

### ENGINE BLOCK

- US EPA Tier III compliant.
- Four 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.
- 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 system.
- 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.
- Oil spray cooling reduces piston crown temperature.
- Jacket-water, plate-type, full flow oil cooler.
- Large capacity oil pan.
- Closed loop crankcase vent.

### AIR SYSTEM

- Dry air filter silences intake noise.
- Turbocharger with jacket water cooled turbine housing.

### COOLING SYSTEM

- Heat exchanger with keel cooled option.
- Gear driven sea water pump with self-priming flexible impeller. Bronze with stainless steel shaft.
- Cast iron expansion tank.
- 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.
- Low oil pressure and high coolant temperature safety shutdowns.
- Optional control panels help you specify the amount and type of information required. Comprehensive list of optional alarms and safety shutdowns.
- Optional DC logic system for simplified maintenance.
- Optional pre-wired engine, panel with terminal strips.

### 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 0% isochronous droop with integral electronic governor control supplied by ECU.

### SPECIAL EQUIPMENT

- PMG option for 300% short circuit protection.
- Welded steel base frame.
- Sparkling white IMRON® polyurethane paint.
- Operator's and parts manuals.
- Optional sound enclosure for industry best sound and vibration attenuation in a compact design.

- ✕ Prime kW ratings for 3Ø 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.

### AC Output✕

**60 Hz, 1800 RPM\* kW**

Voltage regulation  
Frequency droop control  
Phase and power factor  
Generator full load temperature rise

### Lugger Diesel Engine Data

Inline cylinders/aspiration/operating cycle\*\*

Displacement - cid (liter)

Bore/stroke - inches (mm)

Fuel injection pump type and control

### Cooling System (Heat exchanger standard)

Heat rejection to jacket water - BTU min

Freshwater pump capacity - gpm (lpm)\*\*\*

Approximate keel coolant capacity - gal (ltr)

Heat exchanger connection size in/out - inch

Heat exchanger approx. coolant capacity - gal (ltr)

Seawater pump capacity - gpm(lpm)

Max seawater pump suction head lift - ft (m)

Sea water pump inlet hose ID - in (mm)

Min. seawater inlet/discharge thru-hull - in (mm)

### DC Electrical (12V standard, 24V optional)

DC starting voltage - standard (optional)

Min battery capacity - amp hr/12V CCA (24V CCA)

Starter rolling amps @ 0°C - 12VDC (24VDC)

12 Volt battery cable size up to 10 ft (3m)

### Air

Air consumption - cfm (m³/m)

Approx heat radiated to air - BTU/min

Generator cooling air flow 1&3Ø - cfm

Exhaust gas volume - cfm (m³/m)

Exhaust gas temp - F° (C°)

Max. exhaust back Pressure - inch H²O (mm H²O)

Wet exhaust elbow OD- in (mm)

Dry exhaust elbow in (mm)

### Fuel

Fuel injection pump type and control

Min suction line I.D. - in (mm)

Min return line I.D. - in (mm)

Max fuel transfer pump suction lift - in (mm)

Max fuel flow to transfer pump - gph

Specific fuel consumption max load (110%) - lbs.hp.hr

Approx. fuel rate ✓ at full load (100%) - gph (lph)

### Max Engine Operating Angle

Continuous (with separate expansion tank)

Intermittent (2 minutes)

### Dimensions and Weight (Do not use for installation. Contact factory for installation drawings and info)

Length - inches (mm)

Width - inches (mm)

Height - inches (mm)

Weight - pounds (kilograms)

### Dimensions and Weight w/Optional Sound Enclosure (Contact factory for installation drawings and info)

Length - inches (mm)

Width - inches (mm)

Height - inches (mm)

Weight - pounds (kilograms)

### M99A13L

**99 kW**

1%

Isochronous 0%

Three phase -0.8 power factor std.

90°C temperature rise at 50°C ambient

I-4 / Turbo & Aftercooled / 4

276 (4.5)

4.19/5 (106/127)

Electronic (HPCR)

7,001

40.9 (155)

5.2 (20)

2.0

4.4 (17)

52 (197)

10 (3)

2.0 (51)

2.0 (51)

12 (24)

200/1100 (750)

920 (600)

2/0

301 (8.5)

826

700

685 (19.4)

813 (434)

30 (762)

4.5 (114)

4 (102)

HPCR

3/8 (10)

1/4 (6)

80 (2032)

40.0

0.366

7.3 (27.8)

30°

45°

75.0 (1905)

38.0 (965)

39.4 (1001)

3107 (1409)

75.0 (1905)

38.0 (965)

40.9 (1039)

3599 (1632)

