SONIHULL
Ultrasonic Antifouling Protection

LamersSystemCare
System Solutions for Industry, Maritime & Agriculture

SONIHULL DUO

Ultrasonic Antifouling Protection

For yachts up to 17 metres in length.

Ordering Information

NRG-SH02-2	7.2 Watts	4.00kg
DATASHEET NO.	**POWER**	**WEIGHT**

Item	Code	Description	Weight (kg.)
1	SH02	Sonihull Duo Ultrasonic Antifouling Protection Dual output Ultrasonic generator system with two transducer, suitable for commercial, military and pleasure craft.	4.00kg

How does it work?

Sonihull systems produce multiple bursts of ultrasonic energy in a range of targeted ultrasonic pulse frequencies.

This produces a pattern of alternating positive and negative pressure, whereby the microscopic bubbles that are created during negative pressure are imploded when positive pressure is applied.

This implosion has a cleansing effect that destroys algae, the first trophic level of the food chain, making the surface lests attractive to other marine life that feed on the algae. This microscopic movement of water also prevents barnacle and mussel larvae from embedding.

Environmentally friendly

REDUCE YOUR CARBON PADDLE PRINT

With new environmental regulations set to substantially reduce the effect of traditional antifoul paints, NRG Marine sees Sonihull Ultrasonic Antifouling Systems as a credible addition to traditional antifouling methods. Looking to the years ahead, Sonihull will play a significant part in the future of marine antifouling.

The benefits

Sonihull will save you money $$-££-€€

- A clean hull and drive train will reduce fuel bills by 20-30%.
- Reduced vibration and improved performance.
- Reduce maintenance costs and expensive liftouts.
- Supress diesel bug and keep stored water fresher.

Ultrasonic Antifouling Systems for the marine industry worldwide. Having grown considerably over recent years, NRG Marine now caters for applications within a wide range of environments, including commercial, military, working and pleasure vessels.

Antifouling Solutions - Protection for;

- Hulls - GRP, Composite, Aluminium, Steel, Carbon/Kevlar.
- Raw water circulation - Sea chests, valves, filters, heat exchangers, manifolds, circulation pipework, A/C, fire pumps.
- Drive trains and Stearage - Shafts and Propellers, IPS drives, Stern drives, Water Jets, Rudders and trim tabs, Arneson drives.

**Also for Diesel bug supression, keeping stored water fresher.*

LED	Colour	Normal status	Fault status	Comments
Power on	Red	ON	Flashing	Flashing is normally due to incorrectly seated transducers
Output 1	Green	ON	OFF	OFF when not connected or in fault
Output 2	Green	ON	OFF	OFF when not connected or in fault
Status OK	Green	ON	OFF	Fault indication, check power and transdcuers
Status output 2 core connector providing +5vDC output in Normal condition, and 0V in fault condition.				

Component includes

- Sonihull ultrasonic pulse generator control unit with 2 transducer outputs
- Ultrasonic transducer complete with 6.5 metres of cable x2
- Mains cable with 3 pin UK standard fused plug
- Marine Grade epoxy glue,
- Vaseline

Items required but not supplied with the Sonihull kit.

- 4 x screws for mounting control box.

(some people prefer to use strong velcro to secure)

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Lamers System Care
Loopkantstraat 25
5405 AC Uden
The Netherlands
+31 413 275 647
info@LSCare.nl
www.LSCare.nl

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DATASHEET

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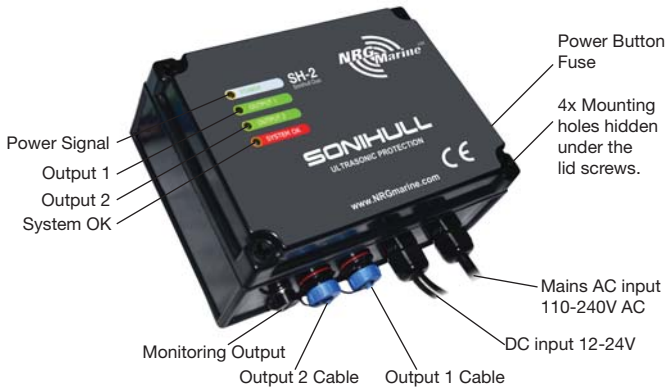
Sonihull Duo at a glance



Technical specification

Brand	NRG Marine Ltd.
Product name	Sonihull Duo
Product code	SH-2
PSU approval	CE and UL
Votage	100-24VAC 50/60Hz (12-24vDC)
Ultrasonic generator	7.2 Watts
Transducer	2 pcs.
Pulse frequency	19.5kHz - 55kHz
Control box rating	IP65
Transducer rating	IP68
Transducer Cable	6.5m. in length
Weight	4.5 Kg.
Dimensions	175mm. x 130mm. x 75mm.
Warranty	2 years

Simple installation

Transducers are simply bonded to the inside of the hull's outer skin.

- For vessels up to 30ft. transducers should be installed in the rear 3rd of the yacht.
- For vessels up to 50ft. transducers should be installed 1/3 and 2/3 along the length of the yacht hull.
- For larger vessels, the Sonihull is a modular solution, please contact your dealer to discuss your requirements.

Mounting of Control Box

Find a suitable dry location above the waterline, with suitable access to either mains or battery power. Remove the lid to expose mounting holes for the control box.

Mounting of Transducer

- Use sandpaper to prepare the surface for the mounting of the transducer.
- The surface needs to be flat and smooth to ensure the best transmission quality.
- Use a hard epoxy resin to bond the mounting ring to the hull – ensuring there is no glue residue on the inside of the ring.
- Ensure surface to surface contact, with no air trapped between the transducer and hull.
- Allow epoxy to dry before screwing in the transducer.
- Add a smear of Vaseline (1mm) to the surface of the transducer before screwing into the mounting ring.
- Run the cables back to the control box and attach
- Power on – simple as that!

Installation tips

To get the best performance from the system there are 3 main considerations, if you follow these simple rules you will get the maximum benefit from the system.

1. Location location location.

The transducer needs to be mounted on an obstruction free area below the water line and on the inside of the external skin. To enable the transducer to create resonation it must be away from any bulk heads, bracing and ribs etc, ideally in the centre of a panel and not closer than 300mm from any obstruction. Compare this to the skin of a drum, to make the best noise you would hit in the middle, not at the edges, transducers need the same consideration.

2. Installing the transducer mounting ring.

The Transducer needs complete face to face transmission, and that means flatflat- flat, not curved, bowed or rough- only flat will work, also ensure that there are no drips of glue inside the ring. A little pimple of glue splash can hold the transducer off the surface by just 1mm. That air gap is enough to stop any signal transmission. If there are any concerns that the surface is not flat, follow the manual for using the aluminium disk as a problem solver.

3. Applying the Vaseline.

The transducer needs to have a smear of vaseline on the face to ensure correct transmission, - just a smear, the thickness guidance would be like putting butter on bread, so that good contact can be made. Do not put too much that the signal is insulated, as the transducer face will not get close to the surface. As good practice when you first screw in the transducer, nip it up firmly by hand, (not mega tight by the hand of Goliath's big brother). Then remove the transducer and observe the swirl marks of the vaseline on the face of the transducer, and look for the wetting on the hull inside the ring. This will give you a clear indication to the quality of the surface contact.

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