CORROSION

STEEL GOING STRONG

UV-C Cooler

SUPERYACHT

CORROSION

PRESENTS

UV-C Cooler

SUPERYACHT

CORROSION's revolutionary cooler and anti-fouling solution designed to meet the unique needs of superyachts.

Protecting superyachts

In an exclusive partnership with high-end partners including Philips, CORROSION has developed a non-chemical cooling and anti-fouling solution to meet the specific requirements of superyachts. The cooling system, which features an integrated UV-C MGPS system, is both a highly efficient and environmentally friendly means to prevent marine growth thanks to the use of UV-C light.

CORROSION first began researching the use of UV light as a marine growth protection mechanism for traditional box coolers in 2017. As these tests revealed that such box coolers were not suitable for UV-C light protection, our research and technical teams started developing of a revolutionary new type of cooler. The resulting solution, has been a real gamechanger, combining two existing and proven technologies into one product: the UV-C technique, patented by Philips, to prevent fouling, and 'pillow plates' to provide cooling.

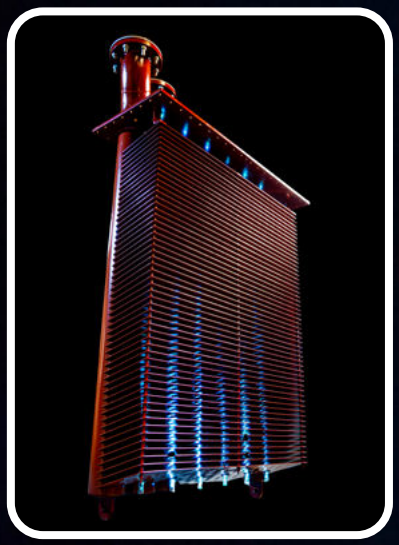
Benefits

- State-of-the-art technology
- 24/7 protection for superyachts
- Environmentally friendly
- Replacing lamps without dry docking
- Extremely reliable and easy to maintain
- Meets future climate rules and regulations
- Highly efficient heat transfer
- Retrofit to existing superyachts

Applications

The UV-C Cooler can be used to cool motors in a number of ways, including:

- AC sets
- Generator sets
- Main engines
- Auxilary



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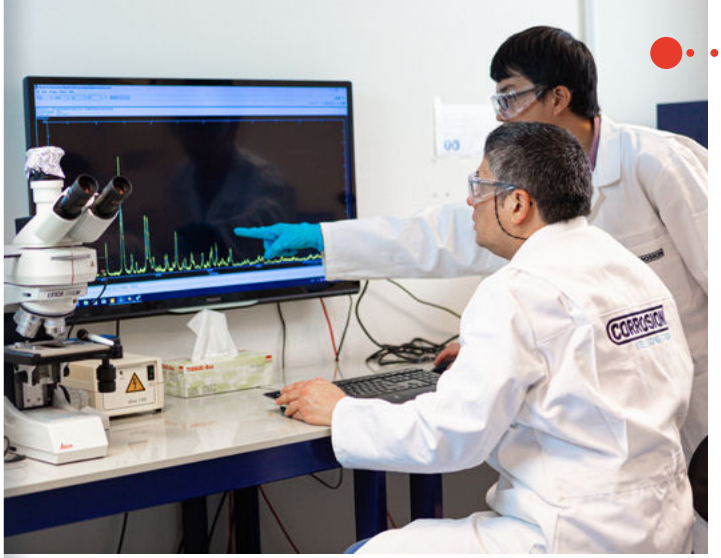
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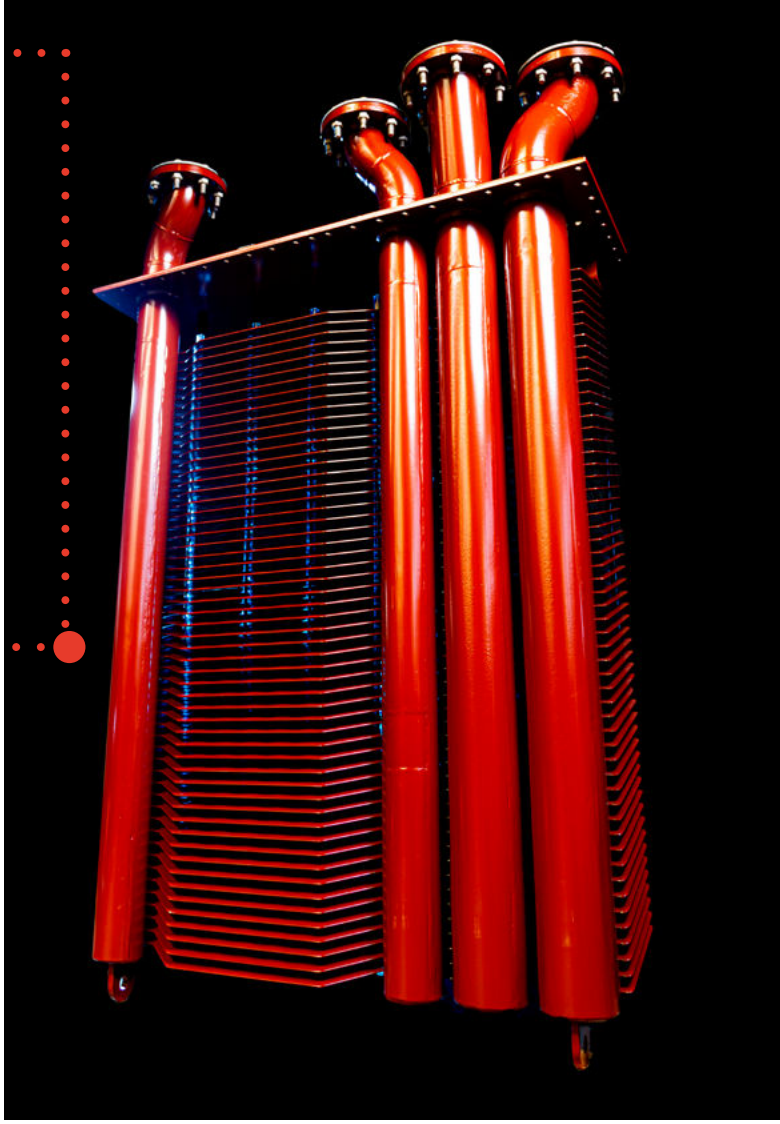


A sustainable solution

By staying clean and free from fouling, superyacht engines continue to perform at an optimum level. This results in less CO2 is being released, meaning CORROSION'S UV-C Coolers are a much more sustainable and environmentally friendly solution than traditional systems.

No more dry-docking

The revolutionary design means superyacht owners can now enjoy the benefits of the cooler without having to dry dock. This leads to big savings in terms of time and money, as it is possible to replace the UV-C lamps from within the vessel by using a double enclosure rather than dry docking. The simple process can be undertaken in less than 20 minutes per cooler, making it quicker and more efficient than other anti-fouling solutions in the market.

UV-C light

Ultraviolet light in its C spectrum is a green way of protecting the cooler against all types of marine growth. What's more, it is highly effective in virtually all circumstances. The bulb can endure high pressure as it is mounted in a tube made of quartz –the same material used in Navy vessels.

The UV-C light used in the system breaks down the cell structure and DNA of all the different forms of biofouling that settle either on pillow plates or close to them. The safety of other sea life is, however, preserved as UV-C coolers are mounted inside sea chests.

"The UV-C Cooler for Superyachts represents a first in **sustainable** anti-fouling solutions"

Aldrich Tyto
Laboratory Manager

Pillow plate
UV-C Cooler

The UV-C pillow plate cooler is designed to withstand the rough conditions that superyachts experience at sea. The coolers are installed in the sea chests with an in and outlet grid. When in operation, seawater enters through the inlet grid and passes through the pillow plates (including when moored).

Cooling takes place here, with the heated seawater exiting the sea chest through the outlet grids. Sea water that is heated by the pillow plates causes a natural convection, ensuring that cooling is guaranteed. This heat transfer is achieved by a controlled flow of cooling liquid through the pillow shaped plates. The heat transfer of a pillow plate is significantly more efficient than that of a tube cooler due to its shape. This so-called pillow plate technique is proven technology that has been used for decades in other sectors.

UV-C Cooler construction materials

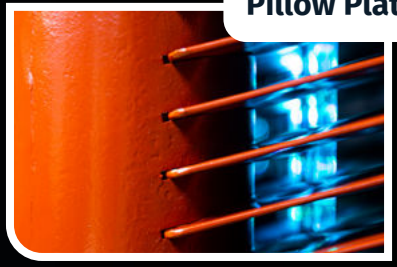
The cooler is made of carbon steel and is coated with a UV and high temperature resistant Phenolic epoxy coating, meaning they are suitable for superyachts with hulls constructed from different materials. This combination of construction materials, in addition to the use of sacrificial anodes, ensures that no galvanic corrosion will occur – even in the event of damaged coating resulting from impact.

Retrofitting

The UV-C Coolers are not only the best solution for newly built superyachts; they are also easy to retrofit to replace traditional box coolers. Given their higher efficiency, the dimensions of UV-C Coolers are smaller than that of traditional models, meaning they can be fitted in the existing space available. The in- and outlets on top of the cooler are tailor-made, with only minor adjustments required to the piping. Furthermore, the UV-C Cooler is the perfect anti-fouling solution for superyachts that are laid up for extended periods of time.

Water flow

Pillow Plates



UV-C lights

Contact us

For further information, please visit our website corrosion.nl. You can also reach us by telephone at: +31 (0) 79 593 1295.

"We hope that this brochure has been of interest to you. We would be **happy** to answer any questions you may have or work with you to see whether UV-C meets **your specific needs**."

Team UV-C

Henk
van der Lip

Bas
Wessels

About **CORROSION**

CORROSION has been in the business of protecting offshore wind farms, vessels and onshore applications since 1993. From our humble beginnings in the small town of Moerkapelle in the Netherlands, we've grown into an internationally recognized leader in creative, sustainable, state-of-the-art solutions in corrosion and cathodic protection.

Our highly sophisticated ICCP and ICAF systems are utilized by companies large and small around the world, protecting their valuable assets and equipment in even the toughest and most demanding conditions.

We're proud of the quality of the products we offer and the level of service we provide. Excellence is born of experience and expertise, and our unique research laboratory at our global headquarters in Moerkapelle is the beating heart of our company. It's where we test and develop new products and services, enabling us to lead the way in creating innovative anti-fouling and corrosion solutions.

Over the last three decades, we've expanded not just in terms of what we do, becoming a major global player in anti-fouling and maritime protection, but also geographically, with successful subsidiaries everywhere from Germany and France, to China and Vietnam.

Impressed Current Cathodic Protection (ICCP)

Galvanic corrosion is the number one enemy to steel assets exposed to sea water or any other environment with an electrolyte. Here at CORROSION we also have years of experience in protecting maritime structures against corrosion. Our state-of-the-art Impressed Current Cathodic Protection (ICCP) systems will safeguard your properties continually and in a sustainable manner.

For more information, please visit **corrosion.nl/maritime/iccp-maritime**

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