been especially manufactured for LG Sound and has a protected formula. The transducers have been designed to deliver the highest efficiency in transmitting the sound energy into the water.

## Solar system available

The LG Sonic® e-line models can operate on 24 VDC using between 10 and 40 Watt.

LG Sound provides a complete solar system including Solar panels, Batteries and Charge Regulator specified to your needs.

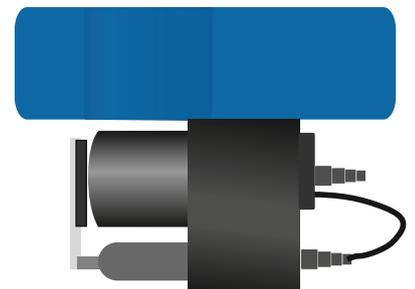
# LG SONIC E-LINE

## Specification of the transmitters:

Transmitter type	e-Tank	e-XL	e-XXL
Range	70 meter/ 230 ft	120 meter/ 400 ft	186 meter / 650 ft
Wiper	optional	optional	Yes
Chameleon Technology <sup>tm</sup>	Yes	Yes	Yes
Pre-installed frequency programs	11	11	11
Max freq/program	80	80	80
LpBS/2	Yes	Yes	Yes
Transducer cable length m (ft)	20 m (65 ft)	20 m(65 ft)	20 m (65 ft)
Optional extension:	Yes	Yes	Yes
Float	Yes	Yes	Yes

## Specifications of the e-Box:

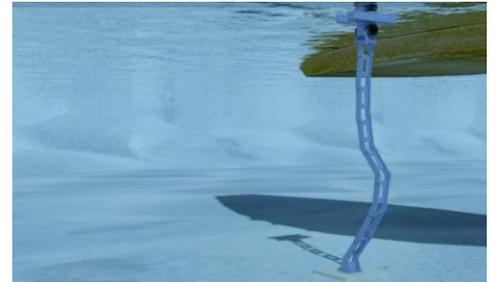
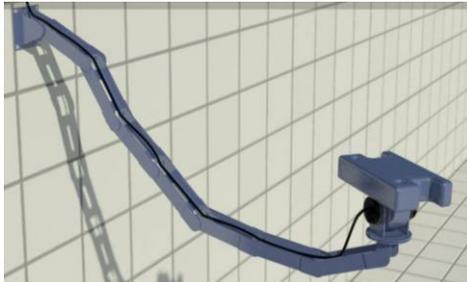
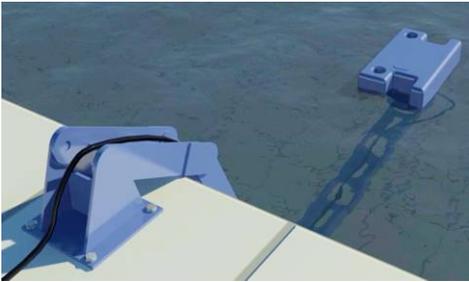
e-Box Type	e-Box 1	e-Box 2	e-Box 4
Transmitter outputs	1	2	4
LCD Display	Yes	Yes	Yes
Upload custom program by sms	Yes	Yes	Yes
GSM/2	Yes	Yes	Yes
AC input voltage (V)	100v-240v AC, 50/60hz	100v-240v AC, 50/60hz	100v-240v AC, 50/60hz
DC input voltage (V)	24V DC	24V DC	24V DC
Energy consumption (W/h)	5-10 Watt	10-20 Watt	20-40 Watt
Power box material	Aluminium	Aluminium	Aluminium
Ingress protection power box	IP67	IP67	IP67



## Flexi-arm:

This product has been especially designed to make the installation of the units easier.

The Flexi-arm offer the possibility to aim the LG Sonic® unit better, leading to even better result of your ultrasound treatment. The connecting arm is flexible and it can be adjusted to fit many (possible) application, where previously improvised techniques, such as ropes and poles were used. The flexi-arm can be extended up to 50 Meters



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