

your global specialist

Industrial sector

**At home on the seven seas.**

Intelligent lubrication solutions for maritime and offshore applications



# Speciality lubricants for maritime applications

As a shipping company owner or operator of maritime and oil-extracting equipment, you frequently invest a lot of money – in ships for the transportation of both goods and people, in special ships for offshore purposes, and in offshore platforms for oil and gas extraction. Of course, you want these investments to pay off as soon as possible. Low operational and maintenance costs as well as reliable operation without malfunctions or losses of production are important cornerstones in this respect. Each service interval and each unplanned repair results in service costs and losses of income during the unproductive repair and idle periods in dry dock or port. One single day of standstill can cost several hundreds of thousands of dollars – charter rates you cannot compensate with income. Just imagine the bitter news of having to stop all operations to replace bearings or gears after failure due to inadequate lubrication!

## **The lubricant – a small investment that can make a big difference**

It is therefore vital to select the right lubricant. Speciality lubricants from Klüber Lubrication are always a good choice. Klüber Lubrication, the expert for speciality lubricants, works closely together with manufacturers of important components and shipping industry equipment to extend service intervals and component lifetime whilst increasing operational reliability. Have you ever considered the effect of speciality lubricants on maintenance costs and component lifetime? The investment in a lubricant may be relatively small – but it can make a big difference.

## **High-performance lubricants for extreme requirements**

Klüber Lubrication is a globally operating lubricant specialist providing solutions for the extreme requirements found in maritime applications: speciality lubricants to suit your needs. With our global production and sales network, we can reach our customers, whichever port they visit. Klüber Lubrication products increase reliability, allow economical operation and extend the lifetime of components in ships and offshore applications, contributing to long-lastingly reduced operating costs.

Our extensive product range comprises oils, greases, pastes, bonded coatings and waxes. Additionally, we offer comprehensive service and the knowledge and experience of decades of research, development and production of speciality lubricants.

The Klüber Lubrication brand stands for highest product quality, innovation and excellent service. Our customers can be sure that we deliver what we promise – on time and to the right location!

## Give costs the cold shoulder

Keeping to maintenance budgets and reducing costs

There is hardly a workplace where man and machine face surroundings as arduous as on board a ship or offshore platform. Harsh conditions - cold, stifling heat, rain, wind, seawater, high mechanical loads and corrosion quickly reveal the difference between conventional lubricants and speciality lubricants.

Component failure on-board – be it a crane, winch or propeller – leads to increased costs due to non-availability and repair times which increase the maintenance budget. At worst, schedules cannot be met, which annoys business partners as it leads to further costs. Charges for spare parts and specialists often add to that. Speciality lubricants from Klüber Lubrication help to prevent unplanned downtimes and costs.

As Klüber's speciality lubricants significantly extend running times thanks to their long service life, additional savings can be generated due to longer service intervals.



## Reliability and safety



Imagine your ship crossing the Atlantic Ocean, being hundreds of miles away from the next port. And then, all of a sudden, the ship's propulsion system fails. The ship is no longer manoeuvrable, putting at risk the life of the crew, the ship, its lading and the environment! Then imagine that the situation was caused by component failure due to inadequate lubrication.

To prevent this from happening to you while on high seas, Klüber Lubrication puts all its lubricants through their paces prior to launch. For this purpose, Klüber Lubrication set up a test bay, which is unprecedented in the industry. Klüber Lubrication simulates the extreme stresses on the lubricant in maritime and offshore applications: variation in temperatures, high surface pressure, contact with salty air and seawater or micro-movement. During the test procedures, we load the components until damage occurs so as to analyse the failure mode. The results help us to develop the optimum lubricant. For this purpose, we work in very close cooperation with leading OEMs.

Our experts do not approve a lubricant for launch unless it fulfils all relevant requirements and has proven its capacities. You can therefore be sure that Klüber lubricants comply with the demanding requirements at sea thanks to their long service life and their provision of optimum lubrication and protection of the components. For you, this means that the components aboard become a lot more reliable and operational safety increases.

We ensure that you get where you want to be - always.

## Preserving the environment

Klüber Lubrication products are also at the forefront when it comes to environmental protection: we have been making every effort to create products which are as environmental-friendly as possible for years.

Global integration of economic relations, international trade, energy provision for production, mobility, heating and cooling – all these factors are the basis for economic growth and prosperity. Transporting goods by ship is up to 19 times more energy-efficient than road transport and 6 times more efficient than transportation by rail. Ships are indispensable for both international trade and offshore oil and gas extraction. Cruise ships are also becoming progressively more popular. Most ships are propeller-driven, and propeller drive bearings must be lubricated. Cranes, winches, stabilisers, bow thrusters – oils and greases are needed everywhere.

Nevertheless, the seals of a propeller shaft will never be 100 % leakproof. Also on deck, the lubricant can leak from the seals, even after the best possible maintenance and prudent operation. The next wave will sweep it away into the sea. Many lubricants enter the marine environment that way every day and place an additional burden on this valuable ecosystem.

Klüber's non-toxic, rapidly biodegradable lubricants, which have been developed especially for maritime applications, help you to make a contribution to preserving this unique ecosystem and its inhabitants. Klüber Lubrication develops speciality lubricants together with its affiliates Freudenberg Simrit and Merkel Freudenberg – both leading propeller seal manufacturers. These lubricants do not only help to reduce operating costs due to longer grease life, but also help to preserve our environment as they do not burden it to the same extent as conventional lubricants based on mineral oil.



# Klüber Lubrication – your reliable partner always and everywhere



The challenges you encounter when transporting goods safely, on time and cost-efficiently to the port of destination are ever-increasing. As a shipping company owner, ship operator or ship manager, you need reliable and flexible partners to stand by your side when dealing with the challenges you are facing.

We at Klüber Lubrication have decades of experience and know what your industry expects.

You require a lubricant supplier you can rely on. Someone to find a solution, also for extreme applications, to ensure that your ship can be operated safely and reliably. You need on-site expert support whenever and wherever it becomes necessary. And you require lubricants which can be supplied worldwide with consistent high quality.

Klüber Lubrication offers this level of service. Working closely with OEMs, we have been developing new products and optimising existing ones for decades. You can benefit from our extensive lubricant portfolio, our know-how and long years of cooperation with shipping company owners and OEMs.

We developed a special service package for the maritime industry:

- on-site support, provided by qualified experts
- personal technical consulting and lubricant selection
- chemical analyses and tests conducted on our test bay
- cost-benefit calculation
- worldwide availability of our lubricants in constant high quality
- new product development with added value
- training on lubrication; either on-site or at our training premises

Wherever your ship may be: you can rely on our experienced experts who provide support and advice on lubrication and help you select the right lubricant worldwide. Make use of our experts' know-how. We have the right solution for (almost) all requirements aboard a ship – and should we not have the right lubricant for you, we'll develop it.



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## Klüber Lubrication – your global specialist

Innovative tribological solutions are our passion. Through personal contact and consultation, we help our customers to be successful worldwide, in all industries and markets. With our ambitious technical concepts and experienced, competent staff we have been fulfilling increasingly demanding requirements by manufacturing efficient high-performance lubricants for more than 80 years.



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