GE
Marine

Seaworthy power

GE's new L250 inline diesel engine

imagination at work

GE's L250

Built by one of the world's largest manufacturers of medium-speed diesel engines

Designed to save fuel and meet EPA Tier 2 emissions standards

Upgradeable to EPA Tier 3 emissions standards

A History of Performance

GE Transportation has been serving the transportation industry for more than a century. For nearly 50 years, we have designed and built high-performance diesel engines and have become one of the largest manufacturers of medium-speed engines in the world.

GE Marine, a division of GE Transportation, is one of the world's leading manufacturers of marine products that help tackle the most important challenges facing the marine industry today through integrated solutions, breakthrough technologies and process innovations. You can rely on GE's experience, innovation and proven performance to help you succeed.

Along with the new L250 engine, GE's family of medium-speed engines include 8-, 12- and 16-cylinder V configurations, all of which are EPA Tier 2 certified.

With more than 15,000 engines operating worldwide in some of the most challenging industrial environments, GE's medium-speed engines are dependable, long-lasting, durable and efficient. From tugboats in Turkey and fishing vessels in Peru to offshore construction vessels in Norway and ferries in Texas, GE's marine engines are supported by an extensive global parts, distribution and service network.

Fuel-efficient.
Emissions-compliant.
Compact power.
Narrow footprint.
Easy to maintain.

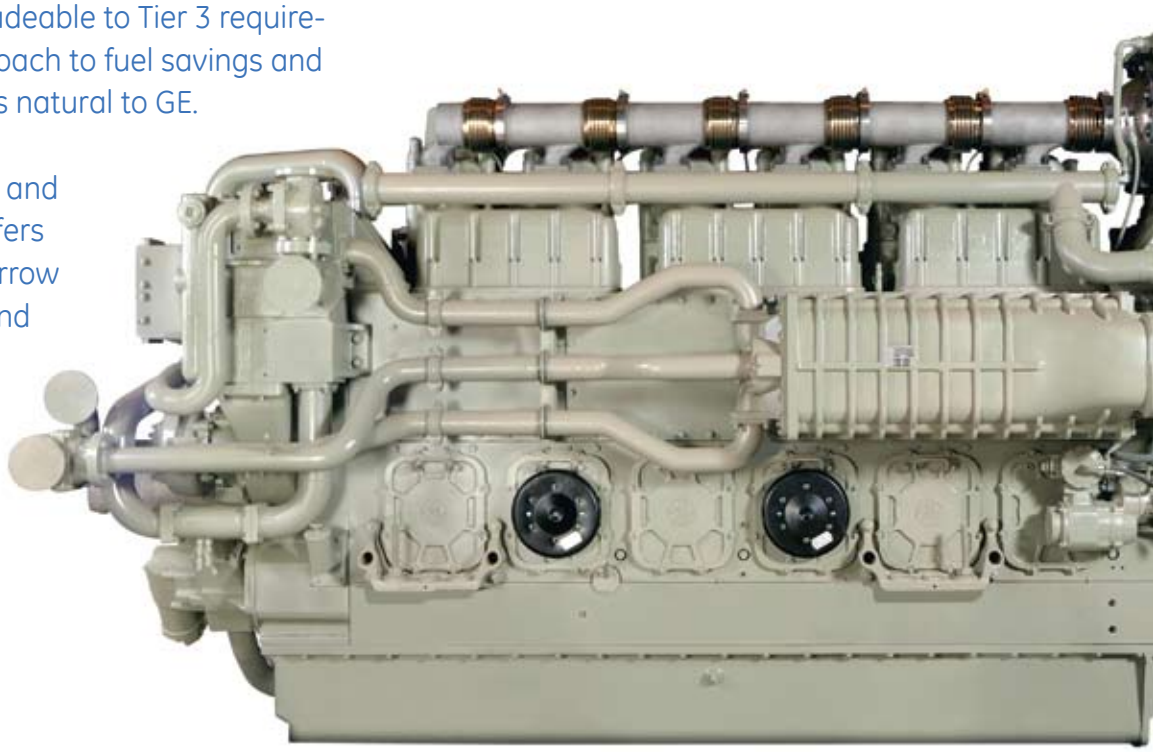
The new L250 diesel engine

GE's new L250 inline engine offers a streamlined design that is fuel-efficient and delivers continuous power from 1498 to 2330 kw. The L250 is specifically engineered for marine applications with its accessories mounted on the engine for maintenance ease.

The L250 offers an average 9% fuel savings when compared to the V228 engine. The L250 is marine-class compliant, meeting U.S. EPA Tier 2 emissions requirements and is upgradeable to Tier 3 requirements — a proactive approach to fuel savings and emissions reduction that is natural to GE.

The engine, available in 6- and 8-cylinder models, also offers ease of re-power as its narrow inline footprint takes in mind marine engine room constraints where space is at a premium. The narrower frame uses a similar footprint as competitive engines for minimum design change.

GE designed the L250 engine based on the successful V250 engine platform using the Six Sigma Quality design process. Together, with flexible installation and maintenance options, proven parts performance and support from GE's worldwide distribution network, the L250 offers customers reliability and limited downtime.



L250 Components

Marine class. Inline design.

Sturdy Mainframe

The L250's mainframe is a rugged one-piece iron casting, which provides excellent vibration-dampening characteristics and long-term stability to minimize line bore distortion. Further strength and rigidity are added by bolting main bearing caps both vertically and horizontally. The lube-oil gallery and passages are cast or drilled into the frame to provide lubrication to all vital engine areas with no pipe or hose connections within the frame, helping eliminate leaks or possible loss of lubrication.

Turbocharger

GE-designed and manufactured turbochargers maintain the highest degree of quality and reliability. GE's in-house development ensures the turbocharger is properly matched to the engine in terms of efficiency, performance and mechanical packaging. Placed on either end of the engine, the exhaust-driven turbochargers feature air-cooled turbine inlet casings to maximize available energy; backswept blade design and improved aerodynamics to achieve high efficiency requirements; uniquely designed inducer to withstand foreign object damage; generous oil-film thickness, allowing the turbocharger to use the engine oil system for lubrication; and thrust surfaces at both the compressor and turbine ends to ensure a large thrust-bearing capacity to withstand transient impact loading.

Exhaust Manifold

The multi-pipe manifold provides increased transient response and better efficiency under pulse and constant pressure operation. It is modularized with identical piping and bellows sections for all of the immediate cylinder assemblies. The bellows sections help lower the thermal and vibration-induced stresses on the exhaust system.

Intercooler and Air-Intake Manifold

The L250's combustion air-intake system includes one intercooler mounted on the mainframe between the turbo outlet and air manifold inlet. This allows for lower fuel consumption, emissions and exhaust temperatures. For servicing, the intercooler can be removed without dismantling other engine components.

Crankshaft and Engine Drive Train

The crankshaft is press-forged, high-quality alloy steel. Oil passages drilled in the crankshaft allow oil delivery to connecting rod bearings and pistons. A flywheel with ring gear for the starting motor is bolted directly to the crankshaft flange.

One-Piece Liners

The stiff, one-piece, mid-stop liner has an integral external water jacket that removes the possibility of water leaks. An anti-polishing ring provides a durable running surface, improving lube oil consumption and liner life. The top one-third of the liner is cooled.

Power Assemblies

The L250's power assemblies are designed to meet the high-pressure demands of the engine while adhering to strict reliability requirements and an easy-to-maintain assembly concept. Unitized cylinder assembly enables quick change-outs and increased engine uptime. Each assembly is mounted directly to the mainframe and includes liner assembly, cylinder head, intake and exhaust valves, valve linkage and a high-pressure fuel-injection pump and nozzle. This design enables excellent flow paths for combustion, lower fuel consumption and reduced emissions.

Pistons

Our pistons are ruggedly designed to accommodate the high-peak firing pressure requirements of L250 engines. The pin and skirt components are also designed to yield better piston lubrication and guidance as it travels within the liner. The design helps minimize oil consumption and blow-by as well as lengthen oil life.

Camshafts

The camshafts on the L250 are made of sectional carbon steel forgings joined by dowel-bolted flanges, a design that simplifies component removal and replacement. Individual sections of the camshaft, rather than the entire camshaft, can be serviced or replaced.

Connecting Rod Assembly

The forged-steel connecting rods are exceptionally strong and exhibit high stiffness, which is beneficial during the engine's lifetime. Large bearing widths with optimized oil grooves also help improve oil-film thickness and pressure, allowing for optimum performance and lower friction losses.

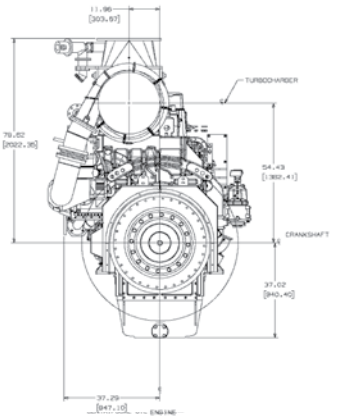
Advanced EFI

Designed for greater efficiency at varying speeds and loads, the L250's electronic fuel injection features precise fuel control, increased pressure capability and refined timing. Optimization of the cam profile, injection start, injection volumes and flows, and control algorithms have produced a relatively simple system, proven reliable through extensive validation.

L250 engine specifications

	6L250	8L250
Engine Data		
Number of cylinders	6	8
Stroke cycle	4	4
Cylinder arrangement	inline	inline
Bore	250 mm (9.84 in)	250 mm (9.84 in)
Stroke	320 mm (12.60 in)	320 mm (12.60 in)
Compression ratio	15.7	15.7
Power Output at 900 rpm		
Continuous	1498 kw (2009 hp)	1998 kw (2679 hp)
Maximum	1648 kw (2210hp)	2198 kw (2947 hp)
Power Output at 1000 rpm		
Continuous	1664 kw (2232 hp)	2219 kw (2976 hp)
Maximum	1831 kw (2455 hp)	2441 kw (3274 hp)
Power Output at 1050 rpm		
Continuous	1748 kw (2344 hp)	2330 kw (3125 hp)
Maximum	1922 kw (2578 hp)	2564 kw (3438 hp)
Engine Dimensions		
Length	5095 mm (200 in)	5985 mm (235 in)
Width	2032 mm (80 in)	2032 mm (80 in)
Height w/deep sump	3363 mm (132 in)	3363 mm (132 in)
Height w/shallow sump	2962 mm (116 in)	2962 mm (116 in)
Crankshaft center line to deep sump	1341 mm (53 in)	1341 mm (53 in)
Crankshaft center line to shallow sump	940 mm (37 in)	940 mm (37 in)
Crankshaft center line to mounting feet	308 mm (12 in)	308 mm (12 in)
Exhaust diameter	457 mm (18 in)	457 mm (18 in)
Dry weight	15,909 kg (35,000 lbs)	19,090 kg (42,000 lbs)

Dimensions and weights are approximate and include all on-engine accessories.



To learn more

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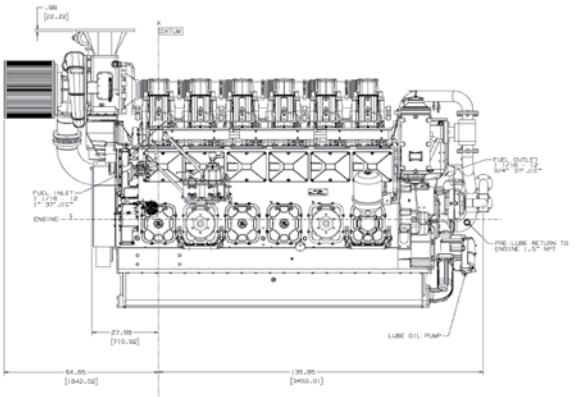
e-mail us at ge.marinestationary@ge.com.



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