



# HJ LUBTRONIC 2.0

ELECTRONIC CYLINDER LUBRICATION  
FOR 2-STROKE MARINE ENGINES



Can be combined  
with HJ SIP valves

Achieve low cylinder lube oil consumption and experience even simpler operation for the crew, while preventing known obstacles like high cylinder liner wear and cold corrosion.

HJ Lubtronic 2.0 is an electronic lubricator that adjusts the feed rate according to either ME load or Sulphur content of the fuel oil. This effectively reduces cylinder oil consumption and optimizes cylinder condition and engine reliability. The system is simple to operate by the crew on our user-friendly HMI.

The patented HJ Lubtronic 2.0 can inject fresh cylinder oil in every engine revolution – even at low load operation (slow steaming). This is crucial at all operating loads to effectively protect against abrasive and corrosive wear.

## HJ SIP valves

HJ Lubtronic 2.0 can be combined with HJ SIP valves. HJ SIP injects the cylinder oil as a spray (by high pressure), utilizing the scavenging air swirl to spread a uniform oil film on a large area on the upper part of the cylinder liner – where the wear normally is the highest.

These new control methods, enable the worlds fleet to reach new levels of cleanliness, reduced feed rate and reduced liner wear rate, providing the best possible cylinder condition.

## Benefits

- Usually 40-50% savings in cylinder oil consumption
- Reduced wear rate of liners and piston rings
- Easy operation for the crew (less manual adjustment)
- Automatic Cleaning Sequence (patented technology)
- “Delta-timing”-feature ensures lubrication both into ring pack and liner
- Sulphur-, Load-, and BN-dependent algorithms

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## KEY FEATURES

### Delta-timing

At every revolution, the Delta-timing algorithm can change the crankshaft angle at which cylinder oil is injected. The quantity injected at each crankshaft position is the same. This can be customized to individual needs, but an example may be; the algorithm is set to inject 40% in the ring pack and 60% according to SIP timing, the algorithm will inject 2 full injections into the ring pack and 3 full injections according to SIP timing over a total of 5 revolutions, as  $2/5 = 40\%$  and  $3/5 = 60\%$ .

### Automatic Cleaning Sequence (ACS)

ACS will automatically increase the cylinder oil consumption for a limited period of time. This “boost” of extra oil ensures optimal cleaning of liners and piston rings which will be free from deposits.

### HJ SIP valves

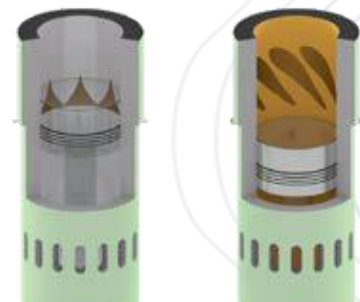
HJ SIP injects the cylinder oil as a spray (by high pressure), utilizing the scavenging air swirl to spread a uniform oil film on a large area on the cylinder liner surface and inject the oil on the upper part of the cylinder liner – where the wear normally is the largest – before the piston rings pass.

These new control methods, enable the worlds fleet to reach new levels of cleanliness, reduced feed rate and reduced liner wear rate, providing the best cylinder condition available.

### HOW IT WORKS

- HJ Lubtronic 2.0 is a hydraulic-driven system
- The system uses cylinder oil as the medium to deliver the working pressure for the lubricators
- The lubricators can adjust the CLO volume injected in each stroke, to meet current operational requirements
- Redundancy on all components critical for lubrication
- The oil is injected through the HJ SIP valves (high pressure) as a spray, to ensure perfect distribution.

### Lubrication visualized



Before upgrade

After upgrade

