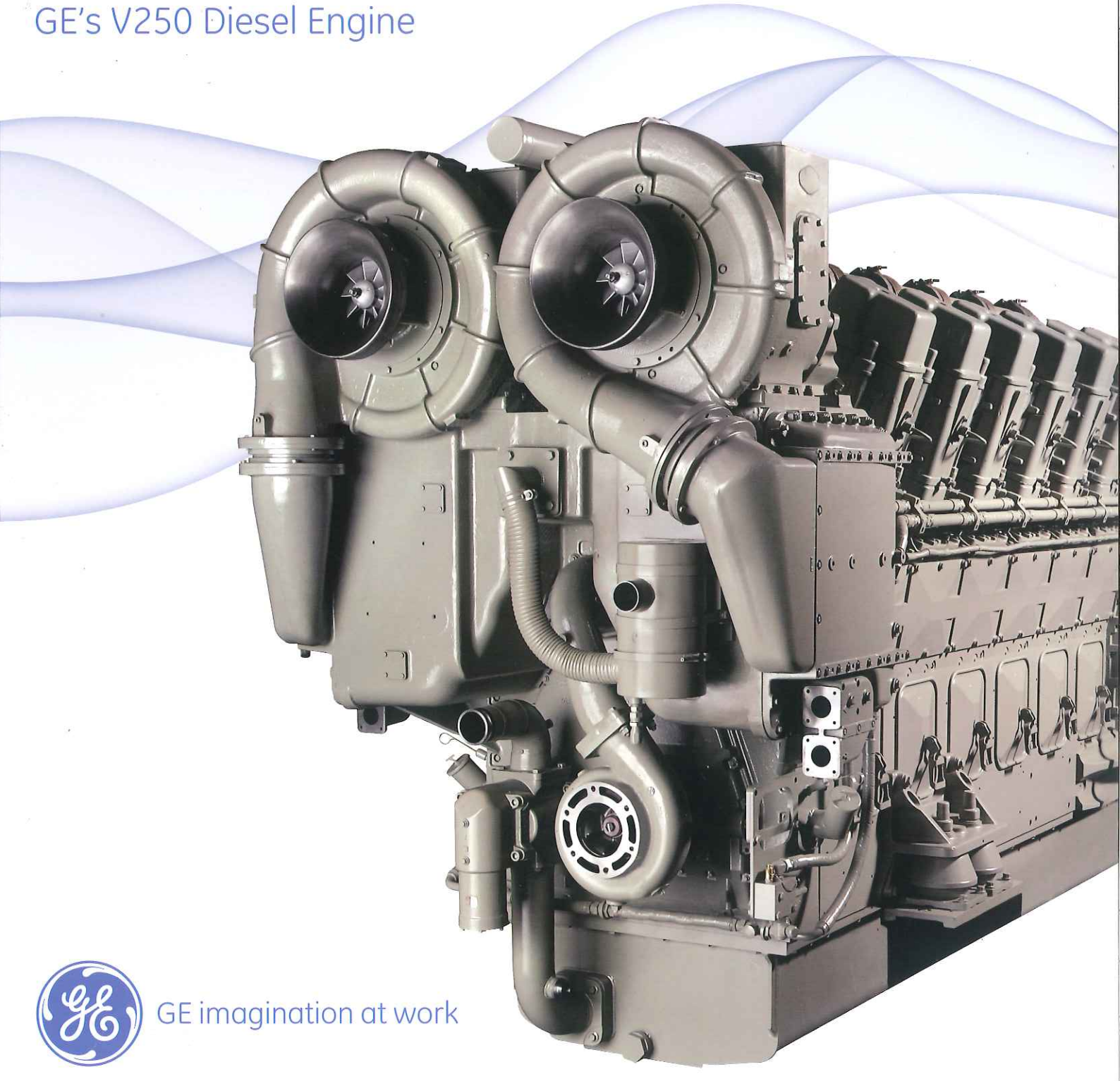
GE Marine

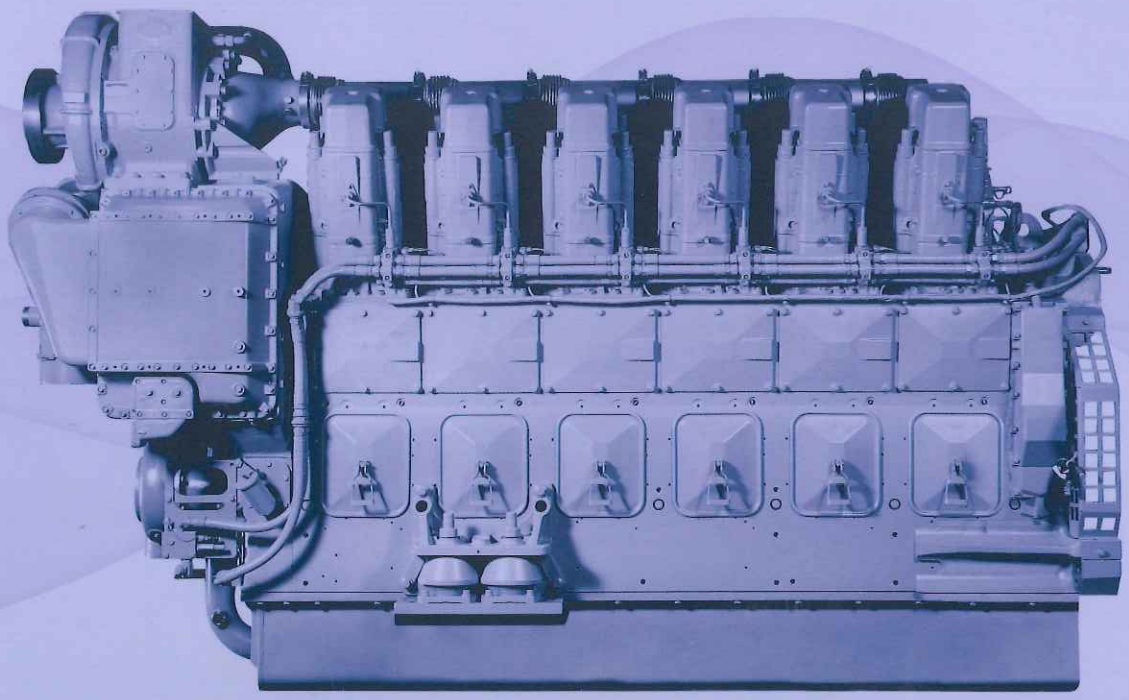
2014
IMO Tier II

Making waves

GE's V250 Diesel Engine



GE imagination at work



The V250 Diesel Engine

GE has been designing and building high-performance diesel engines for more than 40 years. Today, we're one of the leading manufacturers of medium-speed diesel engines in the world. In our V250 marine engine, we've combined the best features of earlier engine designs with advancements proven to deliver efficiency, reliability and performance advantages.

6.5%
fuel savings while meeting IMO Tier II

The V250 proves it's possible to meet the emissions compliance requirements of IMO Tier II without sacrificing fuel efficiency. In this engine, improved fuel management, a combustion system design and refined cooling deliver fuel savings of as much as 6.5%, compared to our earlier engine designs.

25%
greater power density in a compact design

A relatively large bore engine with a narrow overall width and lighter weight, the V250 packs a lot of power into its footprint. Among other features, its inlet and exhaust manifolds are compactly arranged between cylinder banks. Where space is at a premium, the trim design and high power-to-weight ratio of the V250 give it a clear edge.

100%
engineered for reliability and maintainability

The V250 engine is designed not only for higher efficiency and lower emissions but also for improved reliability and maintainability. Designed with on-engine accessories, every critical component and system of the V250 was engineered, manufactured, tested, refined and validated extensively for reliability. For easier maintenance, a segmented camshaft, sectional exhaust manifold, unitized power assembly and other features simplify component removal and replacement. With impressive features, ratings and a full-power PTO, the V250 is sure to exceed your marine engine expectations.

GE's V250 diesel engines are available in 12-cylinder and 16-cylinder V configurations for medium-speed duty with continuous power from 2,725 kW to 4,240 kW.

V250 engine systems — Proven performance and o

Advanced EFI

Designed for greater efficiency at varying speeds and loads, the V250'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.

Sophisticated control

Our controller drives the fuel-injection system with advanced closing point detection for better fuel economy and emissions control. The system features improved diagnostics and display of all engine parameters and faults without the need for a laptop computer. Engine protection algorithms predict problems earlier to avoid engine damage.

Sturdy mainframe

The mainframe of the V250 engine features high-strength ductile-iron construction. The main and connecting rod bearing capacity provides greater reliability and durability, and improved ribbing in the cross-bolt area adds to stiffness and lowers vibration.

Higher-efficiency turbocharger

We have taken a proven turbocharger design and leveraged the aerodynamics expertise of our aviation business to enhance it. Improved bearing strength, better rotor dynamics, a cooled housing and integrated packaging create a high-performance, high-reliability system. Turbocharger matching optimizes performance for various speed ratings.

Heavy-duty crankshaft

Forged of high-quality steel and nitride-hardened for long life, the V250's crankshaft has single-piece construction with no bolted joints. Large journal surface areas minimize loads, and dynamically balanced counterweights reduce stress for longer crankshaft life.

erating advantages

Improved power assemblies

Our redesigned power assembly meets the high-pressure demands as well as the stringent reliability requirements of the V250 engine while retaining an easy-to-maintain assembly concept. The unit's refined flow path enhances combustion, fuel savings and reduced emissions. The cylinder head, liner, piston and connecting rod can be easily removed as a single assembly.

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.

Rugged cylinder heads

A one-piece casting, wall structure fully supported by the head gasket, thicker flame deck and resizing and relocation of cooling bores significantly improves the strength and design margins of the assembly's cylinder head.

Piston design

Our piston design meets the increased weight and pressure requirements of the V250 engine. The improved skirt-and-pin boss provides better lubrication and guidance. With dynamics optimized through secondary motion analysis, the piston design lowers oil consumption, reduces blow-by and lengthens oil life.

Forged connecting rods

Exceptional strength, high stiffness and large bearings are unique features of our connecting rods. The large bearing width and optimized oil groove in the bearing shell improve oil film thickness and pressure.

Segmented camshaft

The camshaft in the V250 is arranged in individual sections for easy inspection and maintenance. Forged and hardened camshaft lobes reduce wear. Oversized journal bearings decrease loads for longer camshaft life.

Better fuel efficiency

Greater power density

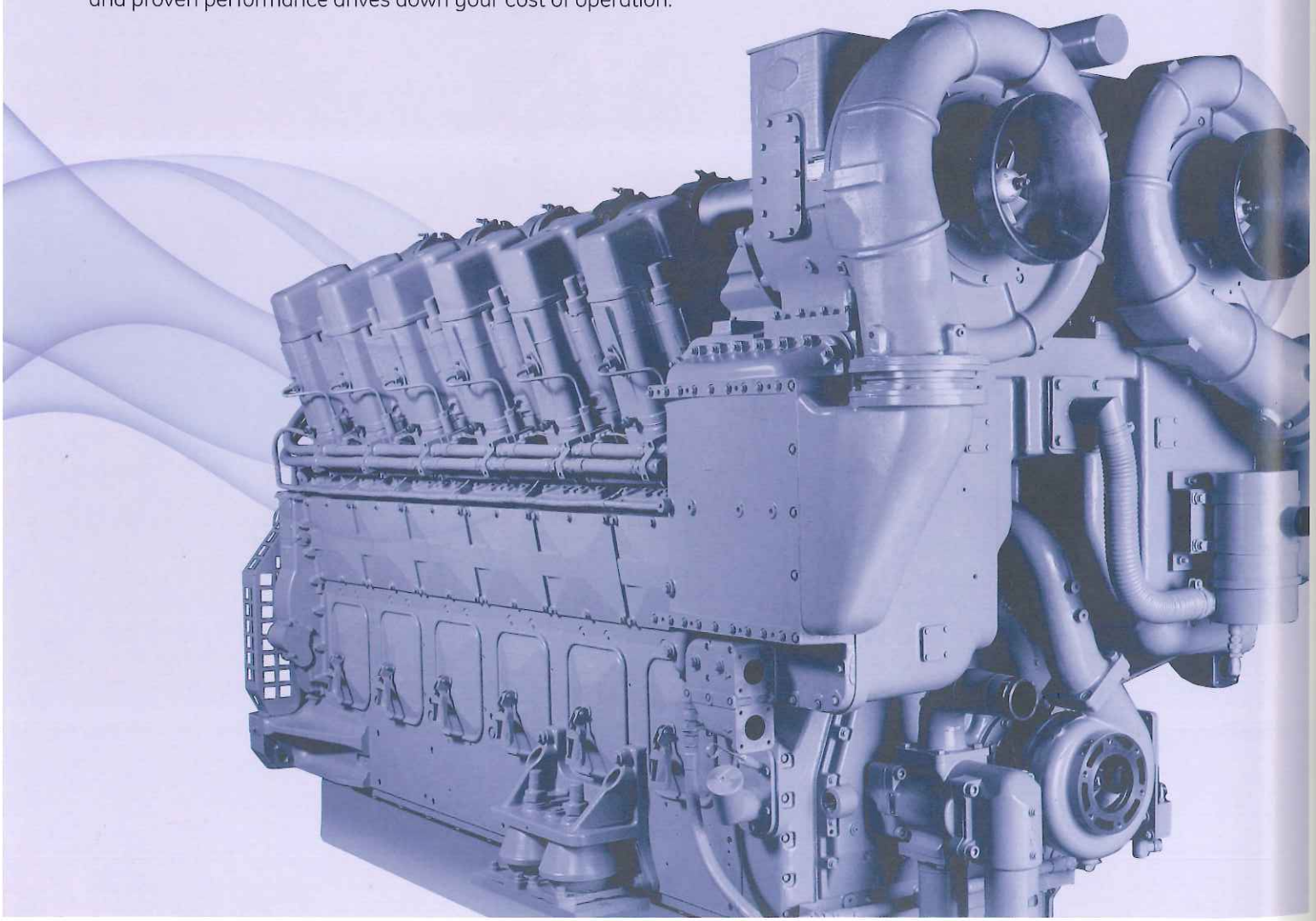
Higher reliability and maintainability

They're all on board

It's all here — in the technologically advanced, fuel-efficient, environmentally compatible diesel engine built by GE.

It's the product of more than six years in development and testing and nearly six million megawatt hours in service. And with customization to the marine industry and competitive pricing, it's ready to meet your marine power needs.

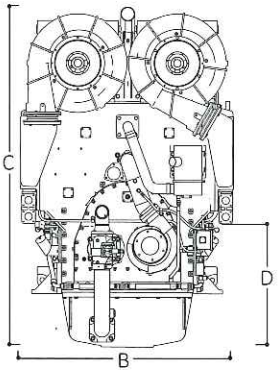
The V250 Diesel Engine. GE's experience, innovation and proven performance drives down your cost of operation.

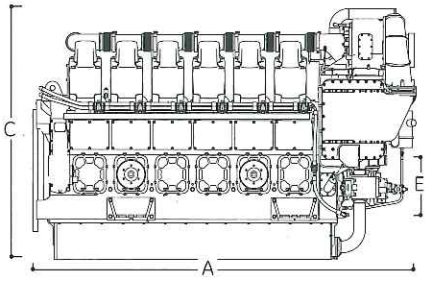


V250 MDB engine specifications

	12V250	16V250
Engine data		
Number of cylinders	12	16
Stroke cycle	4	4
Cylinder arrangement	V	V
Bore	250 mm (9.8 in)	250 mm (9.8 in)
Stroke	320 mm (12.6 in)	320 mm (12.6 in)
Compression ratio	16.8:1	16.8:1
Power output at 900 rpm		
Continuous[1]	2,726 kW (3,655 hp)	3,632 kW (4,870 hp)
Maximum[2]	2,998 kW (4,020 hp)	3,997 kW (5,360 hp)
Power output at 1,000 rpm		
Continuous[1]	3,028 kW (4060 hp)	4,038 kW (5,415 hp)
Maximum[2]	3,330 kW (4465 hp)	4,441 kW (5,955 hp)
Power output at 1,050 rpm		
Continuous[1]	3,180 kW (4,265 hp)	4,239 kW (5,685 hp)
Maximum[2]	3,497 kW (4,690 hp)	4,661 kW (6,250 hp)
Engine dimensions		
A Length	4,808 mm (189 in)	5,684 mm (224 in)
B Width	2,468 mm (97 in)	2,468 mm (97 in)
C Height	3,190 mm (126 in)	3,275 mm (129 in)
D Crankshaft center line to deep sump	1,077 mm (42 in)	1,162 mm (46 in)
D Crankshaft center line to shallow sump	962 mm (38 in)	962 mm (38 in)
Exhaust diameter	610 mm (24 in)	610 mm (24 in)
Dry weight	23,100 kg (51,600 lbs)	30,844 kg (68,000 lbs)

1. At standard reference conditions per ISO 3046-1:2002E, ISO8665
2. One hour per twelve-hour period





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