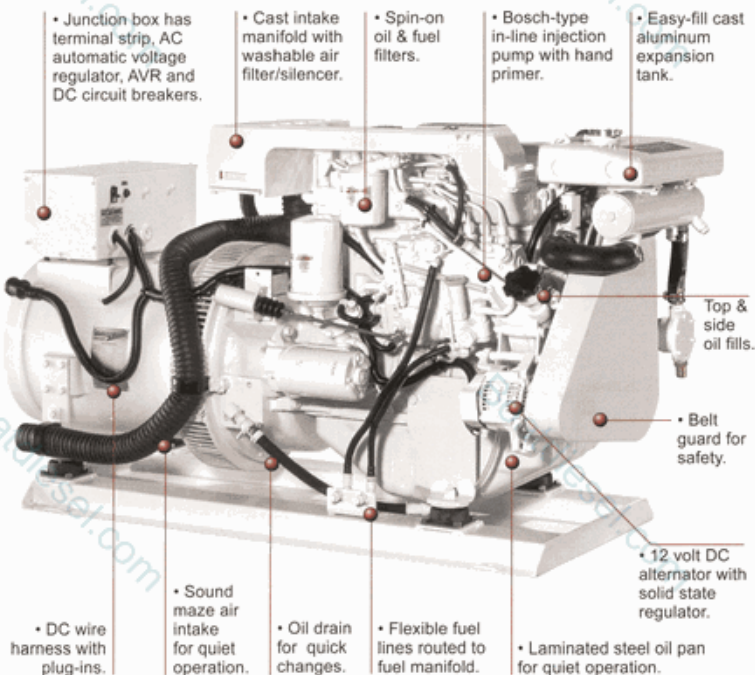


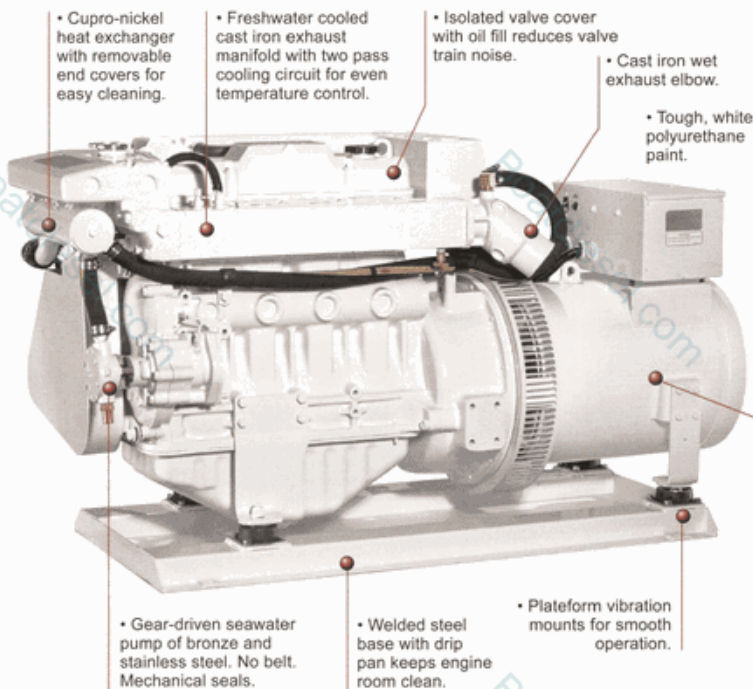
NORTHERN LIGHTS

M984W

Service Side



Non-Service Side



33 kW
60 Hz / 1800 RPM

26 kW
50 Hz / 1500 RPM

"It's a beast. It has run forever and I can't throw too much load on it."

That is what you might hear from an M984 owner about his generator set. As the manufacturer we have to say this high praise is not technically correct. An M984 will not quite run forever and it is rated at 33 kW.

What makes it so strong? The Luger 984 diesel. At nearly 3.5 liters, this four cylinder has the displacement to shoulder the big jobs. It has an industrial block designed for a 2500 max rpm instead of a 3600 rpm automotive engine. At 1800 rpm it is at the top of its torque curve instead of sliding down the backside of it. It even has replaceable cylinder liners so after years of service it can be rebuilt. Again and again.

On this tough base block is assembled an equally tough marinization package. Cast iron, freshwater cooled, exhaust manifold with no dry risers. Cupro-nickel heat exchanger. Bronze and stainless, gear driven seawater pump. Cast aluminum expansion tank. Strong components made of the right materials.

Making AC is not all the M984 can do for you. Add a 90 Amp DC alternator and you'll never run out of battery power again. Need hydraulic power? Add a front PTO with an electric clutch. At a touch of a switch you have up to 42 HP at 1800 rpm for winches, bow thrusters and deck gear.

For all its power, the 984 has remarkable manners. It is smooth, quiet and fuel efficient as only a direct injected diesel can be. Add a super attenuated sound enclosure with a water/exhaust separator muffler and your harbor mates will never know there is a "beast" in your bilge.

Featuring new W-Series generator

The new W-Series generator end is a major step in our constant quest to give you the best generator set on the market. It features an auxiliary stator winding that supplies separate and stable power to the Automatic Voltage Regulator (AVR). The results are impressive:

- Classification society compliance.
 - Real 300% short circuit capability.
 - Improved AC circuit breaker performance.
- See your dealer for more information.

NORTHERN LIGHTS

AC Output

33 kW 60 Hz, 1800 RPM, 1 Ph, 1.0 PF,
120-240 V/137 A, 120 V/275 A
26 kW 50 Hz, 1500 RPM, 1 Ph, 1.0 PF,
220 V/114 A.

Optional Three Phase with 0.8 PF
Voltage regulation ±1%

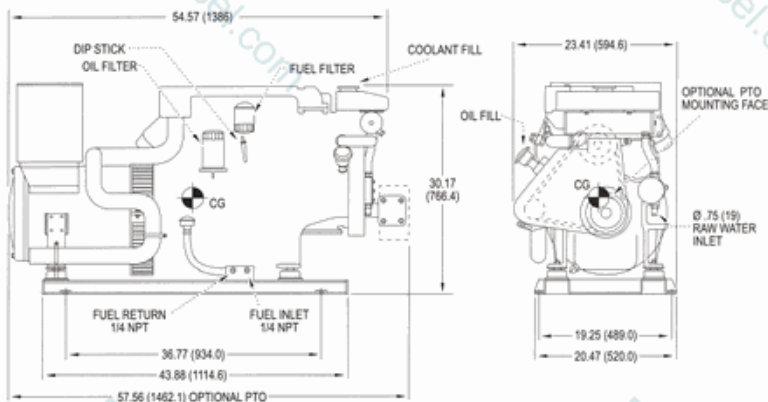
Lugger 1984 Engine

Type Vertical inline 4 cylinder diesel
Displacement 212 in³ (3.47 ltr)
Bore/Stroke 3.85/4.50 in (98/115 mm)
HP @ RPM 50.5/1800 38.2/1500
Approx. fuel use
1800 RPM @ full load² 2.6 gph (9.8 lph)
1800 RPM @ half load² 1.4 gph (5.3 lph)
1500 RPM @ full load² 1.96 gph (7.41 lph)
1500 RPM @ half load² 1.1 gph (4.16 lph)

Installation Data & Weight

Wet exhaust elbow 3 inch (76 mm) OD
Raw water inlet 3/4 inch (19 mm) OD
Fuel inlet and return 1/4 inch NPT
Approximate dry weight 1219 lbs (553 kg)

1. Based on SAE J1995 and ISO 3046. 2. Actual fuel consumption will vary depending on operating conditions.

M984W Dimensional Drawing

Overall Dimensions L x W x H: 54.57 x 23.41 x 30.17 Inch (1386 x 594.6 x 766.4 mm)

Dimensions given in inches (mm). Dimensions subject to change without notice.

Contact dealer or visit www.northern-lights.com for most current installation drawings.

M984W Features and Benefits**Engine Block**

- Lugger, four cycle, 4 cylinder, liquid cooled, naturally aspirated, overhead valve marine diesel based on an industrial engine block.
- Cylinder liners for long life and rebuildability.
- Crankshaft is induction hardened, forged carbon steel; stronger than cast iron.
- Helical cut and ground, carbon steel timing and PTO gears reduce noise.
- Cross flow head for efficient breathing.
- Laminated steel oil pan reduces noise.

Cooling System

- Freshwater cooling system in heat exchanger or keel cooled configuration.
- Large, easy fill expansion tank.
- Cast iron exhaust manifold is freshwater cooled for safety. No hot, dry risers.
- Zinc anode electrolysis protection.
- Heat exchanger cooling includes: Easy to clean, tube-type, cupro-nickel heat exchanger. Impeller seawater pump of bronze and stainless steel is accessible. Gear driven pump has no belt to worry about.

Fuel System

- Fuel system is self-venting.
- Direct injection for fuel economy, clean exhaust and fast starting.
- Bosch-type in-line injection pump with 5% mechanical governor for close AC output frequency control.
- Hole type injectors. Replaceable tips.
- Mechanical fuel lift pump with hand primer.
- Large spin-on fuel filter.
- Flexible fuel lines routed to base.
- Stop solenoid controls fuel rack, not throttle, for fast engine shutdowns.

Lubrication System

- Full flow, spin-on oil filter with bypass.
- 9.6 qt (9 ltr) center well oil pan.
- Lube oil drain for quick oil changes.

Intake and Exhaust

- Meets US EPA emission requirements at date of manufacture.
- Washable air cleaner/silencer in cast intake manifold reduces intake noise.
- Cast iron, wet exhaust elbow for safety.

DC Electrical System

- DC system uses reliable relays instead of unrepairable printed circuit board.
- 12 volt starter and battery charging alternator with regulator.
- Standard panel: Remote mount S-3C has hour meter, oil pressure gauge, coolant temperature gauge, DC voltmeter, stop-start switch and preheat switch.
- 20 ft (6 m) plug-in panel harness lets you monitor your set from the bridge.
- Expandable to six panels, 110 ft from set.
- Low oil pressure, high coolant temp and high exhaust temp shutdowns are standard.

**AC Generator**

- Northern Lights, direct coupled, brushless AC generator is maintenance free.
- 4 lead/1 phase, 50 or 60Hz output standard. 12 wire, 3 phase generator available. Conservative 95°C/50°C ambient heat rise.

- Generator features: high quality Class "H" insulation, accessible diodes, oversized bearings and junction box for AC wiring.
- Automatic Voltage Regulator is powered by dedicated AC winding for true 300% short circuit capability. AVR gives quick ±1% RMS no load to full load voltage regulation. AVR has circuit breaker protection.

Special Equipment

- Welded steel base frame with drip pan.
- Platform vibration isolation mounts for smooth, quiet operation.
- Belt guard protects operator.
- Tough, sparkling white polyurethane paint.
- Parts and operator's manuals.

Classification Standards

- Contact factory for details

**Optional Equipment**

- See accessory brochure for a complete list of customizing equipment.
- Front Power Take Off:** B-spline 2 or 4 bolt, front PTO with 12 or 24 volt electric clutch. Take up to 42 HP @ 1800 rpm to run your bow thruster, sail handling, deck winches and other shipboard hydraulic equipment.
- Sound Enclosure** has powder coated marine aluminum panels lined with sound barrier foam to dampen noise. Trigger latches for easy service access.



LxWxH: 61 x 31.3 x 32.85 in
(1549.4 x 795 x 834.4 mm)
Weight: 170 lbs (77 kg)

Dealer

4420 14th Ave. NW, Seattle WA 98107
Tel: (206) 789-3880 • 1-800-762-0165
Fax: (206) 782-5455

Information and dimensions subject to change without notice.
© 2004 All rights reserved. Litho USA. L672 9/04

NORTHERN LIGHTS

www.northern-lights.com