



ASMP-Series

Ultrasonic Anti-fouling Systems

Application: Offshore Oil & Gas Platforms

v2, July 2013



ASMP sonic wave technology helps prevent the fouling of offshore structures in a cost effective and environmentally friendly way.

Fouling by marine organisms is a major problem for all structures installed in a marine environment. The settlement and build-up of fouling species has a number of undesirable effects; it increases weight, drag and hydro-dynamic loadings with sometimes catastrophic results, it can damage coatings and mask problems such as cracks, corrosion and damage, it can facilitate/accelerate corrosion and it can be aesthetically displeasing.



The removal of marine fouling from the submerged parts of underwater structures can be a significant part of the maintenance budget for offshore operators. Furthermore, the weight and loadings that result from fouling can be so significant as to necessitate considerable 'over-design' of such structures compared to what would otherwise be required.

The control of marine fouling on offshore structures typically involves the manual removal of the fouling by divers and/or remotely operated vehicles using such tools as HP water blasters and manual or mechanised scrapers. This is typically costly, very time-consuming and often dangerous work that can be virtually never-ending.

ASM has devoted considerable effort and research to this particular challenge to find a more cost-effective and permanent preventative solution. Recent technological advances have been successfully applied.

Introducing the ASMP-1200 ultrasonic anti-fouling system...

The ASMP-1200 system works by transmitting inaudible directed pulses of ultrasound at precise levels for set durations into the water. These ultrasonic waves create microscopic bubbles that implode (cavitation) producing an intense cleaning effect on any surface they affect. **The results are:**

1. Existing fouling is killed. Soft species such as algae are broken down as their cells shatter. Hard species such as barnacles and molluscs are killed, but not removed;
2. The substrate/environment is made unsuitable for the larval form of the fouling species which are killed or repelled—thereby preventing the establishment of fouling on newly installed or cleaned structures.

Benefits over traditional methods:

1. No need to use harmful copper or other toxic antifouling coatings
2. Greatly reduces or completely negates the need for mechanical cleaning using water blasting or similar.
3. Offers a permanent, continuous and environmentally friendly means to control marine fouling year-round, year-on-year.
4. Is equally effective in hard to access areas such as water intakes, risers, clamps, anodes.
5. Is SAFE. Once installed the system should require no diver or ROV interventions and is harmless to fish and marine mammals
6. Is very cost effective—offering an attractive ROI over a relatively short time span.

Environmentally Friendly Anti-fouling & Water Treatment



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ASMP Series Technical Specifications May 2014	ASMP-200	ASMP-400	ASMP-600	ASMP-800	ASMP-1000	ASMP-1200
Applications						
• Cooling towers	✓	✓	✓	✓	✓	✓
• Lakes, pools and ponds	✓	✓	✓	✓	✓	✓
• Waste & water treatment plants intakes	✓	✓	✓	✓	✓	✓
• Water storage tanks & reservoirs	✓	✓	✓	✓	✓	✓
• Horticulture	✓	✓	✓	✓	✓	✓
• WWTP lagoons & lakes, medium flow,	X	✓	✓	up to 15,000m ²	up to 19,000m ²	up to 21,000m ²
• Offshore-onshore aquaculture fish pens, high flow, max. net diameter	X	✓	✓	up to 10-20m	up to 20-40m	up to 20-60m
Operating Temperature range	-30 ~ +50° Celsius					
Operating Humidity Range	0 ~ 80%					
Conformed & Approved to	CE US E224558					
Control Box	Polyester-fibreglass ventilated enclosure fitted with locks ip 65					
Output Power—high speed sonic pulsing up to: Ultrasonic waves watts	200	400	600	800	1000	1200
Dual input. Voltage maximum use per hour						
• 230 VAC ± 4% 50/60 Hz (regulated/low noise)	1.0 Amp	1.4 Amps	1.6 Amps	1.9 Amps	2.4 Amps	3.4 Amps
• 120 VAC ± 4% 50/60 Hz (regulated/low noise)	2.0 Amp	2.8 Amps	3.2 Amps	3.8 Amps	4.8 Amps	6.8 Amps
Rolling Drive Frequency	Up to 120KHz	Up to 120KHz	Up to 120KHz	Up to 120KHz	Up to 120KHz	Up to 120KHz
Frequencies (kHz)	Programmable	Programmable	Programmable	Programmable	Programmable	Programmable
LED Status Indicators	Frequency & power output	Frequency & power output	Frequency & power output	Frequency & power output	Frequency & power output	Frequency & power output
Circuit Protection	Built-in protection against overheating lightning strikes voltage safety earth leak switch, voltage protector and overloading					
Transducers (stainless steel sonic pulse amplifiers)						
Maximum power Ultrasonic waves	1 x 200W	2 x 200W	3 x 200W	4 x 200W	5 x 200W	6 x 200W
• Transducer Housing	Grade 316 stainless steel measuring 120 x 130mm, weight 3.2kg each					
• Sonic face plate - stainless steel	Up to 200W	Up to 200W	Up to 200W	Up to 200W	Up to 200W	Up to 200W
• Transducer shielded flexible, cable waterproof	1 x 20m	2 x 20m	3 x 20m	4 x 20m	5 x 20m	6 x 20m

Notes:

- All systems are supplied complete with an Installation Manual, the Control Box, the requisite number of transducers and the corresponding number of transducer cables.
- The standard transducer cable length as supplied is 20m.cable. Custom length cables can be supplied upon request up to the maximum useable length of 150m.cable.
- We reserve the right to modify or change the specifications to improve or up-grade our products at any time without prior notification .
- The systems are supplied and shipped in purpose built packaging cartons. The number, size and weight of the cartons varies depending on the model. See individual product brochures for details.

Hardware Guarantees

- 1 year on electronics
- 1years on PCB engine board
- 1years on transducers

Optional Items:

- ASM-Continuous custom transducer cable up to 150m
- Asm-S1500 complete solar panel system 1500W/wind turbine generating over 36kwh per day
- Customized brackets and floats



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