



Biofouling Prevention in Cooling Towers

The LG Sonic Industrial Line provides cost-effective solutions to prevent and control biofouling through the use of ultrasonic sound waves.

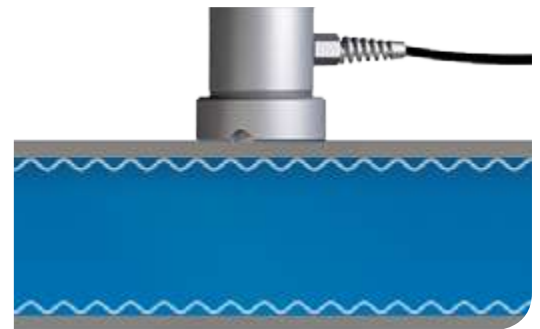
- ✔ Prevent biofouling formation
- ✔ Lower bacterial counts
- ✔ Reduce chemical expenses

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

LG Sonic Industrial Wet



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

Cooling basins
Clarifiers

Heat exchangers
Sea chests

Treatment range

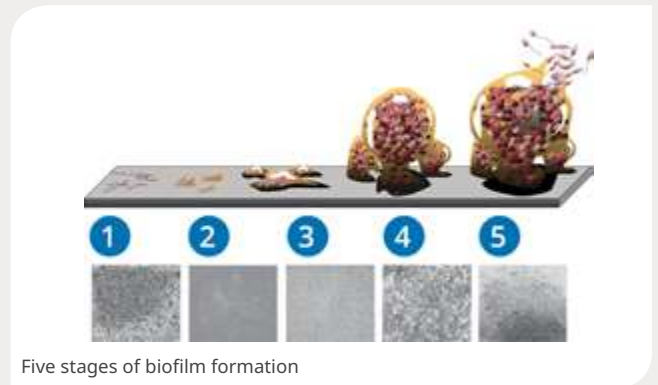
Up to 30m/100ft per device

Up to 10m/30ft per device

How Ultrasound can Prevent Biofouling Formation

Specific ultrasonic frequencies, waveforms and amplitudes can be utilised to directly target biofilms. Benefits of the ultrasonic treatment:

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



LG Sonic Biofouling Prevention Products

LG Sonic Industrial Wet

The LG Sonic Industrial Wet uses sound waves to prevent biofouling growth. The solution is to install one or multiple systems that transmit specific ultrasonic parameters depending on the level of contamination.

- ✔ Specific ultrasonic parameters reduce up to 70% of the biocide use
- ✔ Integrated Aquawiper™ automatically cleans the ultrasonic transmitter
- ✔ Remotely controlled, avoiding the need for frequent site visits



LG Sonic Industrial Dry

The LG Sonic Industrial Dry uses sound waves to prevent biofouling growth. The solution is to install one or multiple systems that transmit specific ultrasonic parameters depending on the level of contamination.

- ✔ Multiple ultrasonic programs for effective biofouling prevention
- ✔ Ultrasonic treatment reduces chemical consumption
- ✔ No use of cavitation for a longer product lifetime

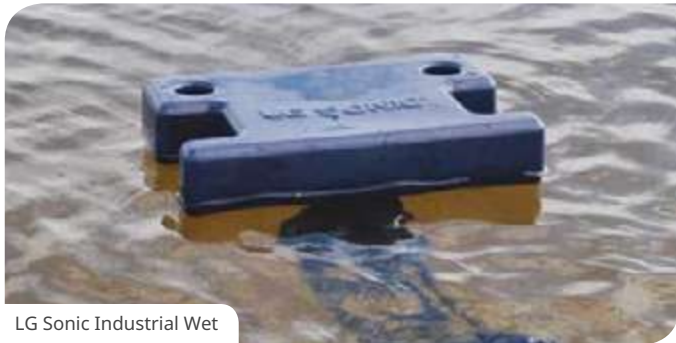


Case study: Biocide Reduction in a Cooling Basin

The challenge

Al Futtaim Cooling district plant incorporated LG Sonic technology into their chemical treatment program to reduce biocide consumption in the cooling towers and to improve the water quality.

Applied product



LG Sonic Industrial Wet

Key results

- ✔ Up to 69% reduction in biocide dosage
- ✔ Up to 53% reduction in anti-scalant dosage
- ✔ Microbial analysis showed that the water was of satisfactory quality and within specific limits

“Lowered algae, biofilm formation, bacterial counts, and chemical consumption”.



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