

Engine Block

- Six cylinder, four cycle, in-line, liquid cooled, overhead valve, marine diesels based on heavy-duty industrial engine blocks.
- Balanced, forged crankshaft with induction hardened journals and rolled fillets for long life.
- Replaceable, wet cylinder liners for long life and low rebuild costs.
- Bimetallic valves with chrome stems and rotators.
- Replaceable valve seats and guides.
- Three ring aluminum alloy pistons with Ni-Resist insert for the top ring. Keystone piston ring reduces carbon buildup under light loads.
- Torsional crankshaft dampers help ensure smooth operation.
- A single poly-vee drive belt powers the alternator and jacket-water pump.

Fuel System

- High pressure common rail fuel injection for smooth, clean delivery.
- Direct fuel injection systems
- Ring clamp fuel filters with air bleed and drain.
- Electric fuel pump integrated into primary fuel filter. Computer controlled priming for ease of operation.

Lubrication System

- Positive displacement gear-type oil pump.
- Full flow, spin-on oil filter.
- Jacket-water, plate-type, full flow oil cooler reduces heat and prevents lube oil breakdown.
- Large capacity oil pan.
- A closed loop crankcase vent traps oil vapor to keep the engine room clean.

Air System

- Dry air filter silences intake noise.
- Turbocharger with jacket water cooled turbine housings for safety.
- Jacket water aftercooler provides optimized combustion and output.

Cooling System

- Heat exchanger cooled.
- Gear driven, belt-less sea water pump with flexible impeller made of bronze and stainless steel.
- Cast iron expansion tank with brass filler neck.
- Two thermostats for quick warm-ups and safety.
- Cast-iron exhaust manifold for reliable temperature control.

ESP and DC Electrical System

- Negative ground, 12 volt DC system has circuit breaker, starter motor and alternator with regulator. Relay board and senders for gauged panels standard.
- Standard S-3B remote control panel with engine hour meter, coolant temperature gauge, oil pressure gauge, DC voltage meter, start-stop and shutdown bypass switches. Additional optional panels help you specify the amount and type of information delivered.
- Low oil pressure and high coolant temperature safety shutdown system.

AC Generator

- Direct coupled, single bearing, 12 lead, reconnectable AC generator. Maintenance free brushless design.
- All NL generators meet or exceed class society standards with Class "H" insulation, accessible diodes, oversized ball bearings, marine grade shafts and conservative 90°/50° heat rise ratings.
- Engines and generators are torsionally matched for long life.
- Automatic voltage regulator; ±0.5% regulation over the entire range from no load to full load.
- Configured for isochronous operation with integral electronic governor control supplied by ECU. Frequency droop available upon request.

Special Equipment

- US EPA Tier III compliant.
- Welded steel base frame
- Belt guard
- Center bonded vibration isolation mounts
- Sparkling white IMRON® polyurethane paint
- Operator's and parts manuals

AC Output *

60 Hz, 1800 RPM kW	150 kW
50 Hz, 1500 RPM kW	125 kW
Voltage regulation	+/- 0.5%
Frequency droop control	Isochronous, 0.5 Hz, 1.7 Hz, 3.0 Hz
Phase and power factor	Three phase 0.8 power factor std.
Generator full load temperature rise	90°C temperature rise at 50°C ambient

Lugger Diesel Engine Data

Inline cylinders/aspiration/operating cycle	I-6 / Turbo & Aftercooled / 4	
Displacement - cid (liter)	414 (6.8)	
Bore/stroke - inches (mm)	4.19/5 (106/127)	
Fuel injection pump type and control	Electronic (HPCR)	
Cooling System (Heat exchanger cooled)	60 Hz	50 Hz
Heat rejection to jacket water - BTU min	11,800	8,498
Freshwater pump capacity - gpm (lpm)	51.2 (194)	42.2 (161)
Approximate cooling capacity - gal (ltr)	6.5 (24.7)	6.5 (24.7)
Seawater Flow - gpm(lpm)	125 (173)	125 (173)
Max seawater pump suction head lift - ft (m)	3 (1)	3 (1)
Sea water pump inlet hose ID - in (mm)	2.5 (63)	2.5 (63)
Min. seawater inlet/discharge thru-hull - in (mm)	2.5 (63)	2.5 (63)

DC Electrical (12V standard, 24V optional)

DC starting voltage - standard (optional)	12 (24)
Min battery capacity - amp hr/12V CCA (24V CCA)	255/925 (625)
Starter rolling amps @ 0°C - 12VDC (24VDC)	920 (600)
12 Volt battery cable size up to 10 ft (3m)	000

Air

	60 Hz	50 Hz
Air consumption - cfm (m³/m)	547 (15.5)	353 (10.0)
Approx heat radiated to air - BTU/min	2,040	1,700
Generator cooling air flow 1 & 3 Ø - cfm (m³/m)	1,308 (37)	1,090 (31)
Exhaust gas volume - cfm (m³/m)	1,123 (32)	828 (23)
Exhaust gas temp - F° (C°)	703 (373)	849 (454)
Max. exhaust back pressure - inch H ₂ O (mm H ₂ O)	30 (762)	30 (762)
Wet exhaust elbow OD- in (mm)	5 (127)	5 (127)
Dry exhaust elbow in (mm)	4 (102)	4 (102)

Fuel

Fuel injection pump type and control	High Pressure Common Rail	
Min suction - in (mm)	0.31 (8)	
Min return line - in (mm)	0.31 (8)	
Max fuel transfer pump suction lift - ft (m)	7.9 (2.4)	
Max fuel flow to transfer pump - gph	42.8	
Specific fuel consumption max load 60 hz - lbs/hp-hr	0.386	
Specific fuel consumption max load 50 hz - lbs/hp-hr	0.363	
Approx. fuel rate** at 60 Hz full load - gph (lph) ³	12.2 (46.1)	
Approx. fuel rate** at 50 Hz full load - gph (lph) ³	9.5 (36.1)	

Max Engine Operating Angle

Continuous (with separate expansion tank)	25
Intermittent (2 minutes)	35

Dimensions and Weight[^]

	Generator	w/Enclosure
Length - inches (mm)	90.0 (2286)	90.0 (2286)
Width - inches (mm)	42.0 (1067)	42.0 (1067)
Height - inches (mm)	41.5 (1054)	42.0 (1067)
Weight - pounds (kilograms)	3750 (1700)	4186 (1900)

*. Prime kW ratings for 3 Ø at 0.8 power factor. Consult factory for deration factors.

** Based on prime kW rating at 1800 and 1500 RPM. Fuel rate may vary depending on operating conditions.

[^] Dimensions provided for information only. Do not use for installation. Contact factory for installation drawings and info.

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Information and dimensions subject to change without notice.

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