



**HYDROPATH
MARINE**



Cleantech water treatment for the shipping industry

The HM unit helps protect vessels from

 Limescale  Biofouling  Corrosion



Hydropath Marine Technology



Hydropath Marine technology uses a unique signal to treat the formation of limescale deposits on the surfaces of pipes and equipment and also to eradicate bacteria.

Hydropath Marine uses a unique patented technology to apply a signal to the pipe and the water contained within, using the signal consists of a series of exponentially decaying sine waves, of frequency approximately $\pm 150\text{kHz}$.



The HM unit fits around the pipe with no need for cutting or plumbing. A ferrite ring passes through the unit and encircles the pipe.

The difference between the HM unit and other physical water conditioning technologies is the induced signal and its ability to continuously condition the liquid solution throughout an entire system.

Hydropath Marine electrical water conditioners induce a signal into any water pipe on which they are installed (Any type of pipe material).



Quick and easy Installation



Installation is straight forward. It does not require any dismantling of pipes, but is just an "ADD ON" unit, which is simple and small in size.

Return on Investment



The payback period for the HM unit is short due to the savings achieved in chemical usage and cleaning costs. Moreover, the energy consumption of the unit is minimal when compared to the energy saved through enhanced heat transfer.

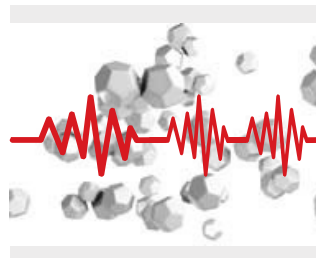
The HM Signal

The signal causes mineral ions to form suspended clusters that turn into stable crystals when temperature or pressure changes occur.

The suspended crystals will reduce scale from building-up in pipes and on heating elements.

HM unit can treat and reduce the accumulation of biofouling common in recirculating water systems. The unit creates “virtual electrodes” in the water and as the bacteria pass these they become electrically charged.

The charged bacteria attract a wetting layer of extremely pure water. This is then forced into the bacteria by osmotic pressure, causing the bacteria to swell and die via osmotic lysis.



As well as killing bacteria and algae that pass through the unit, the unit also transmits a signal up-and downstream, which causes existing biofilm to detach.

Without Hydropath Marine Technology:

- ❌ 24 hours cleaning process
- ❌ Expensive chemical usage
- ❌ Staff exposure to hazardous chemicals
- ❌ Damage to the plates and seals
- ❌ Slime and bacteria accumulation



With Hydropath Marine Technology:

- ✅ 2-3 hours cleaning process
- ✅ No chemicals usage
- ✅ Low maintenance
- ✅ Reduced down time
- ✅ Reduced slime or bacteria accumulation





HYDROPATH MARINE



Hydropath Marine was established to introduce the shipping industry to an advanced water treatment technology developed by Hydropath Technology.

We provide cost-effective and eco-friendly solutions for onboard water treatment, ensuring minimal maintenance requirements.

Our purpose-built systems safeguard your vessel against limescale and biofouling, reducing the ship owner's expenses on chemicals and labor significantly.

By employing electronic treatment methods, our solutions eliminate the necessity for crew members to handle hazardous cleaning chemicals and prevent biofouling.
This approach also prevents the discharge of such chemicals into the marine environment."

HYDROPATH



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