



PUROXI

PURE WATER GLOBAL INC.

“THE BEST WATER SOLUTION”



Prevent Biofouling on Ship Hulls

Biofouling growth increases the drag on a hull which results that a ship can consume up to 40% more fuel and correspondingly produce 40% more CO2 emissions.

Ecohull

The Ecohull is a cost-effective solution to prevent the growth of biofouling on ship hulls. The Ecohull is an advanced system that emits continuous ultrasonic sound waves in specific parameters which prevents the accumulation of fouling by driving biomolecules away.

The Advantages of our Technology

- ✓ Reduce maintenance and expensive lift outs
- ✓ Reduce fuel consumption
- ✓ Reduce the use of antifouling paint



The solution is to deploy multiple ultrasonic transmitters throughout the hull, that transmit ultrasonic waves of specific frequencies throughout the steel plates of a ship's hull in order to prevent and control biofouling.

Each Ecohull system can control areas up to 10m/30ft in diameter



Ecohull installation in a ship hull

The use of the LG Sonic Antifouling products is chemical-free, safe for fish and other marine organisms

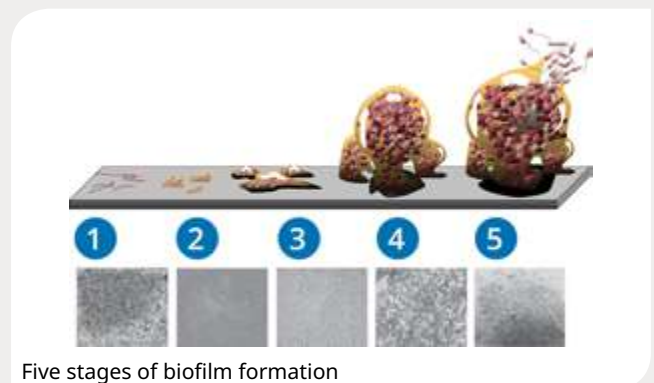
Ultrasonic Biofouling Prevention Treatment Process

LG Sonic has more than 10 years of experience in applying ultrasound technology to control algae and prevent biofouling.

How Ultrasound Prevents Biofouling Growth

Specific ultrasonic frequencies, waveforms and amplitudes can be utilised to prevent the formation of biofouling. Biofilm formation starts by bacteria attaching to a surface. The ultrasonic sound waves of LG Sonic create resonance around the solid surfaces within the water, thereby preventing bacteria to adhere to a surface.

1. Prevent bacteria from settling on a surface in the primary stages of biofilm formation
2. Alter the structure of an existing biofilm, eventually breaking it down
3. Control potential algae attaching to a biofilm



Five stages of biofilm formation

Ultrasonic treatment of LG Sonic can reduce algae growth by 70-90% and prevents the growth of biofouling

Benefits of LG Sonic Biofouling Prevention

- ✓ Multiple ultrasonic programs for effective biofouling prevention
- ✓ No use of cavitation which may damage paint and other materials of the hull
- ✓ Remote control allows for minimal manual handling activities
- ✓ Calibration of the ultrasound based on the hull material for more effective ultrasonic transmission through the hull

No Use of Cavitation

Some ultrasonic biofouling control solutions use cavitation to prevent biofouling, which is a phenomenon where high-power ultrasound causes intense heat pressure and the formation of hydrogen radicals. These radicals may kill bacteria and other organisms but also cause oxidation reactions and may degrade anticorrosion layers.

- ✓ Not harmful for marine life
- ✓ Adaptable ultrasonic frequencies for effective treatment
- ✓ No side effects on the anti-corrosion layer
- ✓ Longer product lifetime
- ✓ Longer treatment distance

Ecohull Features

1 Ultrasonic transmitter for effective biofouling prevention

- ✓ Treatment range up to 10m/30ft in diameter per device
- ✓ No use of cavitation

2 Weatherproof control box

- ✓ 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.

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

LG Sonic Industrial Dry



Sea Chests and Heat Exchangers

For Sea Chests and Heat Exchangers, LG Sonic offers an Industrial Solution named the LG Sonic Industrial Dry. The systems allows to prevent biofouling by sending specific ultrasonic sound waves through a material.

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