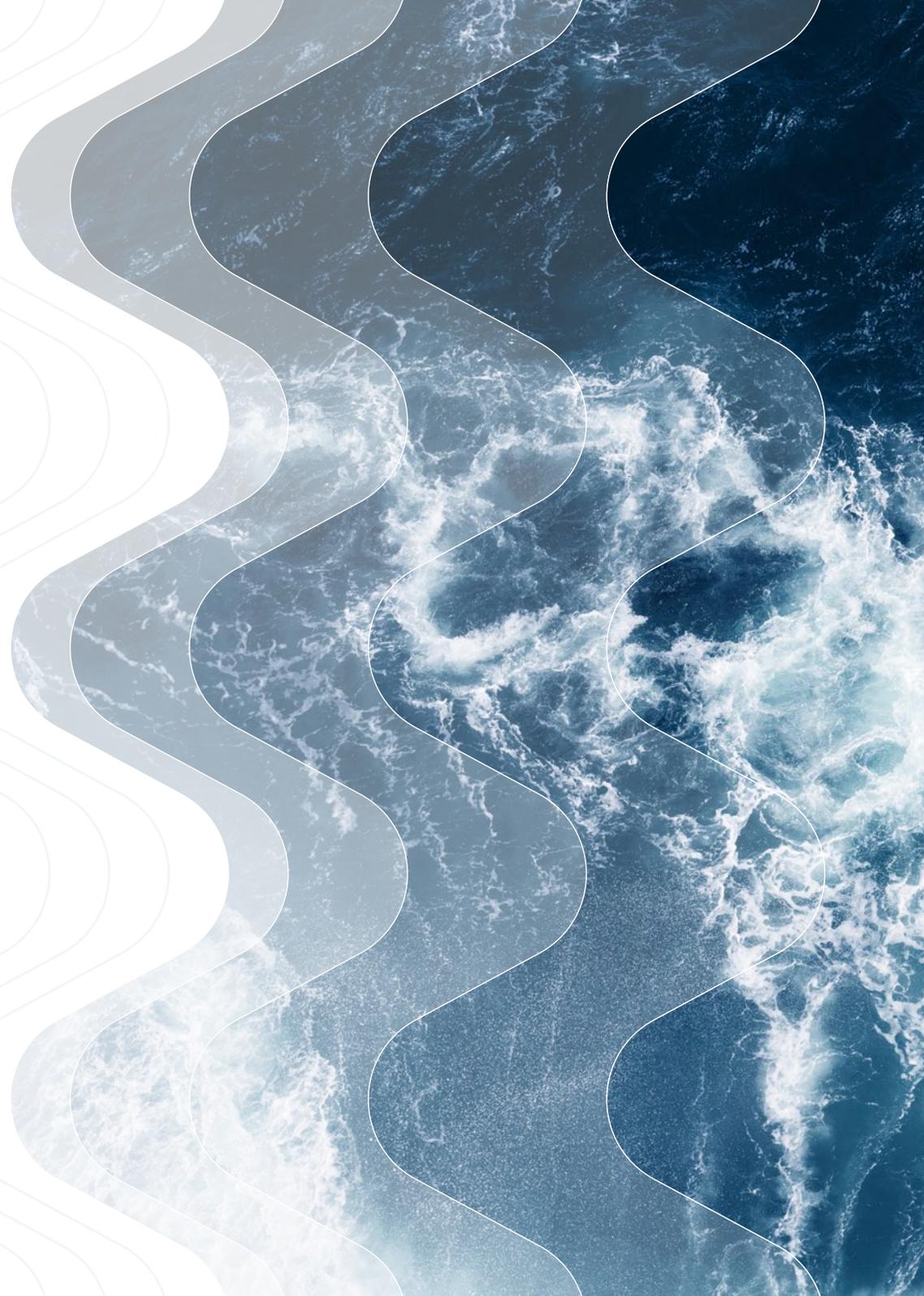


HJ Lubricators ®

LEADING
**CYLINDER
LUBRICATION
TECHNOLOGY**





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LEADING CYLINDER LUBRICATION
TECHNOLOGY
BY DEDICATED SPECIALISTS







WE REDUCE CYLINDER OIL CONSUMPTION AND IMPROVE ENGINE CONDITION DURING THE GREEN TRANSITION.

LOWER OIL CONSUMPTION AND REDUCE EMISSION

HJ Lubricators is the leading global provider of cylinder lubrication systems for two-stroke marine engines.

Our solutions significantly reduce the cylinder lube oil consumption and extend the lifetime of liners and piston rings. HJ technology supports the use of bio fuels and dual fuels.

We recognize the need for climate friendly measures and our solutions reduce CO2 and particle emission in particular.

PATENTED TECHNOLOGY

HJL technology injects fresh cylinder oil during each piston stroke and utilizes atomizing spray of oil for optimal cylinder lubrication.

Our products are installed both as retrofit and in new builds. We hold the patent to make stepless quantity adjustment in the lubrication system. Our lubricators inject fresh cylinder oil in each piston stroke and make possible multiple injections per revolution.

LEADING EXPERTS

With approximately 100 years of experience, innovation is in our DNA and therefore we push cylinder lubrication technology forward in close collaboration with universities doing scientific research on mathematic spray modelling, cavitation in cooperation with oil makers and engine designers.

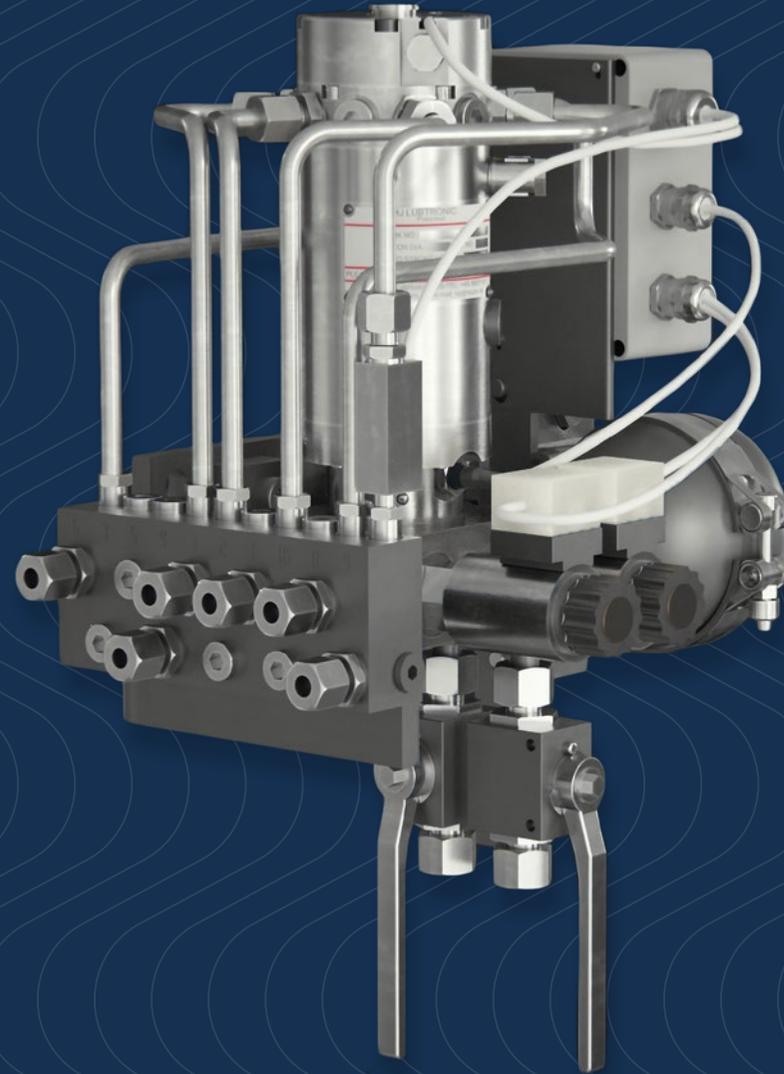
Welcome aboard!



CYLINDER OIL INJECTION IN EVERY PISTON STROKE

A unique feature of HJ Lubricators is the ability to inject fresh cylinder lube oil during each piston stroke to reduce wear and corrosion. The dosage of oil is adjusted for optimal effect and typically there is a significant reduction in lube oil consumption – sometimes up to 60% savings.

The technology is patent protected by HJL.





ATOMISING CYLINDER OIL INTO THE COMBUSTION CHAMBER

HJ SIP (Swirl Injection Principle) is the principle of atomising cylinder oil and injecting it into the scavenge air swirl at a high pressure. The result is an optimal distribution of the cylinder oil on the entire upper liner surface (combustion area) which is the most exposed area in the engine.

The technology is patent protected by HJL.



PRODUCTS AND SERVICES



LUBRICATORS

More than 100 years of experience with cylinder lubrication, positions HJL as the leading brand on cylinder condition. HJ Lubricators provides variable oil injection during each piston stroke, Multi-Timing and Automatic Cleaning Sequence.

We say: No more dry strokes!

VALVES

The unique feature of our valves is the atomizing of cylinder oil in the combustion chamber using the 'Swirl Injection Principle'. Enjoy the benefits of better distribution on the cylinder liner, a more stable oil film and lower cylinder lubrication oil consumption of up to 60%.

SERVICES

HJL offers a range of services around cylinder condition and efficiency. The Cylinder Condition Optimization Program improves engine performance setting optimal feed rate, extends time between overhauls, reduce consumption and early detection of wear. Other offerings are SIP valve service, reconditioning and crew training.

SMARTLINK™

Takes cylinder lubrication online and monitors key lubrication data remotely for optimizing engine condition. Realize the full potential of your lubrication system by monitoring realtime performance.

HJ SIP VALVES

SIP

'Swirl Injection Principle' utilize the engine scavenge air to distribute the cylinder lubricating oil. For each piston stroke the engine takes, a small amount of cylinder lubricating oil is sprayed out of the HJ SIP valves.

HJ SIP VALVES IN COMBINATION WITH ENGINE MAKERS

HJ SIP valves are mounted in the liner, in the same holes as your current non-return valves. HJ SIP is a high-pressure injection lubrication system that injects the cylinder oil as a spray (small oil droplets) above the piston.



HJ SMARTLUBE 4.0

Advanced common rail technology without individual lubricators, where every valve injects oil independently based on patented algorithm allowing multiple injections per piston stroke.



HJ LUBRICATORS

The HJ product line includes both cylinder lubricators and SIP valves, which are designed to ensure utilisation of the revolutionary SIP lubrication principle.

Our lubricators can be combined with both non-return valves and SIP valves.



HJ MECTRONIC

Electronic control system that can be retrofitted to existing mechanical lubricators, making the lubrication system electronically controlled with load and Sulphur regulation.

Regulation of consumption is achieved by an actuator which adjusts the stroke length automatically based on engine load.



HJX-TRONIC

Electronic control system that can be retrofitted to existing mechanical lubricators, making the lubrication system electronically controlled with load and Sulphur regulation.

Regulation of consumption is achieved by an actuator which adjusts the stroke length automatically.



HJ LUBTRONIC 2.0

Electronically controlled cylinder lubricator allowing injection of fresh cylinder oil during each piston stroke. Also possibility for Delta-Timing and Automatic Cleaning Sequence (ACS).



HJ SERVICES

We support you 24/7.

CYLINDER LINER WEAR MEASUREMENT (VAK)

HJL offers an accurate measurement of cylinder wear that shows the actual cylinder condition. The VAK measuring process is time efficient as it takes one person approx. 1½ hour of work per unit and removal of cylinder cover is unnecessary, so cylinder condition can be determined quickly with minimal disruption. In addition, using a Ninja DS-cam provides a clear and reliable picture of the entire combustion space with 3D images.

CYLINDER CONDITION OPTIMIZATION PROGRAM (CCOP)

Running a two-stroke engine efficiently is becoming increasingly complex. That's why working with cylinder lubrication specialists is more important than ever. We conduct root cause analysis, taking ALL parameters into consideration such as lubrication system, engine design, piston ring design, SDA, scavenge port inspection, fuel and cylinder oil in use and much more. In other words, we offer a comprehensive 360-analysis to make the optimal recommendations to feed rate, maintenance, and cylinder lube oil.

LUBRICATOR RECONDITIONING

We offer renovation of HJL cylinder lubricators. Our lubricators have a durability as long as that of the diesel engine. To ensure optimal performance, inspection or maintenance of valves and lubricators is required.

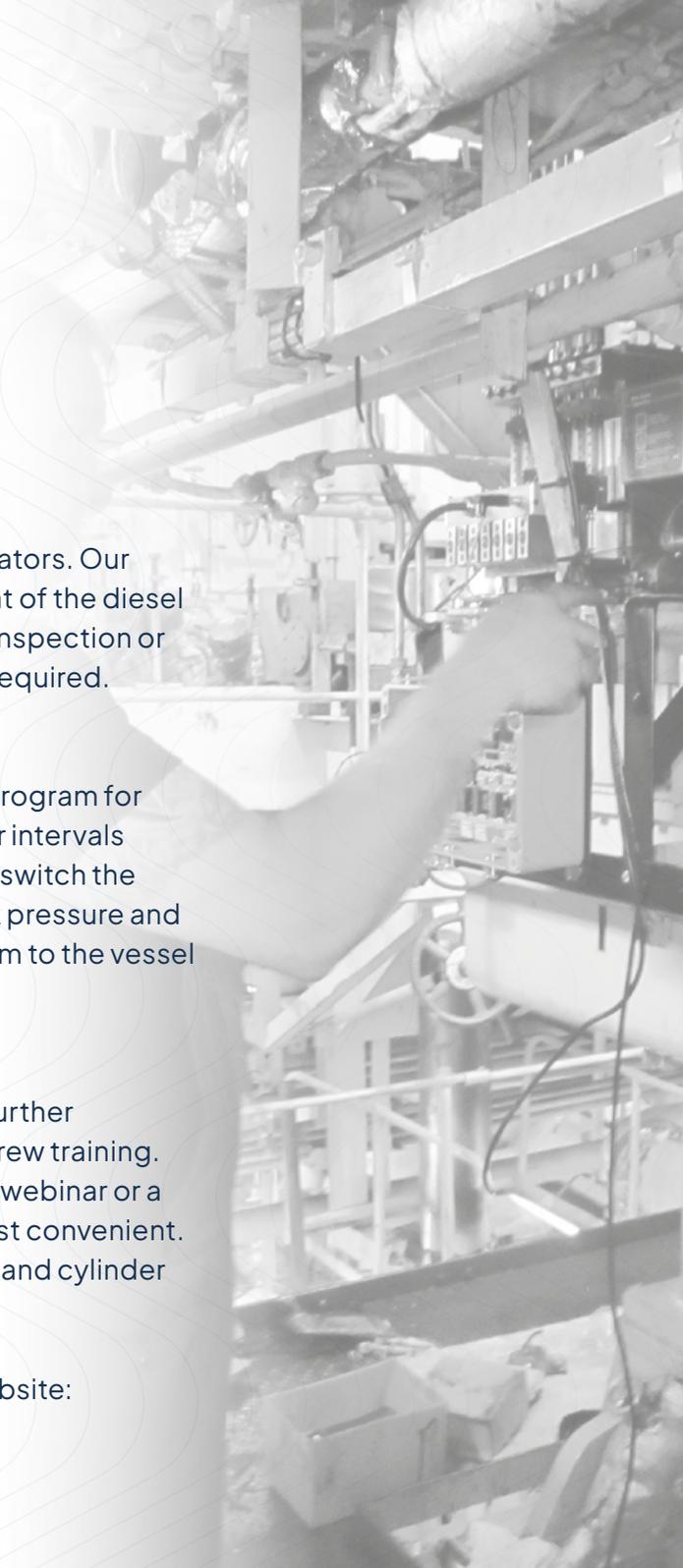
SIP SERVICE

You can join our maintenance exchange program for SIP valves. Service is scheduled at regular intervals eg. 12- or 15.000 hours of operation. You switch the used vales with a new set and let us check pressure and overall performance before returning them to the vessel reconditioned.

CREW TRAINING

As technology evolves and the need for further specialization arise, we offer our clients crew training. It can take place onboard your vessel, via webinar or a seminar in a physical location if that is most convenient. Our technicians are experts in lubrication and cylinder condition.

For more information please go to our website:
www.hjlubricators.com



HJ SMARTLINK™

HJ Smartlink™ takes cylinder lubrication online and presents the data you need for running an efficient engine with lower cost and reduced particle emission.

Data access brings you full transparency of the lubricator performance on several parameters. Enjoy the benefits from remote monitoring of:

- ~ Feed rate
- ~ Average oil consumption
- ~ Fuel index
- ~ Engine load
- ~ Engine speed RPM
- ~ Alarms and notifications
- ~ Route and location on a map

BOOST EFFICIENCY

HJ Smartlink™ opens up for predictive maintenance of the cylinder lubrication system and the engine. This helps your team, and you reduce costs on maintenance and avoid immobilization.







PEOPLE KNOWLEDGE & COLLABORATION

Our team of engineers and service coordinators specialize in cylinder lubrication and condition for 2-stroke marine engines. Whether you are a ship owner or Technical Manager you can let us take care of cylinder lubrication and condition, thereby utilizing our experience acquired over 100 years and freeing your time for other important tasks.

At HJ Lubricators we constantly push the boundaries of lubrication technology. Sharing our knowledge by educating employees and customers is a key part of our success. We collaborate with universities internationally which enables us to transform knowledge into cutting edge products and services that lowers operational cost and emissions for shipping companies.

Working with HJ Lubricators is your guarantee for premium solutions and value.



G&O MARITIME GROUP MARKET-LEADING BRANDS IN ONE PIONEERING GROUP

In 2022 HJ Lubricators was acquired by G&O Maritime Group. This drives new opportunities for the company and underpins the group's growth strategy.

ABOUT G&O MARITIME GROUP

We are a group of sub system providers to the maritime industry, all developing high quality products and enabling our customers through the green transition in the maritime industry.

Our brands are divided into 3 divisions:

Propulsion management

Offers vibration compensators, cylinder lubrication systems and piston rod stuffing boxes. We cooperate with engine manufacturers and shipping companies to optimise main engine operations and support the important

task of utilizing new environmentally friendly fuel types.

Water & Waste management

Includes incineration plants and biological water purifying plants, securing that waste water is purified before discharge while solid waste and oil sludge is incinerated at high temperatures to reduce SOx and NOx emissions.

Tank management

Provides PV valves and protects tank vessels against unintended overpressure or vacuum while simultaneously protecting against fire risk and ensuring that emissions from the cargo is kept to a minimum in accordance with IMO standards.



G&O COMPENSATORS

Compensators that eliminate vibrations at the source, reducing cost, improving comfort, and cutting fuel spend.



Piston rod stuffing boxes for two stroke engines continuously improved to live up to new fuel types entering the market.

HJ Lubricators

Leading global provider of cylinder lubrication systems for two stroke marine engines.



Valves and venting equipment reducing emissions from cargo while keeping vessels, equipment and crews safe every day.

G&O BIOREACTORS

Biologically cleaning of grey and black waste water before it is discharged.



Incineration of waste and oil sludge, eliminating the need for discharging to shore while reducing emissions from incineration.

Global Boiler Services

Specialised 24/7 solutions for the maintenance, repair, and optimisation of marine boilers and critical equipment.



ENGINES

MAN

G80ME-C
G70ME-C
G60ME-C
S90ME-C
S80ME-C
S80MC-C
S70MC-C
S60ME-C
S60MC-C
S50ME-C
S50ME-B
S50MC-C
S46MC-C
S35MC-C
K98MC-C
K90MC-C
K80MC-C
L80MC
L70MC (& MC-E)
L60MC (& MC-E)

WINGD

RT-Flex96C
RTA96C
RTA84C
RTA84M
RR-Flex82
RTA72
RTA62U
RT-Flex68
RT-Flex60C
RTA58
RT-flex58T-D
RT-Flex50C
RT-Flex50
RTA48T
RTA48T-B

MITSUBISHI

UEC85LSII
UEC85LSC
UEC68LSE
UEC60LA
UEC60LSII
UEC52LA
UEC52LS
UEC50LSII
UEC45LSE (and LSE-Eco)
UEC45LA
UEC37LA





G&O MARITIME GROUP®

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At G&O Maritime Group we enable our customers during the green transition in the maritime industry