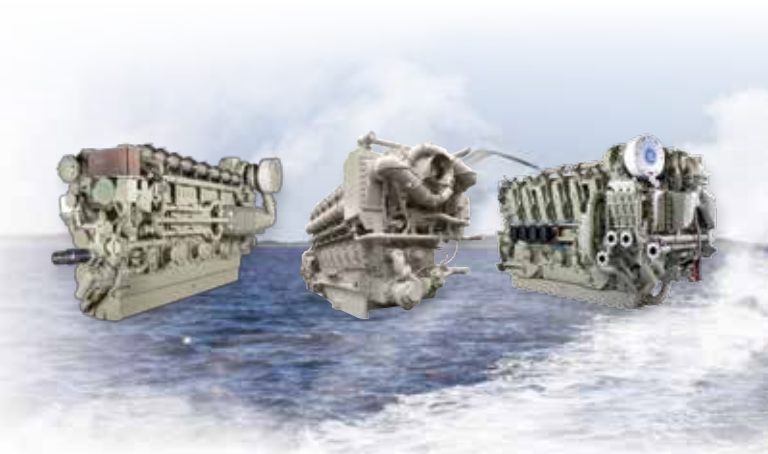
GE Marine

Product Selection Guide

2014/2015



GE imagination at work

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About GE Marine

GE Marine's family of medium-speed diesel engines includes its L250 inline engine as well as its V250 and V228 engine model platforms. The engines deliver continuous power, ranging from 1,308 kW to 4,650 kW (1,754 hp to 6,235 hp) and can be configured to meet U.S. EPA Tier 3 and EPA Tier 4i as well as IMO MARPOL Annex VI Tier II and Tier III emissions levels. Each engine features high-capacity turbochargers, efficient combustion design, electronic fuel injection (EFI) or Common Rail (CR) and can be integrated into marine and stationary systems to meet strict emissions levels. Currently operating in some of the most challenging industrial environments worldwide, GE's engines are dependable, long-lasting, durable and efficient.

A History of Performance

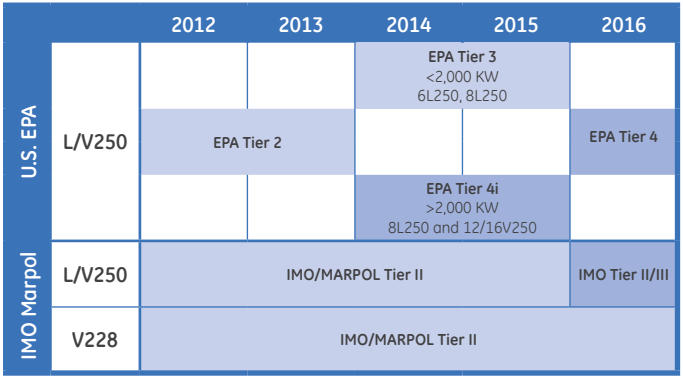
GE Transportation has been serving the transportation industry for more than a century. For more than 40 years, we have designed and built high-performance diesel engines and have become one of the largest manufacturers of medium-speed engines in the world.

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 L250 engine, GE's family of medium-speed engines includes 8-, 12- and 16-cylinder V configurations that can be configured to meet IMO Tier II, EPA Tier 3 as well as EPA Tier 4i and IMO Tier III, in-engine without need for SCR after-treatment or urea injection.

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.

GE's Emissions Path



IMO Tier III takes effect on January 1, 2016 in NOx Emission Control Areas (NECA's).

Engine Specifications

Engine data

	6L250	8L250
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	16.8:1	16.8:1

		6L250	8L250
900 rpm	Continuous[1]	1,498 kW (2,009 hp)	1,998 kW (2,679 hp)
	Max[2]	1,648 kW (2,210 hp)	2,198 kW (2,947 hp)
1,000 rpm	Continuous[1]	1,664 kW (2,232 hp)	2,219 kW (2,976 hp)
	Max[2]	1,831 kW (2,455 hp)	2,441 kW (3,274 hp)
1,050 rpm	Continuous[1]	1,748 kW (2,344 hp)	2,330 kW (3,125 hp)
	Max[2]	1,922 kW (2,578 hp)	2,564 kW (3,438 hp)

[1] At standard reference conditions per ISO 3046-1:2002E, ISO 8665
[2] One hour per 12-hour period

L250 IMO Tier II

Engine Specifications

Engine dimensions

	6L250	8L250
Length	5,138 mm (202 in)	5,949 mm (234 in)
Width	1,950 mm (77 in)	1,950 mm (77 in)
Height	2,962 mm (116 in)	2,962 mm (116 in)
Crankshaft center line to 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	17,295 kg (38,129 lbs)	20,856 kg (45,980 lbs)

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

Engine Specifications

Engine data

	12V250	16V250
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

		12V250	16V250
900 rpm	Continuous[1]	2,726 kW (3,655 hp)	3,632 kW (4,870 hp)
	Max[2]	2,998 kW (4,021 hp)	3,995 kW (5,357 hp)
1,000 rpm	Continuous[1]	3,028 kW (4,060 hp)	4,038 kW (5,415 hp)
	Max[2]	3,330 kW (4,466 hp)	4,442 kW (5,957 hp)
1,050 rpm	Continuous[1]	3,180 kW (4,265 hp)	4,239 kW (5,685 hp)
	Max[2]	3,499 kW (4,692 hp)	4,664 kW (6,254 hp)

[1] At standard reference conditions per ISO 3046-1:2002E, ISO 8665
[2] One hour per 12-hour period

V250 IMO Tier II

Engine Specifications

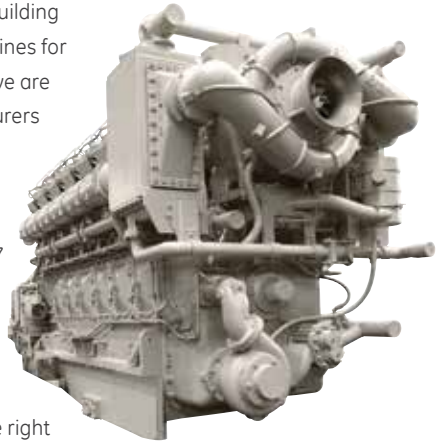
Engine dimensions

	12V250	16V250
Length	4,808 mm (189 in)	5,684 mm (224 in)
Width	2,468 mm (97 in)	2,468 mm (97 in)
Height	3,190 mm (126 in)	3,275 mm (129 in)
Crankshaft center line to sump	1,077 mm (42 in)	1,162 mm (46 in)
Crankshaft center line to mounting feet	536 mm (21 in)	536 mm (21 in)
Exhaust diameter	610 mm (24 in)	610 mm (24 in)
Dry weight	23,400 kg (51,600 lbs)	30,844 kg (68,000 lbs)

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

V228 IMO Tier II Engine

Dependable, long-lasting marine power



GE has been designing and building high-performance diesel engines for more than 40 years. Today, we are one of the leading manufacturers of medium-speed engines in the world. Our V228 Series Engines produce continuous power from 1,305 kW to 3,357 kW (1,750 hp to 4,500 hp). With exceptional reliability and operating costs among the lowest in their class, V228 engines from GE are the right choice for dependable, efficient power.

GE's V228 Series Engines are designed to power workboats, tugs, offshore supply vessels, ferries, dredges, fishing vessels and other marine transport applications. Dependable and durable, these medium-speed engines are among the best in their class for fuel efficiency and low life-cycle costs. Engines are available in 8-, 12- and 16-cylinder configurations meeting IMO Tier II emissions.

They work harder.

GE's V228 Series Engines are high-compression, four-stroke, medium-speed, turbocharged, electronically fuel injected, class-approved engines designed and built for rigorous marine applications. Our medium-speed engines are proven reliable, with more than 150 million hours of service. They are among the most fuel-efficient engines in their class.

They go longer.

With rugged construction and quality-assured parts, V228 engines are capable of operating cost effectively for more than 20 years. Most components can go without overhaul for up to 40,000 hours on a typical marine duty cycle. Among medium-speed engines on the market, V228 engines offer one of the lowest life-cycle costs.

They run smarter.

A high-capacity turbocharger, electronic fuel injection and efficient combustion management come together in V228 engines to make fuel and lube oil consumption, as well as emissions, among the lowest in the industry.

The easy-to-maintain engine.

The modularized construction of our V228 engines improves maintainability. Among the features that make maintenance easier are large access doors on the engine mainframe to reach bearings and other crankcase components. The segmented camshaft, sectional exhaust manifold and utilized power assembly are features that simplify removal and replacement of components.

Engine Specifications

Engine data

	8V228	12V228	16V228
Number of cylinders	8	12	16
Stroke cycle	4	4	4
Cylinder arrangement	45-degree V	45-degree V	45-degree V
Bore	228.6 mm (9 in)	228.6 mm (9 in)	228.6 mm (9 in)
Stroke	266.7 mm (10.5 in)	266.7 mm (10.5 in)	266.7 mm (10.5 in)
Compression ratio	15.7:1	15.7:1	15.7:1

		8V228	12V228	16V228
900 rpm	Continuous[1]	1,307 kW (1,753 hp)	1,961 kW (2,630 hp)	2,614 kW (3,506 hp)
	Max[2]	1,438 kW (1,928 hp)	2,157 kW (2,893 hp)	2,876 kW (3,857 hp)
1,000 rpm	Continuous[1]	1,453 kW (1,948 hp)	2,179 kW (2,922 hp)	2,905 kW (3,896 hp)
	Max[2]	1,598 kW (2,143 hp)	2,397 kW (3,214 hp)	3,196 kW (4,286 hp)
1,050 rpm	Continuous[1]	1,525 kW (2,045 hp)	2,289 kW (3,070 hp)	3,057 kW (4,100 hp)
	Max[2]	1,678 kW (2,250 hp)	2,518 kW (3,375 hp)	3,363 kW (4,510 hp)

[1] At standard reference conditions per ISO 3046-1:2002E, ISO 8665
[2] One hour per 12-hour period

V228 IMO Tier II

Engine Specifications

Engine dimensions

	8V228	12V228	16V228
Height	2,766 mm (109 in)	2,734 mm (108 in)	3,010 mm (118 in)
Length	3,955 mm (156 in)	4,687 mm (185 in)	5,560 mm (219 in)
Width	2,040 mm (80 in)	2,121 mm (84 in)	2,200 mm (87 in)
Crank center line to sump	978 mm (39 in)	950 mm (37 in)	1,221 mm (48 in)
Crank center line to mounting feet	480 mm (19 in)	480 mm (19 in)	480 mm (19 in)
Exhaust diameter	457 mm (18 in)	508 mm (20 in)	610 mm (24 in)
Dry weight	13,668 kg (30,135 lbs)	18,942 kg (41,760 lbs)	22,038 kg (48,585 lbs)

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

Engine Components

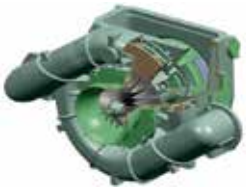
Designed for high reliability and low life-cycle costs

Rigid cast mainframe

The V228 engine mainframe features high-strength, monobloc cast-iron construction. All water, fuel and exhaust piping is externally mounted, eliminating the potential for internal contamination. Large access doors allow for easier maintenance, and generous casing and ribbed cross-members dampen vibration.

High-performance turbocharger

GE's expertise in gas turbine technology contributes to an industry-leading design for performance in the turbocharger. A high-compression ratio improves efficiency across the load range. Dual modular pulse piping preserves exhaust pulse energy for maximal thermal efficiency and the stainless dual exhaust pipes exhibits long component life.



Unitized power assembly

Four-bolt mounting makes assembly removal fast and easy. Electron-beam welding of the steel liner to the forged head prevents leakage. Stainless steel valve seats, inconel exhaust, chromed intake valves and valve rotators extend overhaul intervals and component life.

Electronic fuel injection (EFI)

Our EFI systems ensure compliance to all major regulatory standards. Precise fuel management and control also yield fuel savings. The reliability and performance of electronic fuel injection technology from GE has been proven with more than 150 million hours of engine service for more than 15 years.

High-strength pistons

Forged steel crowns with forced oil lubrication and cooling promote heat reduction for longer life. A three-ring arrangement, which distributes pressure more evenly, and a cutback design decrease lube oil consumption. A lightweight aluminum skirt offers high heat resistance. The master and articulated rod share a common journal, minimizing engine length while maximizing bearing width.

Segmented camshaft

The camshaft in a V228 engine is arranged in individual sections for easy inspection and maintenance. Forged and hardened camshaft lobes reduce wear. Oversized end bearings decrease loads for longer camshaft life.

V228 IMO Tier II

Engine Components

Heavy-duty crankshaft

The engine's one-piece crankshaft is forged from high-quality steel, nitride-hardened for long life. Hefty journals and crank pins minimize surface loads, and large radii fillet welded counterweights reduce stress for longer crankshaft life.

Tolerant tri-metal main bearings

The main bearings are oversized to reduce pressure while providing exceptional oil-wedge formation for low wear. A sacrificial run in overlay promotes rapid conformity at start up. A nickel barrier ensures superior heat resistance, while a lead tin overlay serves as a high-tolerance contaminant trap for particles and degraded oil.

L250 EPA Tier 3/IMO Tier II Engine

Clean, lean marine

GE's L250 Series Inline Diesel Engine offers a streamline design that is fuel-efficient and delivers continuous power from 1,518 to 1,999 kW. The L250 is specifically engineered for marine applications with its accessories mounted on the engine for maintenance ease and offers a full-power PTO option.

The L250 is marine-class compliant and meets U.S. EPA Tier 3 emission requirements, a proactive approach to fuel savings and emissions reduction natural to GE. Depending on the application and duty cycle, the L250 offers an average 12% fuel savings when compared to the V228 engine.

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.

Engine Specifications

Engine data

	6L250	8L250
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	16.8:1	16.8:1

	6L250	8L250
	Maximum continuous rating*	Maximum continuous rating*
900 rpm	1,517 kW (2,035 hp)	1,998 kW (2,679 hp)
1,000 rpm	1,686 kW (2,261 hp)	N/A
1,050 rpm	1,770 kW (2,374 hp)	N/A

*Maximum speed and load conditions at which the engine is capable of operating continuously for an unlimited number of hours per year; between the normal maintenance intervals stated by GE, under standard ambient conditions and with the maintenance prescribed by GE having been carried out. Engine overload is limited for U.S EPA Tier 3 (40CFR Part 1042) regulations.

L250 EPA Tier 3/IMO Tier II

Engine Specifications

Engine dimensions

	6L250	8L250
Length	4,674 mm (184 in)	5,564 mm (219 in)
Width	1,950 mm (77 in)	1,950 mm (77 in)
Height including sump	2,827 mm (111 in)	2,931 mm (115 in)
Crankshaft center line to 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	256 mm (10 in)	310 mm (12 in)
Weight	dry 17,295 kg (38,129 lbs) wet 18,411 kg (40,589 lbs)	dry 19,897 kg (43,865 lbs) wet 21,267 kg (46,885 lbs)

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

Engine 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 frilled 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

The L250 uses a new, high-efficiency, radial flow and water-cooled turbocharger to achieve EPA Tier 3 emissions without sacrificing engine performance. Depending on duty cycle and application, response time and fuel efficiency have improved over the L250 Tier 2 engines and fuel consumption has improved 5% to 6%.

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.

Exhaust manifold

The exhaust 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.

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.

Engine Components

Marine class, inline design

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. Design improvements will result in a significant reduction in lube oil consumption over L250 Tier 2 engines.

Pistons

Our pistons are ruggedly designed to accommodate the high-peak firing pressure requirements of L250 engines. The pin and skirt components also are 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.

GE Marine's non-SCR diesel technology requires no after-treatment

As a global leader in emissions-reducing solutions, GE Marine again is at the forefront with its breakthrough non-SCR diesel technology that requires no urea-based after-treatment. This advanced technology reduces key emissions by more than 70% and enables in-engine compliance with EPA Tier 4i and IMO Tier III emissions standards.

This innovative non-SCR diesel engine technology is available on GE Marine's L250 and V250 Series Diesel Engines and is the result of an eight-year investment to help businesses worldwide comply with EPA and IMO emission regulations.

L/V250 EPA Tier 4i/IMO Tier III Engines

Diesel engine innovation meets EPA Tier 4i and IMO Tier III emissions standards

Key benefits

- Available on GE Marine's L250 and V250 Series Diesel Engines ranging from 1700kW to 4650kW
- Eliminates urea use and storage to preserve cargo and tank space
- Requires no supplemental equipment or fluids, reducing capital and operating expenditures
- Engines supported by an extensive global parts, distribution and service network
- Reducing ship design complexity and shipyard installation time and cost

Engine Specifications

Engine data

	6L250 MDC	8L250 MDC
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	15.0:1	15.0:1

Engine dimensions

	6L250 MDC	8L250 MDC
Height w/ deep sump	2,809 mm (110.6 in)	2,809 mm (110.6 in)
Length	4,691 mm (184.7 in)	5,580 mm (219.7 in)
Width	2,006 mm (79 in)	2,006 mm (79 in)
Crankshaft center line marine sump	940 mm (37 in)	940 mm (37 in)
Crankshaft center line to mounting feet	308 mm (12.13 in)	308 mm (12.13 in)
Exhaust diameter	260 mm (10.2 in)	260 mm (10.2 in)
Dry weight	19,944 kg (43,876 lbs)	23,356 kg (51,491 lbs)

MCR Ratings

6L250 MDC

Rated speed	Rpm	900	1,000
MCR	kW	1,700	1,900
	hp	2,280	2,548

8L250 MDC

Rated speed	Rpm	900	1,000
MCR	kW	2,250	2,500
	hp	3,017	3,353

Maximum continuous rating (MCR)

Maximum speed and load conditions at which the engine is capable of operating continuously for an unlimited number of hours per year; between the normal maintenance intervals stated by GE, under stated ambient conditions and with the maintenance prescribed by GE having been carried out.

L250 EPA Tier 4i/IMO Tier III

Recommended Match Points

Application types	Rated speed	Rpm	6L250 MDC 900	6L250 MDC 1,000
FPP	Match point	kW	1,550	1,700
		hp	2,079	2,280
FPP-HT	Match point	kW	1,450	1,600
		hp	1,944	2,146
CPP/EPP-VS	Match point	kW	1,700	1,900
		hp	2,280	2,548
CPP/EPP-CS	Match point	kW	1,700	1,900
		hp	2,280	2,548

Application types	Rated speed	Rpm	8L250 MDC 900	8L250 MDC 1,000
FPP	Match point	kW	2,050	2,250
		hp	2,749	3,017
FPP-HT	Match point	kW	1,900	2,150
		hp	2,548	2,883
CPP/EPP-VS	Match point	kW	2,250	2,500
		hp	3,017	3,353
CPP/EPP-CS	Match point	kW	2,250	2,500
		hp	3,017	3,353

FPP = Fixed pitch propeller
FPP-HT = Fixed pitch propeller – high torque
CPP/EPP-VS = Variable speed CPP or gen set
CPP/EPP-CS = Constant speed CPP or gen set

Definitions for application types are found on page 31.

V250 EPA Tier 4i/IMO Tier III

Engine Specifications

Engine data

	12V250	16V250
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	15.0:1	15.0:1

Engine dimensions

	12V250	16V250
Height	3,636 mm (143 in)	3,721 mm (147 in)
Length	5,284 mm (208 in)	6,285 mm (247 in)
Width	2,693 mm (106.3 in)	2,693 mm (106.3 in)
Crankshaft center line marine sump	1,077 mm (42.4 in)	1,161 mm (45.8 in)
Crankshaft center line to mounting feet	536 mm (21.1 in)	536 mm (21.1 in)
Exhaust diameter	610 mm (24 in)	610 mm (24 in)
Dry weight	25,545 kg (56,317 lbs)	31,840 kg (70,195 lbs)

V250 EPA Tier 4i/IMO Tier III

MCR Ratings

Rated speed	Rpm	12V250 MDC		16V250 MDC	
		900	1,000	900	1,000
MCR	kW	3,150	3,500	4,200	4,660
	hp	4,224	4,694	5,632	6,249

Maximum continuous rating (MCR)

Maximum speed and load conditions at which the engine is capable of operating continuously for an unlimited number of hours per year; between the normal maintenance intervals stated by GE, under stated ambient conditions and with the maintenance prescribed by GE having been carried out.

V250 EPA Tier 4i/IMO Tier III

Recommended Match Points

Application types	Rated speed	Rpm	12V250 MDC		16V250 MDC	
			900	1,000	900	1,000
FPP	Match point	kW	2,850	3,150	3,800	4,200
		hp	3,822	4,224	5,096	5,632
FPP-HT	Match point	kW	2,700	3,000	3,550	3,950
		hp	3,621	4,023	4,761	5,297
CPP/EPP-VS	Match point	kW	3,150	3,500	4,200	4,650
		hp	4,224	4,694	5,632	6,236
CPP/EPP-CS	Match point	kW	3,150	3,500	4,200	4,650
		hp	4,224	4,694	5,632	6,236

FPP

A vessel where the engine powers a fixed pitch propeller.
Examples: tug boats, cargo vessels

FPP-HT

A vessel where the engine powers a fixed pitch propeller which demands extended maximum engine torque.
Examples: river push boats, tow boats, dredge pumps

CPP/EPP-VS

A vessel where the engine operates at a variable speed to power a controllable pitch or an electrically powered propeller

CPP/EPP-CS

A vessel where the engine operates at a constant speed to power a controllable pitch or an electrically powered propeller

GE Marine's Gensets

Drawing on our experience as a leader in medium-speed engine design and manufacturing, we offer marine genset solutions that provide efficient, cost-effective service in some of the world's harshest operating environments.

Powering these products are our reliable V250 and V228 Series Engines, offering high fuel efficiency and low life-cycle costs, in 8-, 12- and 16-cylinder configurations and L250 Series Engines in 6- and 8-cylinder inline configurations. Power solutions range from 1.5 to 4.5 mW with generation of voltage up to 13.8 kV- 50/60 Hz. We also maintain a global network of service centers that provide packaging, installation and commission, spare parts and service support.

Genset models		IMO Tier II	EPA Tier 3	EPA Tier 4i/ IMO Tier III
Speed, RPM	Elec. freq. Hz	Continuous power (ekW)		
12V250GSU		96.5% efficiency		
1,000	50	2,922	N/A	3,378
900	60	2,631	N/A	3,040
16V250GSU		96.5% efficiency		
1,000	50	3,897	N/A	4,487
900	60	3,505	N/A	4,053
8V228GSU		96.0% efficiency		
1000	50	1,395	N/A	N/A
900	60	1,256	N/A	N/A
12V228GSU		96.0% efficiency		
1,000	50	2,092	N/A	N/A
900	60	1,884	N/A	N/A
16V228GSU		96.5% efficiency		
1,000	50	2,804	N/A	N/A
900	60	2,524	N/A	N/A
6L250GSU		96.0% efficiency		
1,000	50	1,597	1,620	N/A
900	60	1,438	1,457	N/A
8L250GSU		96.0% efficiency		
1,000	50	2,130	N/A	2,400
900	60	1,918	1,918	2,160

GE Stationary's Gensets

For more than 40 years, GE Transportation has designed and built high-performance diesel engines and today is one of the world's largest manufacturers of medium-speed diesel engines. When used for continuous and standby power, these advanced engines are not only dependable, long-lasting and efficient, they also perform in the world's most challenging environments.

The stationary genset product line includes generator drive engines, unenclosed gensets and gensets in walk-in enclosures. Powering these products are our reliable V228 and L/V250 Series Engines offering high fuel efficiency and low life-cycle costs. Power solutions range from 1,438 ekW to 5,065 ekW and are available with a broad range of low and medium voltage alternators. We also maintain a global network of service centers that provides packaging, installation and commission, spare parts and service support.

Stationary Genset

Emissions

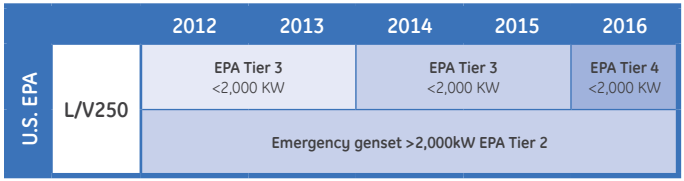
GE offers stationary gensets optimized for a variety of emissions requirements. For North America, U.S. EPA Tier 2 and Tier 3 configurations are available. Fuel optimized or World Bank emissions configurations are also available.

World Bank engine configurations are capable of meeting the NOx and particulates emissions levels specified in the World Bank Emissions Guidelines for Small Combustion Facilities[1]. SOx emissions vary with fuel sulfur content. GE Transportation is unable to make any representation as to the emissions output of the facility into which the engine is installed.

[1] International Finance Corporation "Environmental, Health, and Safety (EHS) Guidelines" April 30, 2007

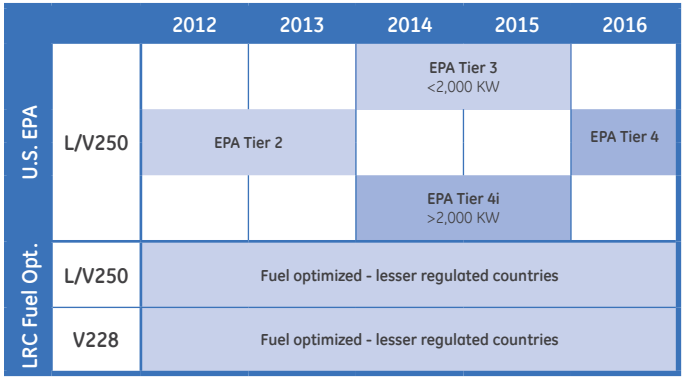
Emissions

Stationary Emissions Path: Emergency L/V250



The EPA defines emergency gensets by their application, not the manufacturer's rating type. In EPA-regulated areas it is permissible to sell Tier 2 COP, PRP and LTP ratings into an emergency application as long as the application meets the EPA emergency definition.

Stationary Emissions: Prime and Continuous L/V250



Lesser Regulated Country Genset Ratings

Genset model		Genset (ekW)				
Speed, RPM	Elec. freq., Hz	Continuous power (ekW)	Prime power (ekW)	Limited time running power (ekW)	EPA Tier 2 emergency standby power (ekW)**	
6L250GSU		96.0% alternator efficiency				EPA Tier 2 or World Bank emissions
1,000	50	1,597	1,597	1,758	1,917	
900	60	1,438	1,438	1,582	1,726	
8L250GSU		96.0% alternator efficiency				
1,000	50	2,130	2,130	2,343	2,556	
900	60	1,918	1,918	2,110	2,301	
12V250GSU		96.5% alternator efficiency				
1,000	50	2,922	3,213	3,506	3,798	
900	60	2,631	2,893	3,157	3,419	
16V250GSU		96.5% alternator efficiency				
1,000	50	3,897	4,287	4,676	5,065	
900	60	3,505	3,855	4,205	4,556	
8V228GSU		96.0% alternator efficiency				Fuel optimized/ World Bank emissions
1,000	50	1,395	1,534	1,673	N/A	
900	60	1,255	1,380	1,506	N/A	
12V228GSU		96.0% alternator efficiency				
1,000	50	2,092	2,301	2,510	N/A	
900	60	1,883	2,071	2,259	N/A	
16V228GSU		96.5% alternator efficiency				
1,000	50	2,803	3,084	3,364	N/A	
900	60	2,523	2,775	3,027	N/A	

Genset Ratings EPA Tier 3

Genset Models		Genset (ekW)	
Speed, RPM	Elec. freq. Hz	Continuous power (ekW)	EPA Tier 2 emergency standby power (ekW)**
6L250GSU		96.0% alternator efficiency	
900	60	1,457	1,726
8L250GSU		96.0% alternator efficiency	
900	60	1,918	2,301

**EPA Tier 2 emissions level ratings available for emergency use only in the U.S. after January 1, 2014.

Continuous power (COP)

The maximum power which the generating set is capable of delivering continuously while supplying a constant electrical load when operated for an unlimited number of hours per year.

Prime power (PRP)

The maximum power which a generating set is capable of delivering continuously while supplying a variable electrical load when operated for an unlimited number of hours per year. Load factor over a 24-hour period is less than 70%.

Limited-time running power (LTP)

The maximum power available for which the generating set is capable of delivering for up to 500 hours of operation per year. Load factor may be up to 100%.

Emergency standby power (ESP)

The maximum power available during a variable electrical power sequence for which a generating set is capable of delivering in the event of a utility power outage or under test conditions for up to 200 hours of operation per year.

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for servicing equipment worldwide

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With more than 15,000 medium-speed engines in service worldwide, it's critical we have parts and service to support them. And we do — through a network of parts distribution centers and service representatives available 24/7 around the globe. We are a leader in the on-time delivery of parts and services. For a listing of current GE's distributors, please visit: www.getransportation.com/marine/marine-products/ge-representatives.html.

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In addition to product and service support, we provide comprehensive instruction in diesel engine maintenance. Our learning facility in Erie, Pennsylvania, features classrooms, computer-simulated training and an engine laboratory. Our instructors also provide on-site training at customer locations around the world. We offer custom-designed instructional courses, computer-based learning aids, expert technical advisors, training videos and train-the-trainer programs.

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- KR
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- LR
- BV
- GL
- RINA

Quality certifications:

- ISO 9001
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Notes

Notes



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