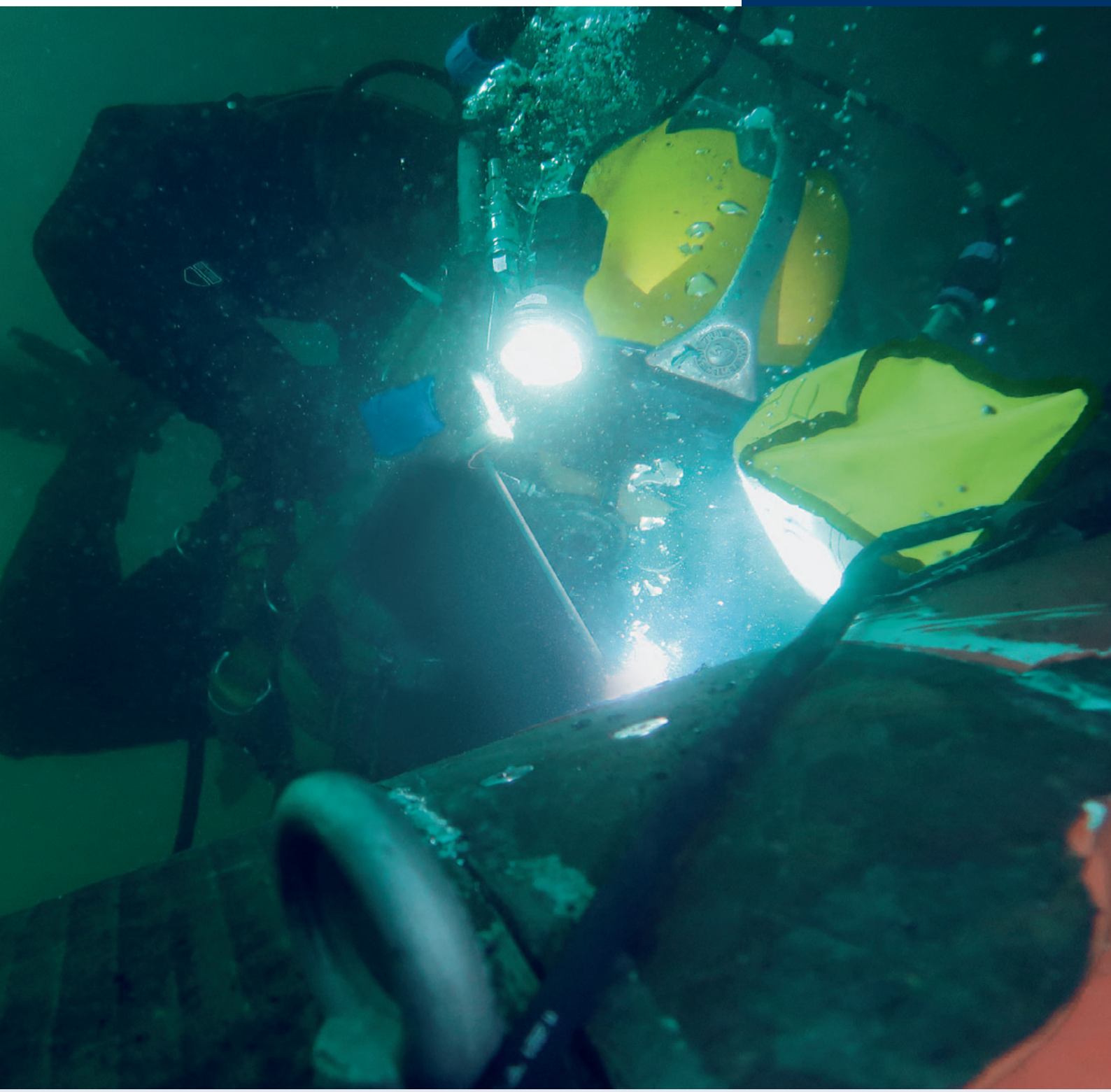
HYDREX®

UNDERWATER TECHNOLOGY

NEWS

LETTER | 320



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KEEPING SHIPS IN BUSINESS

ISO 9001 certified

Underwater services and technology approved by:

LRQA CERTIFIED ISO 9001

LRQA CERTIFIED VCA* version 2017 6.0

APPROVED SERVICE SUPPLIER DNV DNV.COM/AF

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Scrubber pipe repairs and lasting protection

Exhaust scrubbers filter out all harmful toxins from exhaust gases of marine diesel engines. These hazardous pollutants can severely corrode the pipes of the scrubber. Using the experience we have accumulated over the years allows us to assist you at moment's notice if this happens.

We offer a full package to owners that are experiencing similar damage. Not only can we replace the corroded exhaust pipe while your vessel stays on schedule, but we can make sure that you will not have to call us again in a few months time for the same problem. This is done by coating the pipes with a highly corrosion resistant coating called Ecospeed.

Contact us for more information on scrubber pipe replacements or other underwater repairs. We are at your disposal 24/7.

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Start saving fuel with your propeller cone fin now

We regularly install propeller cone fins on different types of vessels. We can carry out these operations underwater, out of drydock, all over the world without interrupting the ship's schedule.

Propeller cone fin after arrival on-site, ready for installation.

Propeller cap energy saving devices can recover energy loss of a propeller hub vortex in the propeller's slipstream. This decreases fuel consumption from 3% up to 5% according to the manufacturers and reduces cavitation on rudders and hulls.

Flexibility and speed are the keywords for Hydrex when assisting a customer with this kind of operation. As soon as the propeller cone fin is ready for delivery we can plan the installation based on the ship's schedule. Because our divers perform these operations in a single day and during cargo operations, we have considerable freedom in choosing the best time and location for the installation.

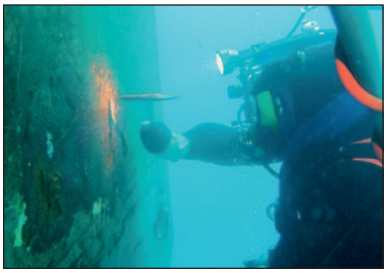
A direct result is that an owner can instantly benefit from the fuel savings a propeller cone fin brings. He does not have to wait until the next scheduled drydocking for the installation.


Hydrex diver getting ready for underwater operation.

Hydrex installs propeller cone fins underwater on any size and make of propeller, on both new build or in-service vessels. We carry out these operations following the specific procedures required by the OEM involved, adapted for an underwater installation.

After a preliminary inspection the divers remove the existing propeller cap and clean the flange where the device is to be installed. They then lower the new propeller cone into the water and position it on the propeller. The bolts are inserted with

Hydrex underwater inspections



Underwater inspections are an essential aspect of ship repairs. Building upon conventional technical skills and know-how while also taking advantage of the latest technology, Hydrex offers a unique hull monitoring service to its customers. This gives ship owners total control of the underwater hull and the underwater gear of their vessels. An informed decision can then be made concerning any required follow-up action. Catching problems early can save you much money in the long run.

Hydrex diver/technicians can carry out inspections underwater and on-site very swiftly without disturbing the vessel's sailing schedule.

With fuel costs amounting to 40% of operational expenses and continuing to rise, reducing fuel consumption is a vital concern of ship owners. This is the reason why hull monitoring pays for itself. Underwater hull roughness, marine fouling, bent propellers and poor paint condition are all factors that will increase fuel usage due to the drag or inefficiency created by the damaged or affected area. The data gathered can then be used to see if actions are required.

Our diver/technicians are trained for a wide range of operations and they can carry out the inspections in port or at anchor anywhere in the world.

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The old propeller cap is first removed.

Diver after underwater shift.

Final preparations for lowering the propeller cone fin into the water.

Hydrex workboat next to ship during propeller cone fin operation.

the correct torque and secured. Hydrex teams can work in shifts around the clock to finish the operation as quickly as possible.

The owner of the vessel can start enjoying the fuel savings the propulsion improving device creates right away. Not having to wait for the next scheduled drydocking to have the propeller cone fin installed can win him up to four years of fuel savings. Since he will have earned back the cost of the underwater installation in only a few weeks, the savings are considerable. ■

Hydrex team member inside the monitoring station.

If you have received this magazine at the wrong address or if your company is going to move, please let us know.

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or at
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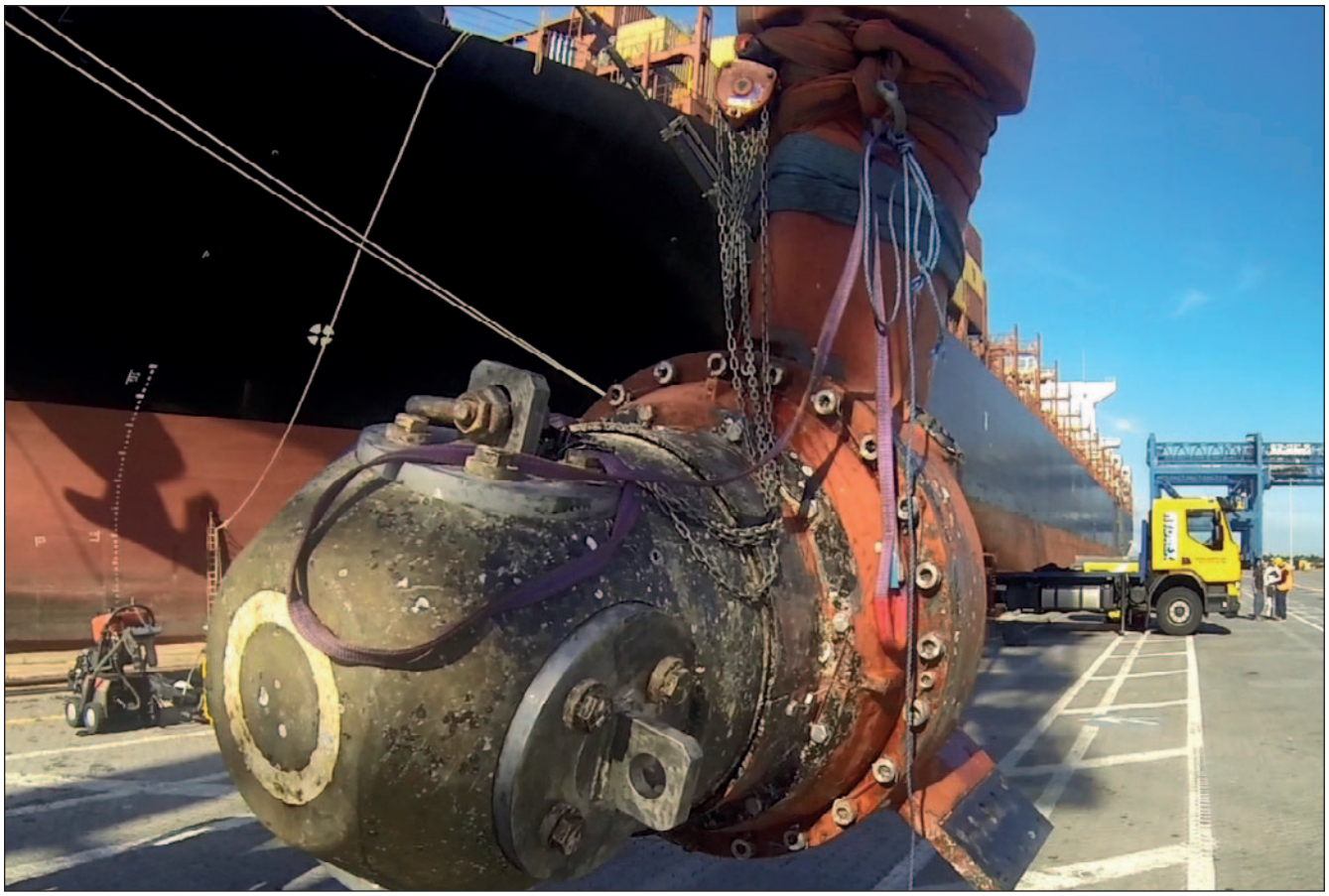
KEEPING SHIPS IN BUSINESS

In-water bow thruster repairs



Our lightweight flexible mobdocks are designed to be easily transported around the world and are used to close off the thruster tunnel on both sides, allowing divers to perform repairs and other operations in a dry environment around the bow thruster unit.

This technique enables to reinstall the propeller blades of an overhauled thruster inside the thruster tunnel after the unit has been secured or replace the blades or seals and perform repair work on a specific part without removing the unit.

Since the development of this flexible mobdock technique, numerous thruster repairs have been carried out by Hydrex diver/technicians around the world.

There is no need to send the vessel to drydock as all operations can be carried out in port or while the vessel is stationary at sea. Normal commercial activities can therefore continue without disruption.

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Underwater stern tube seal replacement avoids drydock

Recently we mobilized our diver/technician teams to vessels in Belgium and France to carry out stern tube seal replacements. In Brest the repair was carried out on a 150-meter cruise vessel, and in Antwerp, on a 237-meter container ship.

Both ships were leaking oil, making an on-site repair necessary. Using a Hydrex flexible mobdock we were able to carry out these operations on-site and underwater, saving the owners an expensive and time-consuming trip to drydock.

Stern tube assembly prior to the operation.

Helping a cruise ship stay on schedule

Once the operation in Brest was approved, all preparations were handled swiftly and the lightweight equipment was mobilized almost immediately from our fast response center.

After arriving on-site, the diving team first set up a monitoring station next to the vessel. The operation started with a thorough underwater inspection of the stern tube seal assembly, and removal of the rope guard.

Remains of rope that caused the oil leak.

Our divers then cleaned the assembly and installed the flexible mobdock, thus creating a dry underwater environment where they could work in drydock-like conditions.

The split ring was removed and brought to the surface to be cleaned. After cleaning the entire assembly, the divers removed the first seal and replaced it with a new one which was then bonded. Next, they did the same for the other seals.

A successful operation was concluded with leakage tests, the removal of the flexible mobdock and the reinstallation of the rope guard.

Easy mobilization with dedicated workboat

A team traveled to the container ship's berthing location in Antwerp on one of our workboats. These workboats are fully equipped as dive support vessels with hydraulic

Permanent in-water rudder repairs now possible without drydocking

Hydrex has developed an entirely new method enabling permanent repairs of rudders without drydocking the ship. Permanent repairs were hitherto not possible and ships had to drydock in case a major defect was found. The newly designed equipment is light-weight and can be mobilized very rapidly in our special flight containers. Therefore this new service is now available world-wide.

Major defects on rudders very often cause unscheduled drydocking of ships. The new method designed by our technical department allows engineers, welders and inspectors to perform their tasks in dry conditions. Class approved permanent repairs on-site, without moving the ship, are now possible and commercial operations can continue. Steel repairs and replacements can be performed and pintle and bushing defects can be solved without the loss of time and money associated with drydocking.

The equipment can be mobilized within hours to any port in the world and is available for rapid mobilization from the Hydrex headquarters in Antwerp.

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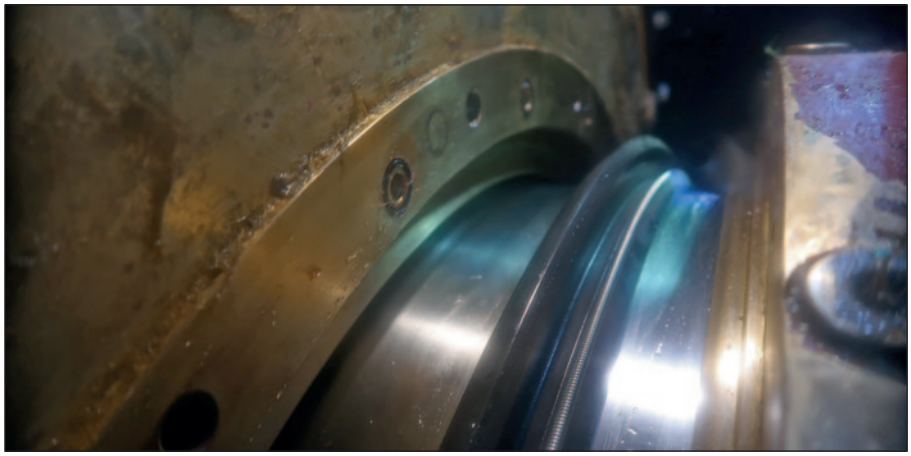
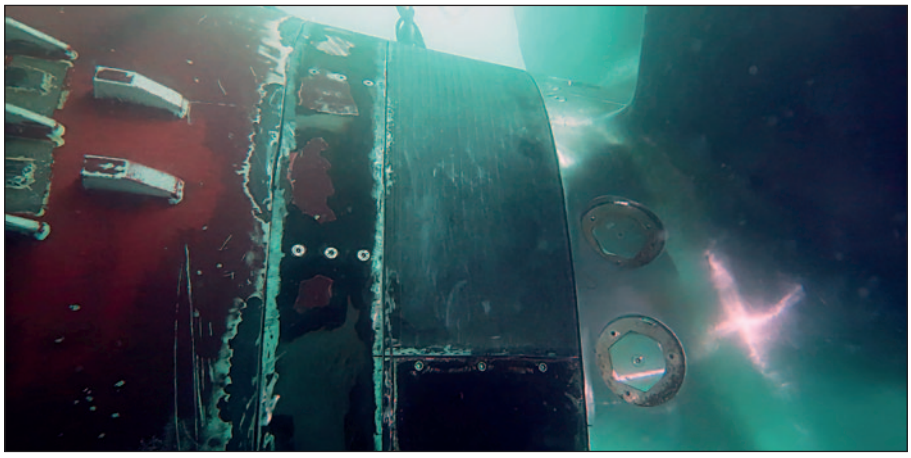
Hydrex divers are trained for a wide range of underwater operations.



New stern tube seal after bonding.



Rope guard after reinstallation.

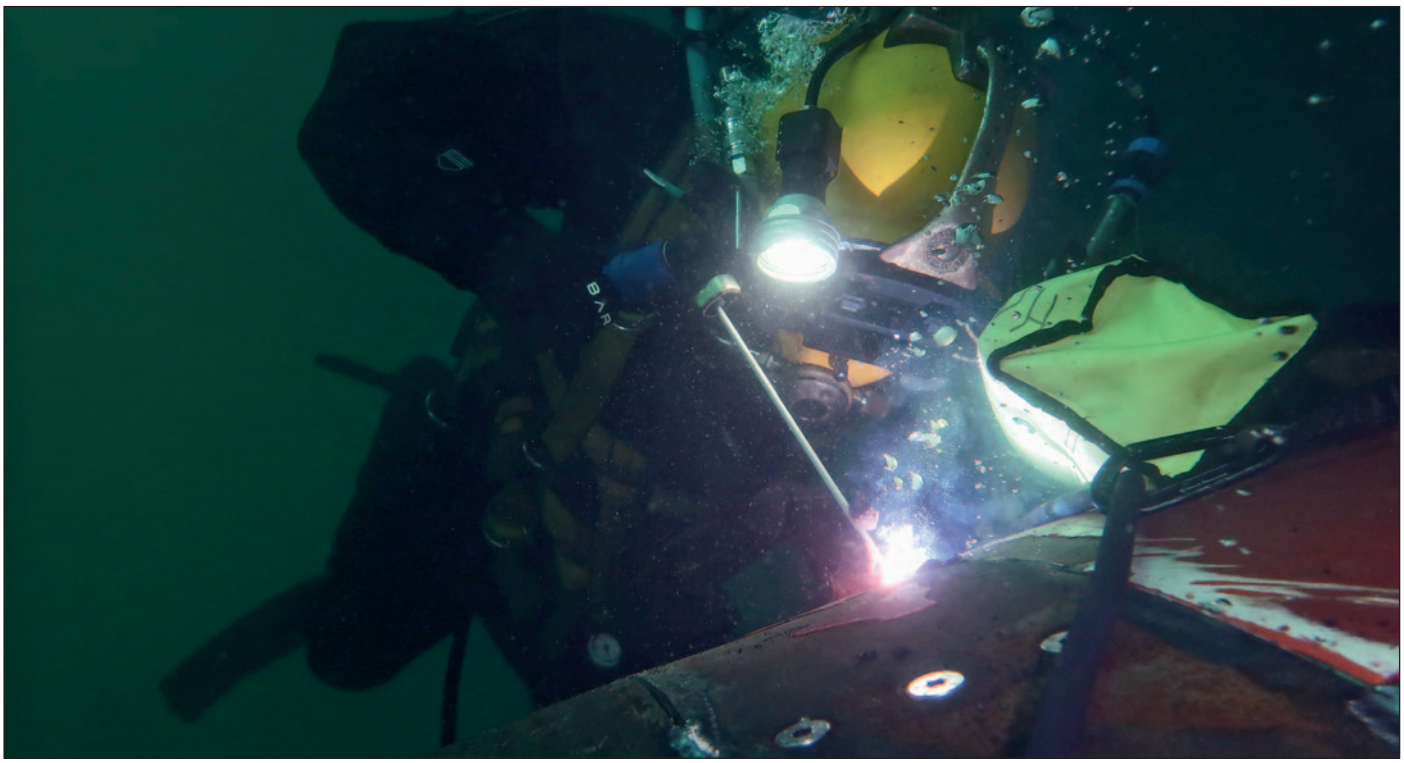
Working inside one of our flexible mobdocks in dry conditions.

cranes, winches, nautical and communication equipment, and a dive control room. They are stationed in Antwerp and Rotterdam and can be used for a wide range of operations in Belgium, the Netherlands, the United Kingdom and France.

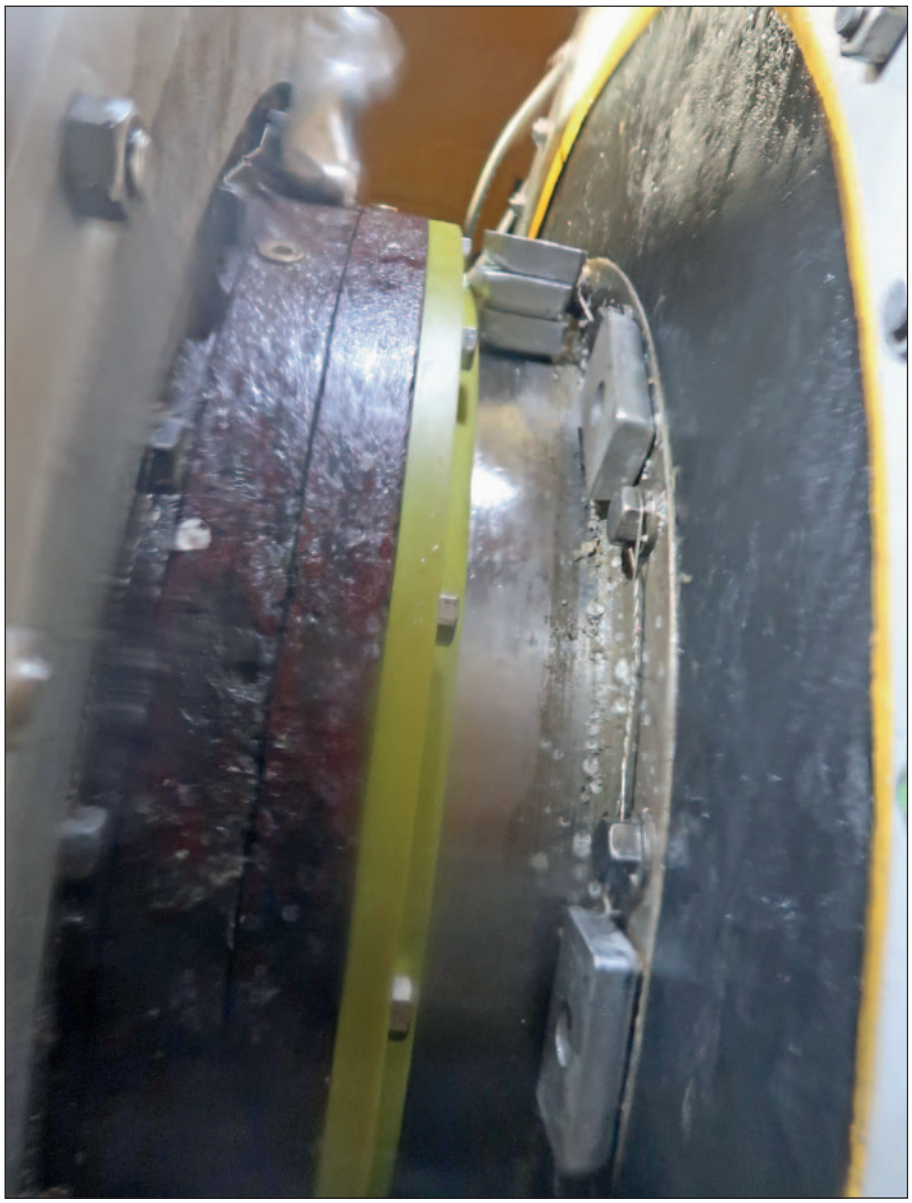
With Hydrex organizing everything from start to finish, the owner did not have to worry about making any arrangements for the repair. After the seals had been successfully replaced, the vessel was able to sail to its next stop free of oil leaks.

Working together with the OEM allowed us to provide our customer with original spare parts which guarantees the best quality material. A technician from the seal manufacturer was present during the operation.

All our offices are equipped with the latest facilities, lightweight equipment and tools. This allowed for a timely arrival of our team with everything they needed to successfully complete the job.



Hydrex diver reinstalling the rope guard.



Fully reinstalled stern tube seal assembly.

We help keep ships afloat, operational and in business

We offer maintenance services and repairs on all parts of the underwater ship's propulsion systems and the hull. Operations are class approved and carried out at lay-by berths or alongside the dock while commercial activities continue. All is done with qualified and experienced diver/technicians, state-of-the-art equipment, and advanced techniques.

If ever you encounter a problem with the underwater part of your vessel give us a call. We can then tell you if the repair is feasible and, if so, start working on its handling. ■

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Our workboats allow for a very fast response.

Inwater propeller repairs

When damage to propellers occurs due to impact with ice and other debris we can help you, even if the damage is quite extensive. Our teams can restore the propeller's balance and efficiency.

By taking advantage of the in-house developed cold straightening technique, damaged blades can be straightened underwater, allowing the ship to return to commercial operations without the need to drydock.

If straightening is not an option, the affected area of the blade will be cropped. This is done to achieve the greatest possible efficiency. Cropping is carried out using our propeller blade cutting equipment.

Our teams can also carry out any other repair work on the propeller. Examples of this are the removal and reinstallation of entire propeller blades or replacement of the propeller seal ring.

Contact us for more information on underwater propeller repairs. We are at your disposal 24/7.

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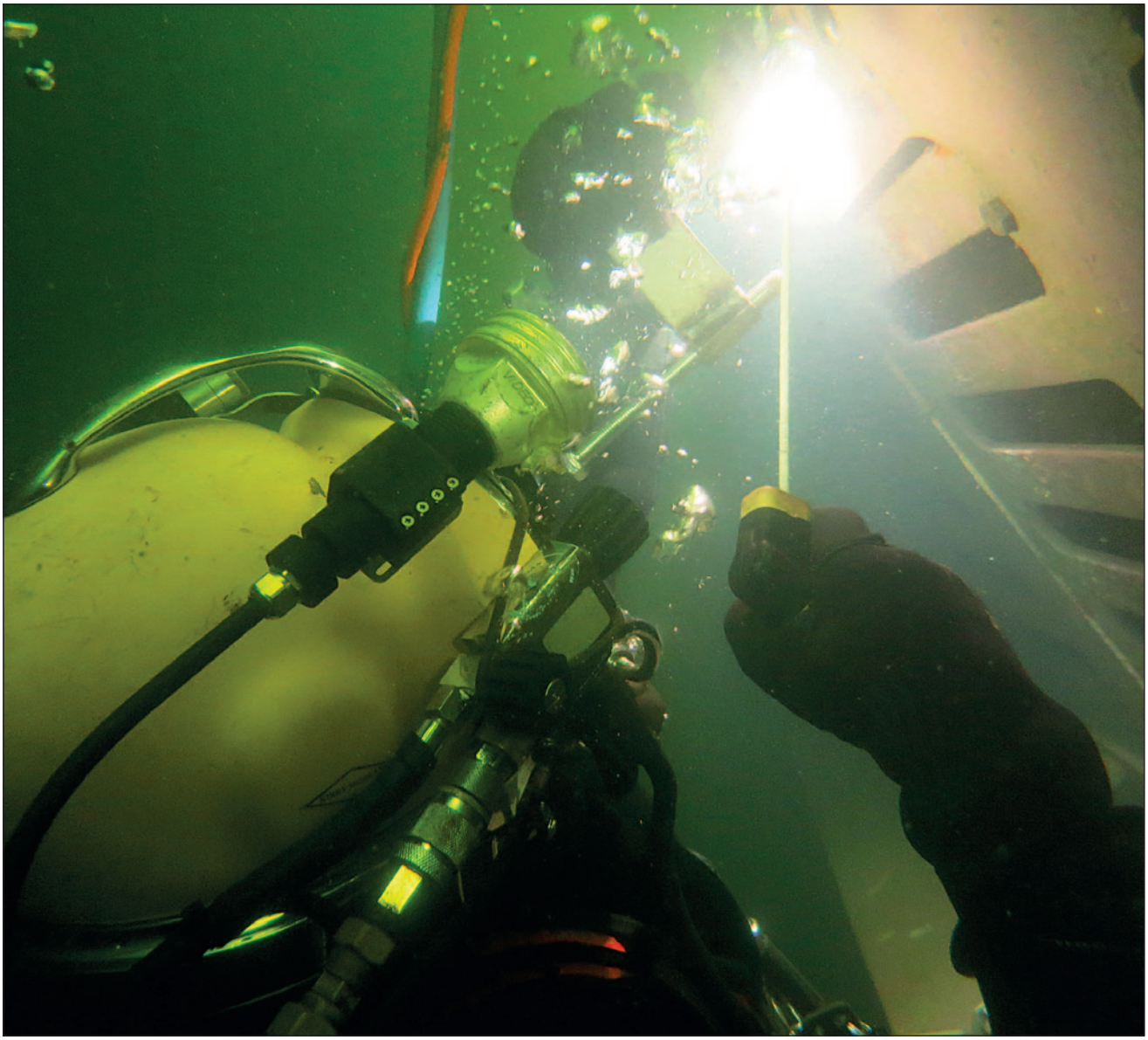
Sail safe with Hydrex



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