

### ENGINE BLOCK

- US EPA Tier III compliant (IMO Tier 2 at 50 Hz)
- 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.
- Diaphragm-type, mechanical fuel transfer pump with manual priming lever.

### 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 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 housing for safety.

### 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.

Northern Lights, Inc. is ISO 9001 certified through Lloyds Register Quality Assurance

### AC Output<sup>×</sup>

**60 Hz, 1800 RPM<sup>1</sup> kW**

**50 Hz, 1500 RPM<sup>1</sup> 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, keel cooling optional)

Heat rejection to jacket water - 1800 rpm BTU min /1500

Freshwater pump capacity - 1800 rpm/gpm (lpm) / 1500

KC approximate cooling capacity - gal (ltr)

HE approximate cooling capacity - gal (ltr)

Seawater pump capacity - 1800 rpm/gpm(lpm) /1500

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 - 1800 rpm/cfm (m<sup>3</sup>/m) /1500

Approx heat radiated to air - 1800 rpm/BTU/min /1500

Generator cooling air flow 1&3Ø - 1800 rpm cfm /1500

Exhaust gas volume - 1800 rpm/cfm (m<sup>3</sup>/m) /1500

Exhaust gas temp - 1800 rpm/F° (C°) /1500

Max. exhaust back pressure - inch H<sub>2</sub>O (mm H<sub>2</sub>O)

Wet exhaust elbow OD- in (mm)

Dry exhaust elbow in (mm)

### Fuel

Fuel injection pump type and control

Min suction - in (mm)

Min return line - in (mm)

Max fuel transfer pump suction lift - ft (m)

Max fuel flow to transfer pump at 1800 rpm - gph/1500

Specific fuel consumption max load 1800 rpm - lbs.hp.hr/1500

Approx. fuel rate ✓ at 1800 RPM full load - gph (lph)/1500

Fuel supply and return- max pressure PSI. Height - ft (m)

Fuel supply and return. Height - ft (m)

### Max Engine Operating Angle

Continuous (with separate expansion tank)

Intermittent (2 minutes)

### Dimensions and Weight - Low Profile 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 enclosure Do not use for installation. Contact factory for installation drawings and info.

Length - inches (mm)

Width - inches (mm)

Height - inches (mm)

Weight - pounds (kilograms)

**M65T13L**

**65 kW**

**M55T13L**

**55 kW**

0.5%

Isochronous 0%

Three phase 0.8 power factor std.

Opt.: Single phase -1.0 power factor

90°C temperature rise at 50°C ambient

I-4 / Turbocharged/ 4

276 (4.5)

4.19/5 (106/127)

Electronic (HPCR)

4,548

30.9 (117)

4.5 (17)

3.7 (14)

24 (91)

10 (3)

1.25 (32)

1.25 (32)

12 (24)

200/1100 (750)

920 (600)

2/0

215 (6.1)

596

700

521 (14.7)

846 (452)

30 (762)

4 (102)

4 (102)

High Pressure Common Rail

3/8 (10)

3/8 (10)

7.9 (2.4)

19.5

0.394

5.5 (20.8)

2.9

7.9 (2.4)

30°

45°

75.0 (1905)

38.0 (965)

37.8 (960)

2594 (1177)

75.0 (1905)

38.0 (965)

40.9 (1039)

3086 (1401)

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Information and dimensions subject to change without notice.

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