

HYDREX[®]

UNDERWATER TECHNOLOGY

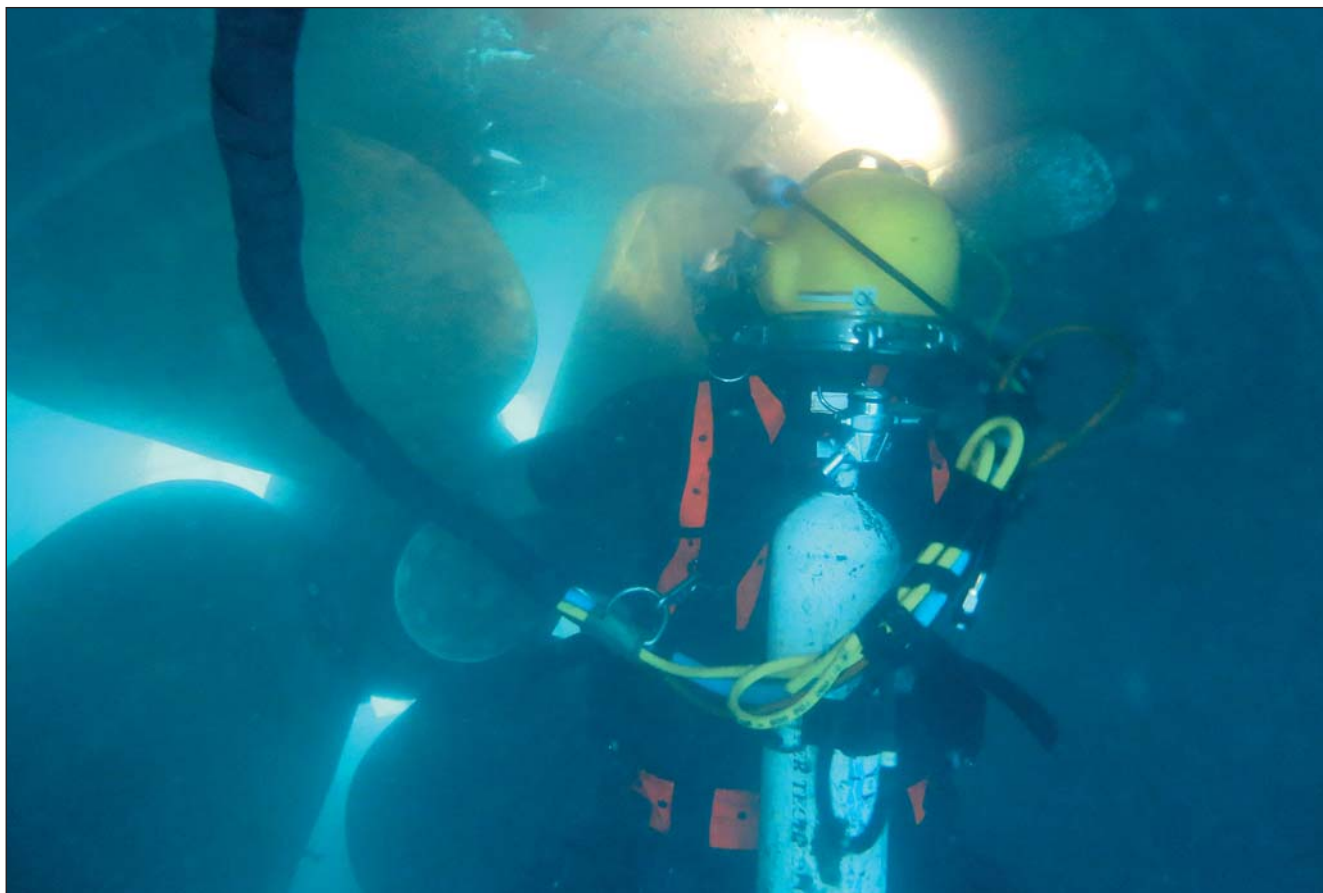
Magazine

Number 287



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In-water bow thruster repairs



The Hydrex 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 them 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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Editorial



Welcome to the last Hydrex magazine of 2020. Rest assured that we will remain ready to assist you 24/7 in 2021, so do not hesitate to call us with your underwater repair needs, routine or emergency.

Our diver/technician teams have been very busy all across Europe and especially in Rotterdam throughout the entire year. We have been servicing vessels in this area for a very long time. To enable a fast mobilization throughout the entire port without delaying a ship's commercial operations, dive support vessels are stationed in Rotterdam. You can read more about this further

on in the magazine.

We also included a 2 page centerfold that gives a nice summary of our underwater repair and maintenance services. This is a nice tool to keep at hand in case you are in need of an underwater service and want to know if it can be done. The answer is almost always 'Yes'.

We wish you all the best for the holiday season and the coming year.

Hydrex founder
Boud Van Rompay

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ISO 9001 certified

Underwater services and technology approved by:



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Leaking seal assembly fixed underwater in Antwerp

One of our diver/technician teams carried out an underwater stern tube seal repair on a 300-meter container vessel berthed in Antwerp. The ship was suffering from an oil leak, making an immediate repair necessary. Using a Hydrex flexible mobdock the team was able to carry out the entire operation on-site and underwater, saving the owner an expensive and time-consuming trip to drydock.

Once the operation was confirmed all preparations were handled swiftly and the lightweight equipment



With our mobdocks we create a dry working environment underwater.



New seals positioned and bonded.



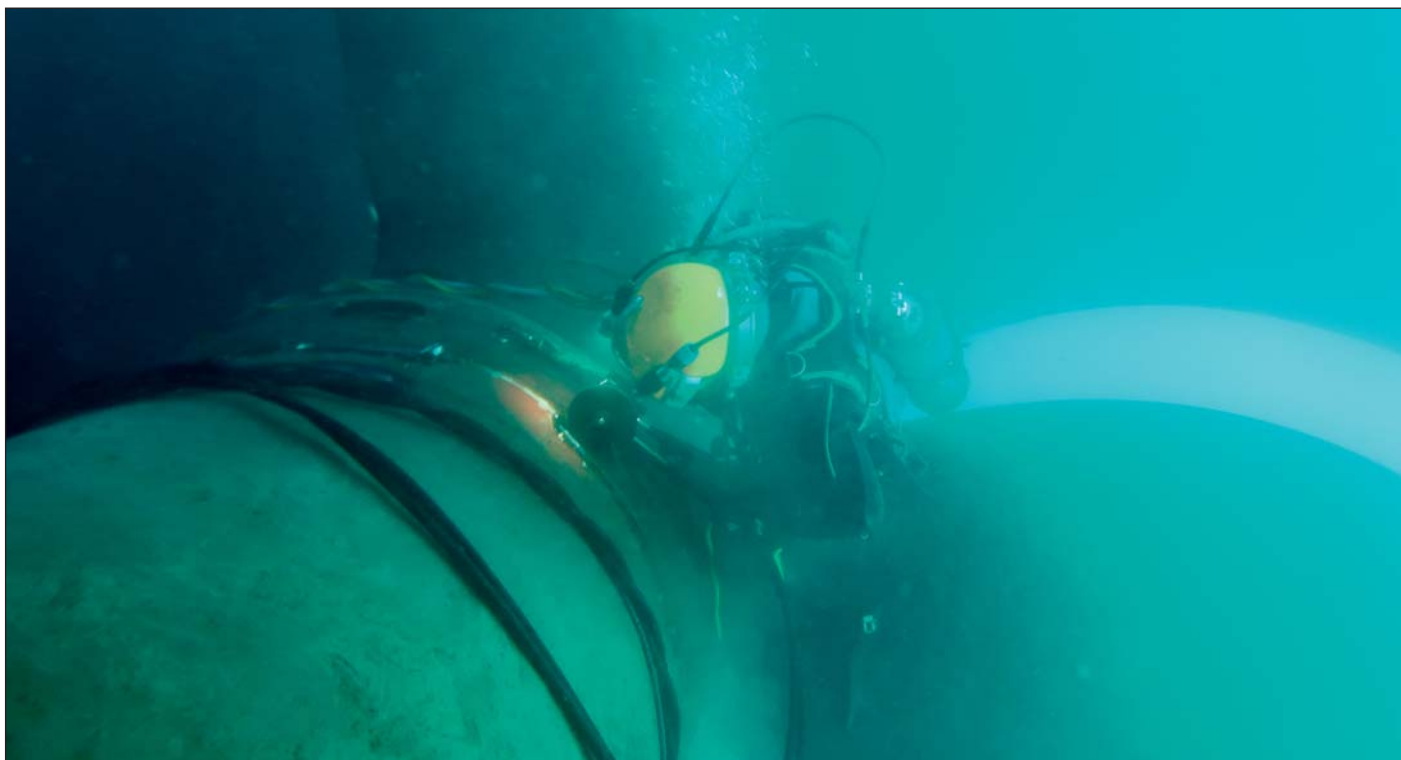
Stern tube seal assembly ready for rope guard reinstallation.



Hydrex diver getting ready for underwater operation.



Hydrex diver/technician working inside our flexible mobdock.



Hydrex diver working on the rope guard during a stern tube seal operation.

was mobilized immediately from our headquarters in Antwerp. After arriving on-site, the diving team first set up a monitoring station next to the vessel. The operation then started with the removal of the rope guard and a thorough underwater inspection of the stern tube seal assembly.

After the inspection the divers cleaned the assembly and installed the flexible mobdock. By doing this they created a dry underwater environment so that they could work in drydock-like conditions.

The split ring was then 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 bonded. The procedure was repeated with the other seals.

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

Conclusion

Working together with the OEM allowed Hydrex to provide the

customer with original spare parts which guarantees the best quality material. A technician of the seal manufacturer was also present during the operation.

By 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 he could sail his vessel to her next stop free of oil leaks. ■

The same high quality, close to home or faraway

We have developed a flexible mobdock repair method that enables the underwater replacement of all types and sizes of shaft seals. It allows ship owners to keep their vessels sailing, saving precious time and money.

Damaged stern tube seals will cause oil leaks or an ingress of water. By replacing the seals as soon as possible we can keep the down time low. Because seal repairs can be performed during cargo operations the ship can keep its schedule.

It is not always straightforward to replace seals. There can be quite a bit of variation in the size of the stern tube itself and for instance the liners can be worn down and show ruts. However, all this is routinely handled by our experienced teams.

Scrubber pipe repairs and lasting protection



Exhaust scrubbers filter out all harmful toxins from exhaust gasses 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.

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

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Underwater re

Seal repairs

We have developed a reliable technology that enables the underwater replacement of all types and sizes of shaft seals.



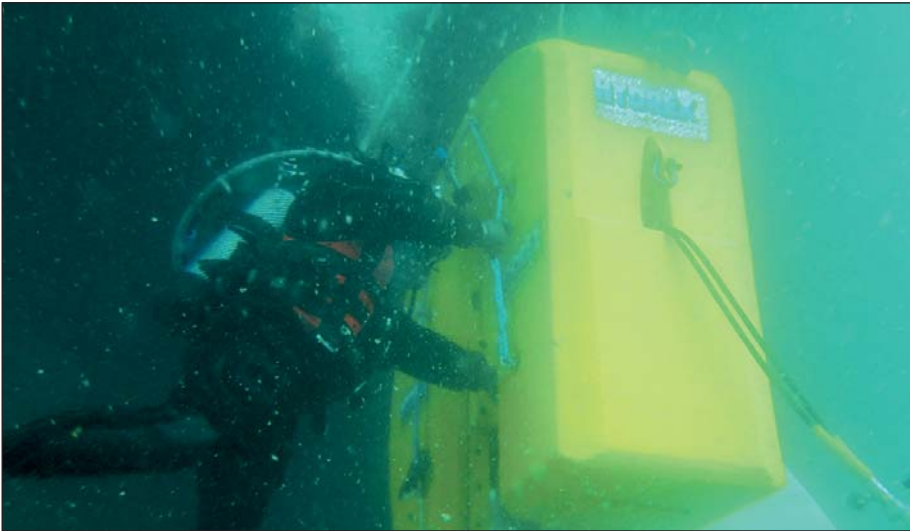
Thruster repairs

We can assist shipowners with almost any



Propeller repairs

When damage to propellers occurs due to impact with ice and other debris we can fix these, even if the damage is extensive.



Rudder repairs

We can perform permanent repairs on any damage caused by impact with ice and other debris at anchorage and cargo operations continuing.



Underwater maintenance

Inspections

We offer a full range of hull monitoring services including IWS and class inspections. This gives owners total control of their ship's hull condition.

Propeller buffing

We developed an efficient technology to enhance propeller blade surfaces underwater and achieve surface conditions never seen before.

Anode installation

We can install both ICCP and sacrificial anodes. If needed we can supply the anodes.

Repair solutions

any problem encountered with thrusters.



any type of rudder while the vessel remains afloat.



Hull repairs

Our on-site hull repair services include the renewal of both small and large areas of damaged hull plating.



Scrubber repairs

We can assist shipowners at moment's notice when a scrubber pipe corrodes and needs replacing.



Transducer installation

Our teams can very quickly replace or install speedlogs and echosounders without any hindrance to a ship's schedule.

Blanking

We can blank overboard valves, inlets, seachests or any other underwater opening to allow for onboard repairs. This is done very quickly and on-site.

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Ready to work throughout the port of Rotterdam

To enable a fast mobilization throughout the entire Rotterdam port without delaying a ship's commercial operations. Our dive support vessels are stationed there. These workboats are fully equipped with hydraulic cranes, winches, a dive spread and control room.

This allows us to offer simple maintenance operations as well as repairs on all parts of the underwater ship propulsion system and the hull. These operations are class approved and carried out alongside or at anchorage while commercial activities continue without disruption. We do this with qualified and experienced diver/technicians, state-of-the-art equipment and advanced techniques that create drydock-like conditions underwater.

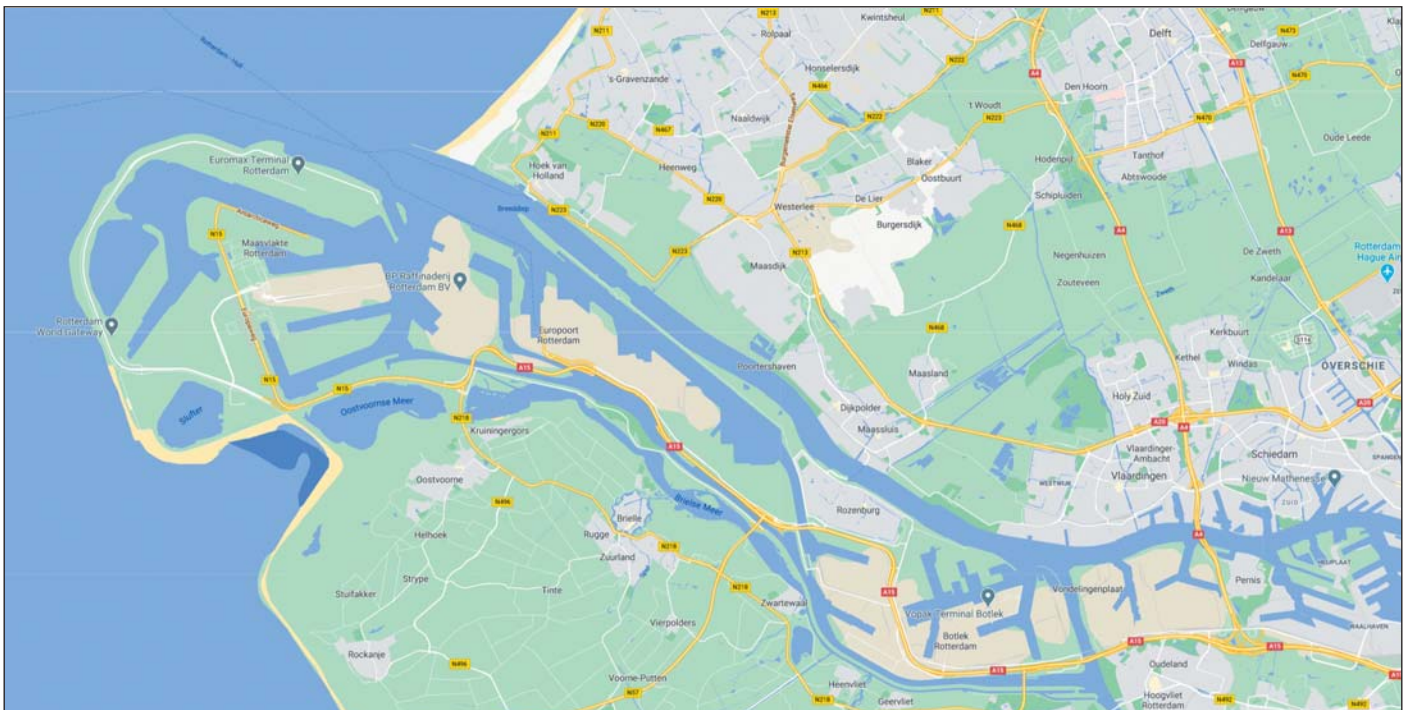


Fully equipped Hydrex workboat, ideal for a fast mobilization.

We have been active in Rotterdam since Hydrex was founded 45 years ago. Examples of recent operations in the port are a bow thruster removal on a container ship and a stern tube seal repair performed on a ro-ro vessel.

Another good example of how we can assist you is a technique called propeller buffing. Keeping a propeller in its optimum shape will give you an instant increase in fuel efficiency, resulting in savings on your fuel bill. By using this method

Easy accessible port





Hydrex work and dive support boat alongside container ship in Rotterdam.



Our workboats are equipped at all times with the materials needed for a wide range of operations.

on a regular basis, we are able to obtain this result.

Please feel free to contact us if you would like to have more information on any of our services or if you want to find out how we can assist you and your vessel. ■

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Our workboats allow us to mobilize throughout the entire port of Antwerp and Rotterdam within hours.

High quality underwater repairs by trustworthy professionals

When we send a team to an operation, *any operation*, we have one goal in mind: to get the job done in the shortest possible time and to the highest standards. This has been our policy since Hydrex was founded in 1974. Our track record proves that this is not a false claim.

Turning technicians into underwater specialists

We want to offer the highest quality of service for our customers while at the same time guaranteeing the safety of our divers at all times. To achieve this we need staff who are familiar with a wide range of operations as well as the relevant know-how. Our diver/technicians are trained and qualified to perform all class-approved repair procedures.



Our diver/technicians are trained to perform all repair procedures.

New diver/technicians need to have proven their technical skill and knowledge. They are also required

to have internationally accepted commercial diver certificates. Once they join our team they go through a stringent training that includes high standard external courses as well as comprehensive in-house training.

This consists of both theoretical classes and practical drills on the Hydrex premises. There they have access to a wide range of underwater tools and various other equipment, including three dive training tanks in which underwater welding and other repair work can be practiced.

In addition to these classes, new divers also get the opportunity to train with experienced Hydrex diver/technicians. This allows them to take advantage of the technical know-how and practical knowledge we have accumulated in the last 45 years.



Our teams perform underwater repairs without unnecessary loss of time, quality or safety.



We have a large fleet available for immediate mobilization, including workboats, vans and trucks.



Our training facilities include three dive training tanks to practice underwater welding and other repair work.

Hydrex under- water 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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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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All operations are monitored by our supervisors. They are in constant communication with the divers.

One of the aspects the training focusses on is learning to be flexible during an operation. Our teams have to be able to respond to changes if the need arises. This is very important because they are the ears and eyes of our technical department during an operation. From the initial inspection all the way through to the final check-up of the repair, they are the ones underwater and on-site.

When their training is completed they can handle any kind of situa-

tion. They have become underwater repair specialists.

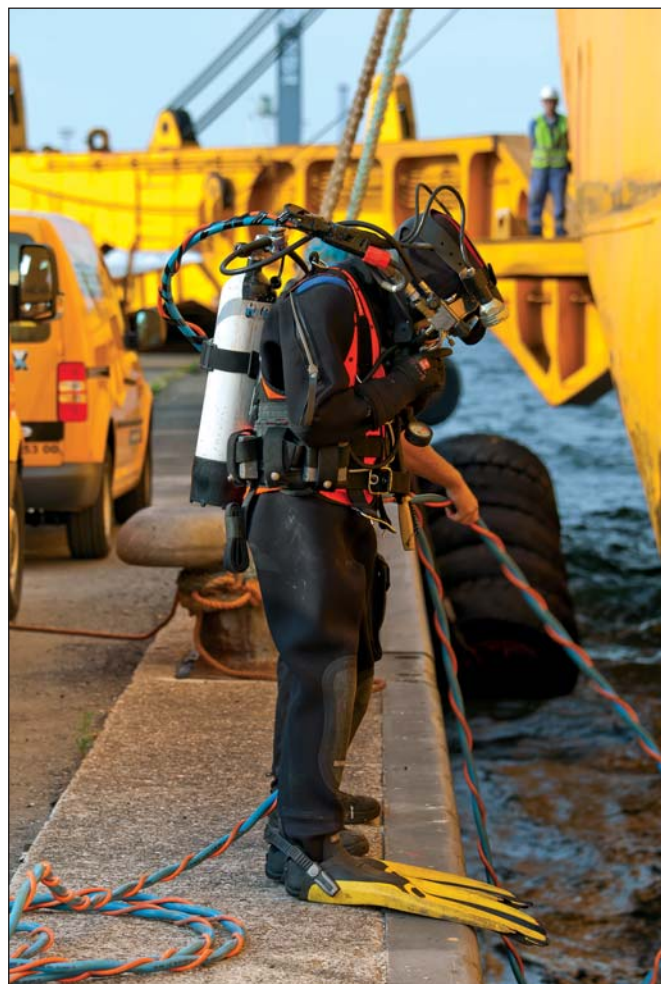
This means that if a shipowner needs assistance, we are able to send a team of certified diver/technicians to the vessel immediately without losing time. They can carry out both simple and complex jobs even in harsh circumstances. They do this uniformly without unnecessary loss of time, quality or safety.



Our fast-response centers are stocked for a quick mobilization to small and large operations.



Hydrex divers receive extensive training, both external and in-house.



Our divers can carry out any repair without unnecessary loss of time, quality or safety.

Putting the customer first

The customer pays to get the best results without losing any unnecessary time. So that is what we deliver. The scope of work is agreed upon in advance and the owner is given a precise assessment of the duration of the operation. Our many years of experience with a wide array of underwater repairs enables us to make an accurate estimation of the needed time frame.

We do this to establish a strong connection with our customers based on trust and good results. We give clear answers to any questions we receive and we deliver what we promise.

Over the years we have also built long-lasting relationships with

classification societies, OEMs and local support bases around the world. Correct and direct communication is an essential factor in establishing and maintaining a network you can rely on. This allows us to quickly arrange spare parts, an engineer from the OEM or any external equipment needed for an operation.

Conclusion

We understand how important it is for a ship to keep her schedule. Going off-hire for days or even weeks to have underwater repairs carried out or pay an unscheduled visit to a drydock costs a tremendous amount of money. That is why we have developed technologies that allow us to perform underwater repairs within a very short time and to drydock standards. ■

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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contact us at:
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**KEEPING SHIPS
IN BUSINESS**

We fix ships worldwide



*This drawing was made in 1979
and symbolizes our care and
attention for ships.*

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