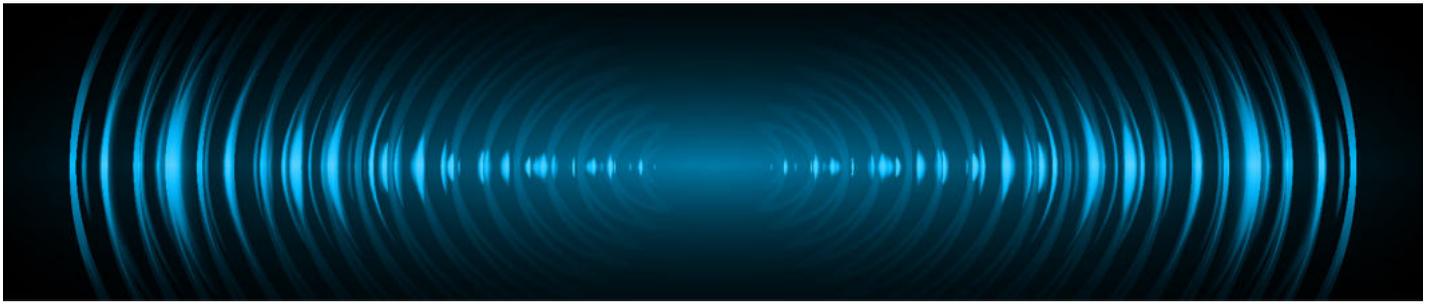


HASYTEC *group*



DYNAMIC INTELLIGENT
BIOFILM 
PROTECTION



The Challenge

Biofilms are formed by the accidental settlement of microorganisms on surfaces that convey liquids. These multiply and form a kind of protective film, which ensures even better adhesion and at the same time increases resistance to external influences. Further germs establish themselves and promote the growth of the film, which now also begins to spread over an area. By absorbing nutrients (e.g. metals), the gel film can also harden, which further increases its mechanical resistance. Biofilm is the initial base for marine growth and biofouling.

The Solution

Dynamic Biofilm Protection intelligent®

DBPi® is the next generation of the multiple award winning Dynamic Biofilm Protection® of HASYTEC.

DBPi® prevents marine growth, biofouling and biocorrosion on all liquid carrying surfaces even more efficiently and at the same follows the current and future demands of the shipping industry. Systems and coatings which release biocides and/or heavy metals into the oceans are not contemporary anymore and can be fully replaced in an environmentally friendly and sustainable way. This improves the environment rating of the vessel, reduces the maintenance on board, increases operational and reduces operational expenses. As DBPI® at the same time prevents biocorrosion the lifetime of the protected applications on board will be extended.



This first time ever used process combination of artificial intelligence and ultrasound antifouling enables the consideration of all influencing environment parameters.

Each single transducer measures its own environment of the installation spot in terms of temperature of its direct environment, kind of material, thickness of material, viscosity and temperature of the medium in the application and some more parameters. Based on the evaluated measures the always optimum combination of frequency and power is then created.

The Ultrasound Antifouling Technology "**Dynamic Biofilm Protection intelligent®**" prevents marine growth and biofouling on all liquid carrying surfaces. Systems and coatings which release biocides and/or heavy metals into the oceans are not contemporary anymore and can be fully replaced in an environmentally friendly and sustainable way. This improves the environment rating of the vessel, reduces the maintenance on board, increases operational and reduces operational expenses. As DBPI® at the same time prevents biocorrosion the lifetime of the protected applications on board will be extended.



Propeller | Pod Drives

Bow Thruster | Stern Thruster



Seawater Cooling System

Freshwater Generator



DYNAMIC INTELLIGENT **BIOFILM** **PROTECTION**

Environmentally friendly

Sustainable

Almost maintenance free

More Powerful

Increases operational safety

Saves fuel

Reduces the amount of heavy metals to be released into the ocean

Prevents carrying of invasive species

AI controlled

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