Everllence

EPLO

for 32/40 engine

Main Benefit

Operational efficiency

Engine Part Load Optimization

Operational efficiency

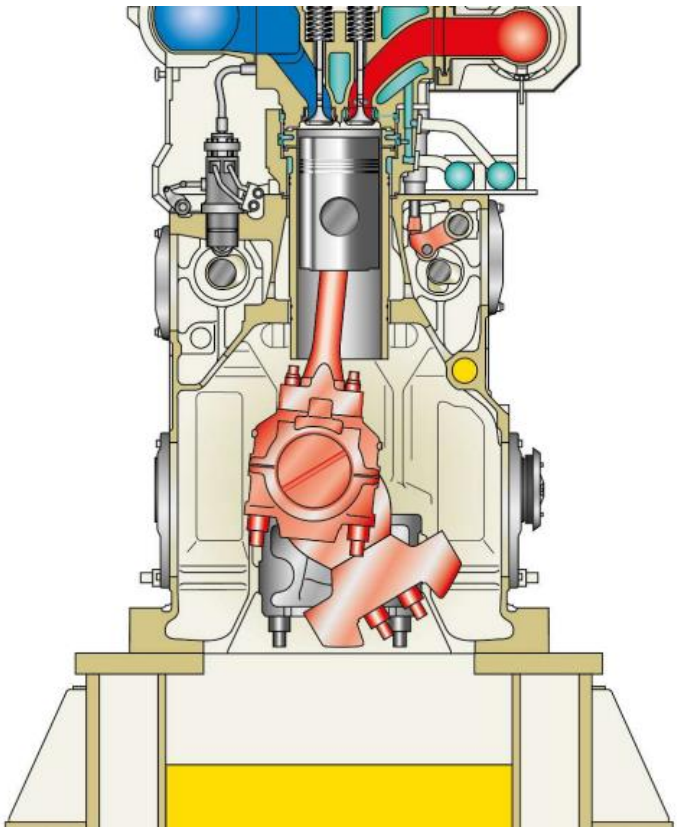
- Ideal for 32/40 GenSet running at low-medium load
- Rapid return an investment realized with fuelsavings (approx. 3-4 g/kWh ΔSFOC at 50%-70% MCR)

Other Benefits

- Positive effect on CII rating and CO_2 emissions
- Utilization of the installed pneumatic VIT
- Opportunity to retrofit new pneumatic VIT and EPLO together within the same service

How the Solution works

- EPLO introduces a novel feature integrated into the latest pneumatic VIT system
- Requires installation of the new pneumatic VIT actuator as a prerequisite
- VIT system optimizes fuel efficiency when operating below 50% MCR in 32/40 Genset engines through dynamic timing adjustments
- The VIT controller adjusts fuel cam timing in response to engine load
- EPLO enhances efficiency further by reducing Specific Fuel Oil Consumption (SFOC) in the 50%–70% MCR range
- Achieves this through four distinct injection timings, compared to the traditional three
- Improves combustion quality at low engine loads (<25% MCR)
- Leads to cleaner combustion and reduced soot emissions



For further information:
Should you have any queries, our Retrofit & Upgrades team will be pleased to be of assistance.

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Certified technical files for the 32/40 engine family (IMO Tier II)

Rated speed				720 rpm
Cylinder output power				500 kW/cyl
	IMO ID			
Cylinder head	IMO-0845			
Piston (Upper)	IMO-2028 or IMO-2134			
Piston (Lower)	IMO-3814 or IMO-3299			
Sealing ring	10 ± 0,05mm			
Connecting rod	IMO-0721			
Fuel pump	IMO-1228			
Fuel nozzle	IMO-1758			
Fuel camshaft	IMO-8046			
Cylinder variant	6L	7L	8L	9L
Air cooler	IMO-7020	IMO-7020	IMO-0721	IMO-0721
Turbocharger	NR29/S145	NR29/S154	NR34/S177	NR34/S144
Compressorwheel	IMO-2844	IMO-2848	IMO-2966	IMO-2965
Compressor diffuser	IMO-0937	IMO-0945	IMO-1227	IMO-1226
Turbinenozzle ring	IMO-4441	IMO-4433	IMO-4522	IMO-4514
Turbine rotor	IMO-1921	IMO-1920	IMO-1938	IMO-1937

Scope of Supply

- Adjustment of the plunger lift of the fuel pump to the value permitted in the technical files (*)
- Adjustment of the pneumatic VIT setting for the early and late position
- Software update (SaCoS) on the Control Module Small (CMS) depending on the built release: check the Display Module
- The system will be changed from a three-injection-timing to a four-injection-timing configuration

(*) a new emission certificate included in the scope

Applicability

Recommended for 32/40 applications running with load profile between 50% and 70% MCR

- SFOC reduction: 3-4 g/kWh SFOC savings in load range 50%-70% MCR

Restrictions

- This retrofit is available for engines within NO_x Tier II emission level

Field-Proven

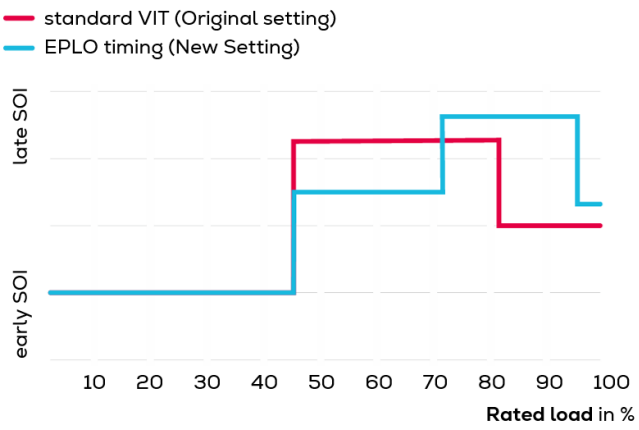
More than 180 EPLO's have been installed successfully until Q1/2025

Case Study

9L32/40, engine power = 4500 kW

- Load considered = 50% MCR
- Annual running time = 7000 hrs
- Fuel savings: 53 mt/a i.e. 26,200$ with HFO at 500$/mt
- CO_2 savings: approx. 170 ton/a

VIT std timing vs. EPLO timing



MAN Energy Solutions is now:

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