

H2oBioSonic.com

Advanced Ultrasonic Bio Fouling Protection Systems Marine MGPS Overview

For use on Sea Strainers, Sea Chests, Raw Water Pipes, Heat Exchangers and more.



The problem of bio-fouling & Algae formation

The purpose of the H2oBioSonic System is two fold. The prevention of algae formation through the destruction of micro-organisms and to prevent blockages and to improve flow in seawater and fresh water cooling systems caused by various forms of marine growth and algae through de-scaling system interiors.

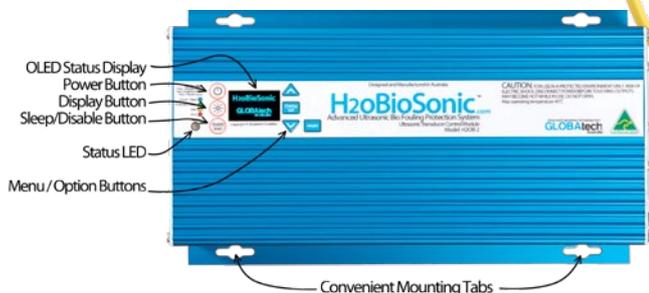
Blockages can be expensive and time consuming to clear or remove, especially when entire sections of pipe work need to be cleaned or replaced or strainers, heat exchangers, chillers, etc need to be disassembled for cleaning. There is also risk that pumps, valves and other important ancillary devices may be affected jeopardising the operational capacity / capability of the system.

Even minor reductions in flow caused by buildup inside the pipe work, strainer, heat exchanger, chiller or similar can cause serious reductions in efficiency of cooling , increases in energy consumption or shutdown of vital equipment.

Ultrasonic benefits

Ultrasonic Bio Fouling protection with H2oBioSonic combats the common problems associated with algae and Bio Fouling in Marine systems including;

- Reduced maintenance requirements
- Improved Flow
- Improved Efficiency of Exchangers & Pumps
- No Consumables (no electrodes to replace)
- Cleans / De-scales internals of pipes/equipment
- Maintains Valves
- Destroys Algae & halts shell growth lifecycle



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How the H2oBioSonic Ultrasonic System Works

The Ultrasonic energy output generates microscopic bubbles of varying sizes which implode generating microscopic points of cavitation. The cavitation implosion has a cleansing effect and provides a constant scrubbing of the water protected. During these implosions the cell wall of algae and other single cell bacteria and organisms is split preventing the continued growth. This cavitation also provides a scrubbing effect on the inside wall of pipe work and ancillary devices helping to prevent any settlement and improving flow.

H2oBioSonic also implements our advanced **!BLAST!** Function for added protection effectively supercharging the output for short blasts of energy that drastically improves the effectiveness of the scrubbing effects.

Installation

Installation of the H2oBioSonic system is simple and requires the strategic mounting of our Ultrasonic Transducers onto the objects where protection is desired. The number of transducers depends on the pipe\ object size, density and rate of flow. During installation there is no down time as there is no interfering with the active system. Additional transducers can easily be added where required for added protection.

Preventing Settlement

During the short settlement period of bio fouling the Ultrasonic energy destroys the spores, larvae, algae and bacteria while the scrubbing effect on the pipe work or object prevents a buildup.

Without Anti foul protection, pipes and objects can quickly become encrusted or grown over with algae or growth leading to partial or total blockage and reduced flow and efficiency.

Dual Action System

The H2oBioSonic system operates on two fronts with dual action, while destroying algae, larvae and micro organisms with the microscopic cavitation we also generate an advanced ultrasonic cleaning function within the pipe work, objects or systems to help in maintaining pipes and objects free of obstruction and fouling