



UltraSonic
ANTIFOULING LTD



VIBSpECTRUM





INTRODUCTION

VIBSPECTRUM offers a range of UltraSonic transducers for anti-fouling solutions in various industries such as maritime, shipping, offshore oil and gas, offshore renewables, and power generation. Their ultrasonic technology is used for external protection of vessels, hulls, fixed offshore assets, and internal cooling and sea water intake systems.

CONTROL UNIT

The SONIC PRO AND ULTRA 20 control unit is a cutting-edge system that incorporates the latest ADV-HP+ PCB and advanced programmable digital software. It offers more frequencies compared to standard systems, allowing for a unique program that targets and destroys various fouling organisms while preventing barnacle attachment. The system transmits a continuous and precise level of effective ultrasound to all transducers simultaneously, resulting in superior eradication of algae cells. It works on various substrates including GRP, aluminum, steel, carbon, and Cupro-Nickel pipework. The system is fully automatic and does not require complicated setup or programming. With high-power output and integrated cooling, it delivers maximum performance and longevity. LED lights indicate the system's operation status for easy user checks. Developed and manufactured in Europe, the UltraSystem meets high standards for long-lasting effectiveness.



S2-M10 Transducer

The multi-frequency piezoelectric transducer and custom mounting bracket are designed to improve output efficiency when installed on curved pipework and strainers. The transducer plate and bracket ensure effective resonance of ultrasonic sound waves into the substrate. The low profile design is the most compact on the market without compromising performance and positioning options. It is IP68 waterproof up to 10m and installation is simple without a fixed cable. The S2 transducer is highly efficient and effective.



S2 Transducer

The multi-frequency piezoelectric transducer is specifically designed to provide increased output efficiency for installations on hulls, sea chest walls, and box cooler lids. It is engineered to ensure optimal contact with the transducer plate, resulting in efficient and effective resonance of ultrasonic sound waves into the substrate. The transducer's low profile design is the most compact on the market while still delivering excellent performance and offering versatile positioning options. It also features IP68 waterproofing up to 10m and a simple installation process with no fixed cable. The S2 transducer is regarded as the most efficient and effective option currently available.



PRODUCT APPLICATIONS

Hulls



Sea Chests, Strainers & Seawater Pipework



Box Coolers



Stern Tubes & Thruster Tunnels



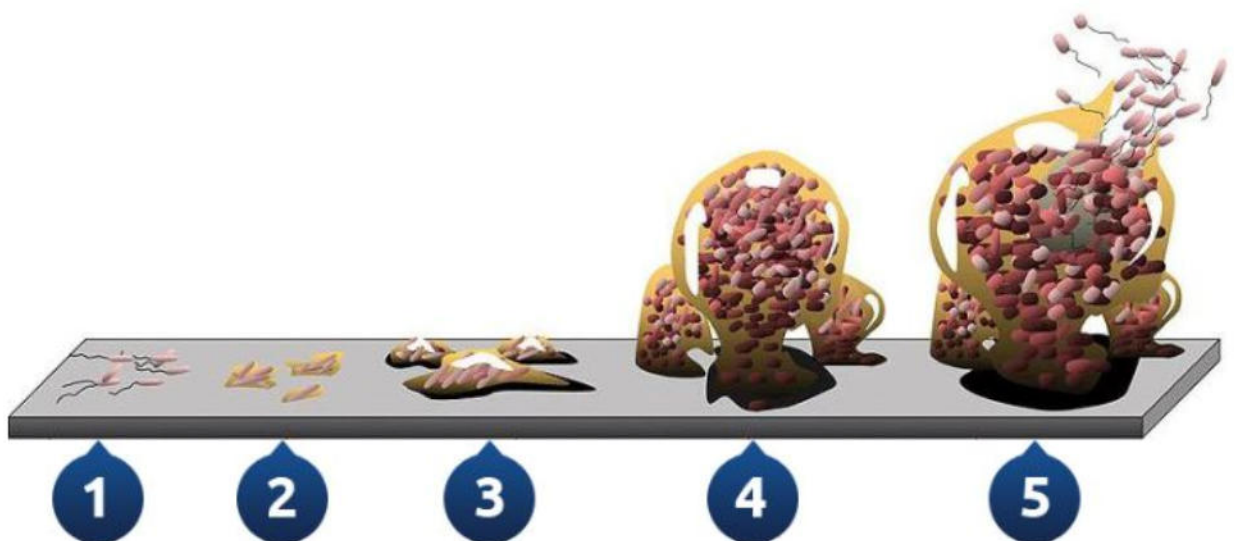
How Ultrasonic Works to Prevent Marine Growth

The UltraSystem prevents the growth of micro-organisms, bacteria, algae, and barnacles on a vessel's submerged areas. It emits low powered pulsed ultrasonic frequencies through transducers in contact with the sea chest boxes, strainers, seawater pipework, box coolers, or hull.

These frequencies create a moving water environment that stops the attachment and growth of micro-organisms and algae by targeting their cell structures. It also creates an uncomfortable resonance that prevents barnacle larvae from attaching to surfaces.

The transducers are fixed inside the hull, allowing the ultrasound to resonate within the hull and sea chest parts. It does not affect adjoining parts due to seals, but the ultrasound signal penetrates the seals and radiates outwards in a 180o arc.

While the ultrasound can help keep isolated parts clear, it is most effective on the part directly connected to the transducer. Proper transducer positioning is crucial for optimal effectiveness.



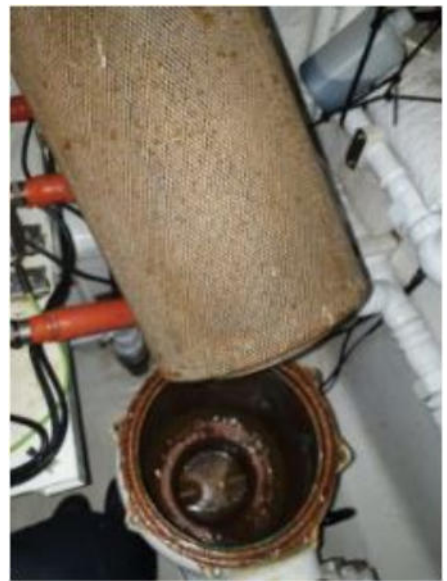
STAGES OF MARINE GROWTH

The benefits

- Prevent blockages to maintain raw water flow to engines and other essential on-board systems.
- Save on maintenance: reduce need for regular cleaning of strainer baskets and shutting down the cooling system to clean and unblock seawater cooling pipework and manifolds.
- Maintain efficiency of box coolers and reduce cleaning frequency of tube bundles and sea chest box.
- No galvanic action: just ultrasonic sound waves, so will work on aluminium piping
- Maintenance free: compared to Cathelco system requiring anodes to be replaced.
- Long life: transducers are guaranteed for five-years, but will provide protection for over 10 years.
- Simple Installation: All components of the system are installed inside the vessel, no dry-docking or through-hull penetrations required, thus avoiding the need for additional surveys and costs for classification documents.
- Better Hull Performance: Maintain hull speed with faster passage times and greater manoeuvrability and running costs.



before ultrasonic



with ultrasonic protection



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