



HJ Smartlube 4.0

- Cope with any future lubrication scenario with accurately timed and place cylinder lube oil by use of multiple injections during every engine revolution

HJ Smartlube 4.0 is the newest solution in advanced lubrication technology for 2-stroke marine engines.

HJ Smartlube 4.0 is designed for mechanically and electronically controlled engines, and characterized by:

- Full electronic system control by use of Hans Jensen load regulation algorithms.
- Simple view and logging of data.
- Data integration & analysis.
- Redundancy of key functions on all levels.
- Can be installed on all engine designs.
- Cylinder lubrication pump is now removed

HJ Smartlube 4.0 operates without a lubricator through a single high pressure cylinder lube oil line- the ability to inject lube oil has been moved up-stream into the cylinder lubricator injection valves.

The valve, is now able to open and close the flow of oil according to the specific operation pattern chosen for multiple injection per engine revolution.

The system can use two methods for lube oil injection:

- The patented Swirl Injection Principle, whereby lube oil is injected into the swirl creating an optimum utilization of the injected cylinder oil and a uniform oil film on the upper liner wall of the cylinder.
- Piston ring injection, where the detergency of the oil will function as cleaning.

Your advantages

- Reduce your cylinder lube oil consumptions to levels below anything seen before.
- Introducing new intelligent algorithms.
- Less components installed.
- Improve your cylinder condition to the highest possible level.
- Extended life-time of parts associated with lubrication oil, from lower deposit build up and less wear
- Simplified system design & user friendly.

Your potential with HJ Smartlube 4.0

- Enable your fleet to cope with any future lubrication scenario.
- Accurately time and place cylinder lube oil.
- Give you complete endless control of when & where cylinder oil is injected and how much oil is injected.
- Perfectly suited for the 2020 S Cap, whether using LSFO or Scrubbers.
- The ability to respond to bad liner conditions.
- Reduced TCO.

Distribution key	
Quantity [%]	Timing
80	According to SIP
10	Ring-pack compression stroke
10	Ring-pack combustion stroke

With HJ Smartlube 4.0 new intelligent algorithms are introduced. Above is an example of multiple injections per revolution.