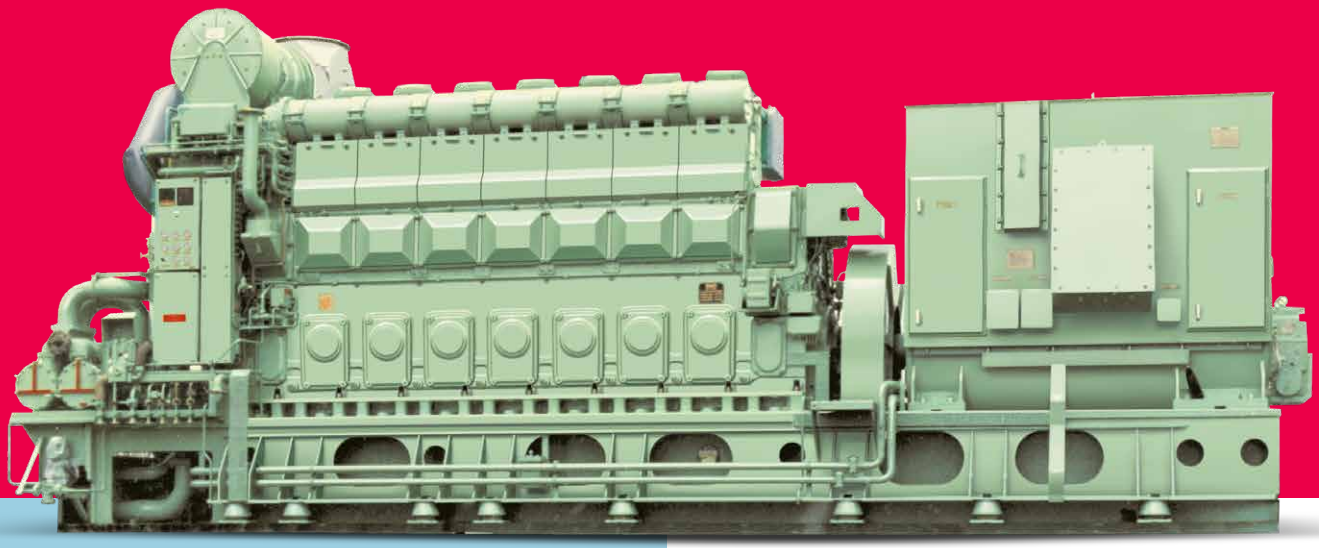
EPLO



Engine Part Load Optimization
EPLO introduces a novel functionality integrated into the latest hydraulic VIT system. A prerequisite for EPLO is the installation of the new pneumatic VIT actuator. The primary advantage of VIT lies in its ability to conserve fuel when operating below 50% of MCR in 32/40 Genset engines, achieved through timing adjustments along with the engine load spectrum. The VIT controller's timing is calibrated to modify the fuel cam timing.

EPLO further enhances efficiency by reducing SFOC within the 50%-70% MCR range. This is facilitated by the implementation of four distinct injection timings, as opposed to the conventional three. Additionally, EPLO contributes to improved combustion at low loads (<25% MCR), resulting in cleaner combustion and reduced soot emissions.

Benefits at a glance

- Ideal for 32/40 GenSet running at low-medium load
- Rapid return on investment realized with fuelsavings (3-4 g/kWh ΔSFOC at 50%-70% MCR)
- Positive effect on CII rating and CO_2 emissions
- Utilization of the installed hydraulic VIT
- Opportunity to retrofit together the new pneumatic VIT+EPLO with the same service

Everllence

PrimeServ

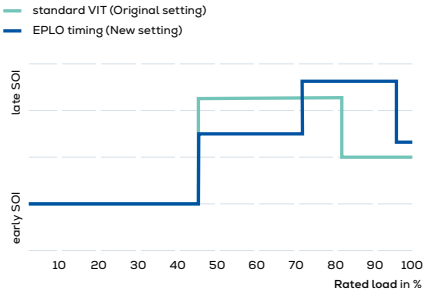
EPLO

32/40 engine family

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

Rated speed				**720 rpm**
Cylinder output power				**500 kW/cy**
	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-0720	IMO-0720	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

VIT std timing vs. EPLO timing



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

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

Competition

- Unmatched product – no similar solutions from competitors.

Restrictions

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

Case study

9L32/40, engine power = 4,500 kW

- Load considered = 50% MCR
- Annual running time = 7,000 hrs
- Fuel savings: 53 mt/a i.e. 26,200$ with HFO at 500$/mt
- CO_2 savings: approx. 170 ton/a

In addition, 70 installations have already been delivered within Q2/2024

Everllence

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(*) a new emission certificate included in the scope