

HJ SIP+ INJECTION VALVES

NEXT-LEVEL SWIRL INJECTION TECHNOLOGY - ZERO INTERNAL MACHINING

HJ SIP+ next level design of HJL patented Swirl Injection Principle – a proven technology trusted across the global fleet.

SIP+ builds on the performance and reliability of the original HJ SIP Valve, now with a significant breakthrough enabling a dramatic reduction in installation time cut by more than a third.

Economics and environment

Lower lube oil consumption translates directly into reduced operating costs. At the same time, less consumed oil means lower CO₂ and particle emissions.

Injection technology

Developed as part of our long-term innovation programme – SIP+ retains all the benefits of the original SIP Valve properties:

- Uniform circumferential oil distribution
- Reduced risk of cylinder liner scuffing
- Precise lubrication at exactly the right time
- Extended liner life and improved engine condition

Now with the next generation valve design that enables a faster, simpler retrofit – with zero compromise on lubrication performance.

Due to the optimal distribution of the cylinder oil, the friction between the liners and rings are reduced resulting in lower feed rate and reduced wear.

SIP+ Key highlights

- Installation time cut by more than a third
- No top cover removal
- No internal cylinder liner machining
- Uniform oil film distribution
- Lower lube oil consumption

Compatibility with

- Dual-fuel and thin oil operations
- All existing lubrication systems

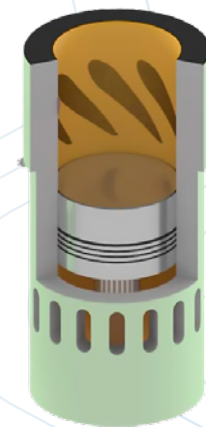
How HJ SIP Technology works

The Swirl Injection Principle (SIP) is a high-pressure injection lubrication technology that injects cylinder oil as a spray above the piston. The oil is perfectly distributed on the upper part of the liner, by injecting the oil into the scavenge air swirl. The air swirl lifts the oil and ensures a thin, uniform oil film on the upper liner.

Due to the optimal distribution of the lube oil, the friction between the liners and rings are reduced, this allows operation at lower feed rates.



Traditional oil distribution



SIP+ uniform distribution

HJ Lubricators has installed over 3,500 systems across the global fleet – and now SIP+ is ready to support the next generation of two-stroke engine operation.

Whether you're planning a retrofit or newbuild, SIP+ delivers long-term value by reducing downtime, accelerating installation, and safeguarding your engine.

