

# **Ultrasonic treatment on Boat hulls and Docks.**



**The LG Sonic solution reduces the amount of biofilm and algae in harbors.**

Formation of biofilm on boats can be a big problem for boat owners and manufacturers. The removal of biofilm on boat hulls can be a costly and time consuming job. The LG Sonic solution reduces formation of biofilm and algal growth on as well boat hulls and docks.

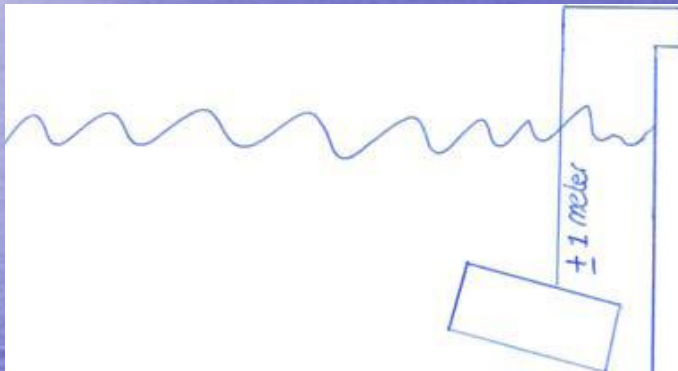
Recent usage of water ballast instead of lead also means that algae can grow inside of the boat, thus creating also a biofilm in the ballast compartment and causing the water to smell foul. The LG Sonic solution can end these problems.

LG Sonic uses the newest ultrasound techniques to combat the algae and biofilm. When the LG Sonic device is turned on, the ultrasound attacks most of the unicellular and blue-green algae. The effected algae and biofilm will detach itself when the boat moves through the water and will thus disappear.

## Benefits of the LG Sonic solution

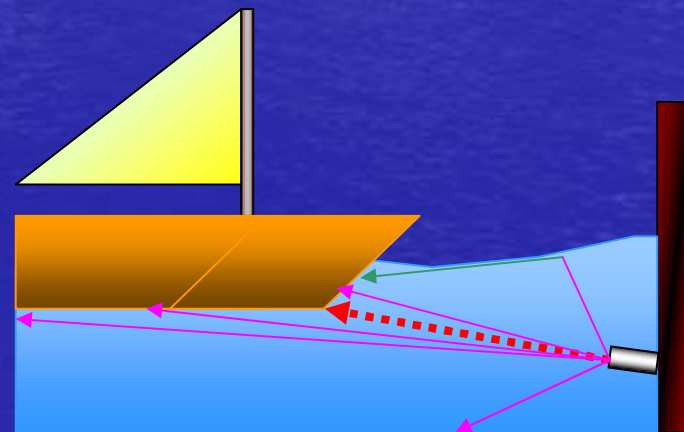
- o Reduces and controls the amount of biofilm and algae on the hull in an efficient, cost-effective manner
- o Prevents further algae and biofilm growth
- o Removes the need to scrubbing the hull or taking the boat on shore
- o Preserves the original speed and maneuverability of the vessel throughout the season
- o Diminishes the foul odors caused by algae and other (micro) organism in the ballast water compartments
- o Reduces the introduction of formed algae and other (micro) organism in ships ballast water in a certain habitat were they do not belong to.
- o Enhances the effect of the UV installations in boats and ships and reduces their power consumption
- o Does not harm fish, zooplankton, prawns, shrimps, water plants, and other types of life present in the water
- o Does not harm the environment
- o Does not use chemicals.
- o Reduction in usage of anti-fouling ships, boat painting which are highly toxic.

# LG Sonic XXL was tested in the harbor of Zwartsluis (Netherlands) at Hebo Maritiemservice b.v.



LG Sonic Transducer was placed 1 meter below surface, pointing slightly up.

LG Sonic transducer was placed in front of the boat, therefore ultrasound couldn't reach the back of the boat. Both sides and front of the boat where being treated.



At the moment of installation there was a growth of approx. 3 cm on the the floating dock.  
The test boat was just newly built and did not yet show any fouling.

The LG Sonic solution was installed in may.  
In september, after a pretty warm month of August (at least 4 weeks quite a bit above 20 degrees C), the boat was hoisted from the water and was checked for fouling and growth.

After 4 months of ultrasonic treatment with LG Sonic:



Front of the boat, treated with LG Sonic. No algal growth or biofilm was found on the hull.

The brownish sediment which can be seen at the waterline is only dirt.



Back of the boat, could not be reached by the ultrasound. Biofilm and algae are growing on the back of the boat.

## Conclusion made by Hebo Maritienservice b.v:

We have tested the LG Sonic XXL from the beginning of May until the beginning of September, and it proved to us that the device worked promptly. The growth and algae are gone from the dock and no growth on the HEBO-Rescue could be observed.

This became extra obvious by the fact that in the areas where the soundwaves couldn't reach there was growth of bacteria and algae present.



Lisa M. Brand