WÄRTSILÄ RETROFIT PULSE LUBRICATING SYSTEM – CUT OIL CONSUMPTION WITHOUT COMPROMISING RELIABILITY

Costs for cylinder lubricating oil are a critical issue for vessel operators, with market prices for oil constantly fluctuating while availability can be limited. The electronically controlled Wärtsilä Retrofit pulse lubricating system (RPLS) reduces cylinder oil consumption without compromising piston running reliability.

Reduce oil consumption by 30–50%

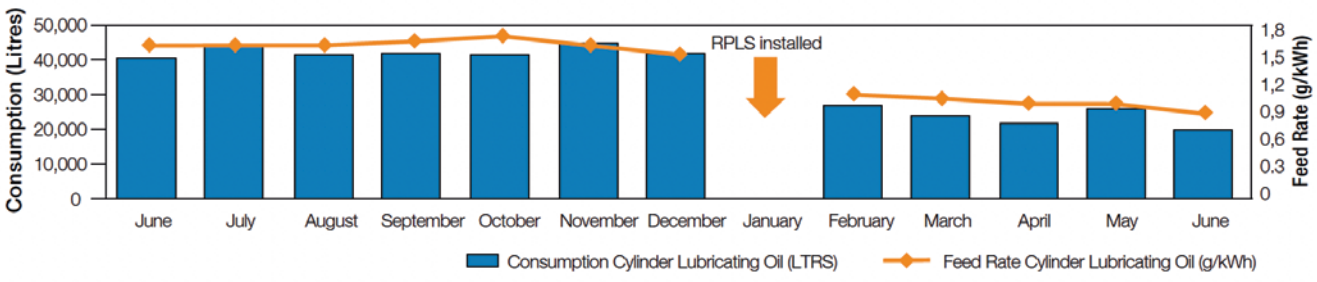
The guide feed rate for Wärtsilä RTA and RT-flex engines retrofitted with the Wärtsilä RPLS is 0.8 g/kWh of cylinder lubricating oil. With a traditional specific oil consumption of 1.1 – 1.6 g/KWh this means that the consumption can go down by 30-50% after the engine has been retrofitted with Wärtsilä RPLS.

The reduction in cylinder oil feed rate allowed by the Wärtsilä RPLS, compared with the existing accumulator system, is made possible through the improved distribution of cylinder lubricating oil to the piston ring package and the precise timing of oil delivery.

KEY BENEFITS

- Reduced cylinder lubricating oil (CLO) consumption leading to reduction of total operation costs
- Precise injection of CLO into piston ring package
- Accurate metering of CLO to achieve potential savings
- Less build-up of deposits due to reduced lubrication
- Reduction in solid particle emissions due to reduced lube oil consumption

Real time experience on an existing installation with Wärtsilä RPLS



Wärtsilä RPLS is based on a lubricating module for each cylinder with integrated monitoring electronics, which delivers pressurised cylinder lubricating oil to newly-developed lubricators that fit existing cylinder liners of the Wärtsilä RTA and RT-flex engine types.

Wärtsilä RPLS can be fitted during commercial operation of the vessel since it is an independent system with only few connections or interfaces to other systems. The preparation and the installation are easy and fast. All equipment is supplied ready for installation and commissioning. Wärtsilä RPLS is available for all RTA and RT-flex engines. For other engine types, please contact your local Wärtsilä office.

Operating principle

The basic principle of the Wärtsilä RPLS is to deliver metered quantities of cylinder lubricating oil at precise timing under pressure exactly into the piston ring package, from where it is evenly distributed around the circumference of the cylinder liner.

Main Wärtsilä RPLS components:

1. Pulse lubricating module, consisting of a dosage pump with electronically controlled timing
2. Lubricators, up to eight in a single row around the cylinder liner
3. Filter and measuring system
4. Servo oil supply unit (on RTA engines) or pressure reducing unit (on RT-flex engines)
5. Control system
6. Crank angle sensors (two, one of which is redundant)

Scope of supply

Wärtsilä RPLS is available in two different packages:

Wärtsilä RPLS full package	Wärtsilä manages and executes everything from pre-inspection to sea trial and guarantees a fully functional RPLS system. This package is ideal when you have limited resources available and want to have peace of mind.
Wärtsilä RPLS basic package	Wärtsilä provides all materials, supervises the installation and performs commissioning and sea-trial of the system. This package is ideal when you have skilled resources available and want to save on investment costs and shorten payback time.

Scope	Basic package	Full package
Pre-inspection	x	x
All material and software	x	x
Supervision	x	x
Full installation work		x
Final check, settings, commissioning and sea trial	x	x
Delivery costs		x
Travelling time and expenses		x