



# M1266 SERIES

IMO Tier 2  
205/310/415 kW, 60 Hz @ 1800 RPM  
180/260/355 kW, 50 Hz @ 1500 RPM

IMO Tier 3  
275/385 kW, 60 Hz @ 1800 RPM  
275/340 kW, 50 Hz @ 1500 RPM

## FEATURES AND BENEFITS

### THE STATE-OF-THE ART IN MARINE EQUIPMENT

The growing demands of the marine marketplace demand a big, robust power producer. As the world's yachts grow more sophisticated, their power generation system must keep pace. Northern Lights generator sets are based on world-class components - including industrial strength base engines and generator ends. Our exclusive marinization process ensures reliable, clean power no matter what your vessel requires.

### FLEXIBILITY

Northern Lights' revolutionary base frame design creates the most compact, best looking power generation set on the market. Our optional sound enclosures and compound mounts save even more space and virtually eliminate vibration noise. Northern Lights provides maximize power efficiency while using minimal engine room space.

### ELECTRONIC CONTROL SYSTEM

For the ultimate in system management and monitoring, the M1266 series generator sets are equipped with an Electronic Control Unit (ECU). The ECU controls the electronic engine functions and provides a SAE J1939 data stream of engine information that can be displayed on an optional system monitor panel.

### SUPERIOR PMG GENERATOR ENDS

Northern Lights generator ends achieve  $\pm 0.5\%$  voltage regulation. All have low temperature rise ratings to meet or exceed marine requirements. All M1266's have Permanent Magnet Generators for 300% short circuit capability required for classed vessels.

### COMPLETE UNIT TESTING

Northern Lights generator sets are thoroughly factory tested and go through a complete quality control program to ensure your satisfaction with the best built marine generator on the market today.

## COMPONENT SPECIFIC FEATURES

### ENGINE BLOCK

- Six cylinder, four cycle, in-line, liquid cooled, overhead valve, marine diesels based on heavy-duty industrial engine blocks
- Balanced alloy steel and induction hardened crankshaft
- Replaceable valve seats and guides
- Strong three ring steel pistons for long-life reliability
- Gear-driven seawater pump and freshwater pump
- Drive belt powers the alternator
- Replaceable, strength-optimized wet cylinder liners for long life and low rebuild costs

### FUEL SYSTEM

- Electronically controlled high-pressure fuel injection system provides individual control in each cylinder for low exhaust emissions and superior fuel economy.
- High torque at low revolutions. (1800 or 1500 rpm)
- Full flow spin-on duplex elements
- Gear driven fuel transfer pump with primer
- Flexible fuel lines routed to fuel manifold on base frame for easy installation of vessel's hard piping

### LUBRICATION SYSTEM

- 600 hour oil change interval when fuel and oil requirements are met
- Force feed lubricating by gear oil pump
- Full flow, spin-on oil filter
- Centrifugal oil cleaner to extend oil change intervals
- Freshwater, plate-type, full flow oil cooler reduces heat and thermal breakdown of lube oil
- Large capacity oil pan
- Floating, cast aluminum, rocker cover
- Lube oil drain for easy changes

### AIR SYSTEM-TURBO AND AFTERCOOLER

- Dry air filter silences intake noise
- Aftercooler with marine quality, cupro-nickel, single pass element
- Turbocharged for increased output

### COOLING SYSTEM

- Freshwater cooling system with three thermostats for quicker warm-ups
- Heat exchanger cooling includes: Gear driven, flexible impeller seawater pump.
- Cast aluminum expansion tank with brass filler neck. Cast-iron exhaust manifold has single pass freshwater flow for even temperature control, fast warm-up and no hot spots

- Titanium plate exchanger - no zinc anode protection necessary

### DC ELECTRICAL SYSTEM

- Engine supplies SAE J1939 data stream through a CAN bus plug for optional engine monitor
- Negative ground, 24 volt DC system with circuit breaker, starter motor and battery charging alternator with regulator. Isolated ground optional
- Standard digital controller displays engine hours, coolant temperature, oil pressure, DC voltage, and includes start-stop controls. Increased ease of paralleling through controller
- Engine and panel are pre-wired with terminal strips
- Low oil pressure and high coolant temperature safety shutdown system included in controller

### AC GENERATOR

- Direct coupled, single bearing, 12 lead, reconnectable AC generator. Maintenance free brushless design
- Generators meet or exceed class society standards. All have 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 gives fast response to electrical load changes. Voltage is regulated to  $\pm 0.5\%$  (one half of one percent) over the entire range from no load to full load
- Isochronous electronic governor for 0% AC frequency droop
- PMG (permanent magnet generator) to power AVR for 300% short circuit capability for "classed" vessels

### SPECIAL EQUIPMENT

- Standard hydrolastic mounts isolate 98% of hull vibration
- Welded steel base pan. Easy to mount and keep clean
- Belt guard protects operator even on sets in sound enclosures
- Sparkling white IMRON® polyurethane paint for protection and visibility
- Operator's and parts manuals

### WORLD-CLASS OPTIONS

- Make your power generator system as unique as your boat. Northern Lights offers a comprehensive list of optional equipment including high power PTO's, super attenuated sound enclosures, customizable panels, and much more

### CLASSIFICATION STANDARDS

- IMO Tier 2 and Tier 3 compliant
- Available certification from CCS upon request



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

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SPECIFICATIONS AND DIMENSIONS	M1266H12 1800 RPM, 60 Hz IMO Tier 2	M1266H12 1500 RPM, 50 Hz IMO Tier 2	M1266H13 1800 RPM, 60 Hz IMO Tier 3	M1266H13 1500 RPM, 50 Hz IMO Tier 3	M1266H22 1800 RPM, 60 Hz IMO Tier 2	M1266H22 1500 RPM, 50 Hz IMO Tier 2	M1266H23 1800 RPM, 60 Hz IMO Tier 2	M1266H23 1500 RPM, 50 Hz IMO Tier 3	M1266H32 1800 RPM, 60 Hz IMO Tier 2	M1266H32 1500 RPM, 50 Hz IMO Tier 2
	AC Output - kW	205	180	275	275	310	260	385	340	415
Voltage Regulation	+/- 0.5%		+/- 0.5%		+/- 0.5%		+/- 0.5%		+/- 0.5%	
PMG	Standard		Standard		Standard		Standard		Standard	
Frequency droop	0-10%		0-10%		0-10%		0-10%		0-10%	
Phase/Power Factor	3/0.8		3/0.8		3/0.8		3/0.8		3/0.8	
Generator full load temp rise	Max 90°		Max 90°		Max 90°		Max 90°		Max 90°	
<b>Diesel Engine Data</b>										
No. of Cylinders	Inline 6		Inline 6		Inline 6		Inline 6		Inline 6	
Aspiration	Turbo & Aftercooled		Turbo & Aftercooled		Turbo & Aftercooled		Turbo & Aftercooled		Turbo & Aftercooled	
Operating cycle	4		4		4		4		4	
Displacement - in <sup>3</sup>	758		758		758		758		758	
Flywheel power - HP	295	255	396	396	443	375	550	483	597	503
Max. front power take off	Consult Factory		Consult Factory		Consult Factory		Consult Factory		Consult Factory	
Oil capacity w/ filter - gal.	Consult Factory		Consult Factory		Consult Factory		Consult Factory		Consult Factory	
<b>Cooling System</b>										
Approx. HE coolant capacity - gal.	Consult Factory		Consult Factory		Consult Factory		Consult Factory		Consult Factory	
Min. seawater inlet/discharge dia. thru hull - inch	Consult Factory		Consult Factory		Consult Factory		Consult Factory		Consult Factory	
Seawater pump inlet hose ID - inch	2.95		2.95		2.95		2.95		2.95	
Heat rejection to jacket water - BTU/min	7864	6830	7969	7969	7969	7969	10246	86387	10815	9107
Freshwater pump capacity - gpm	Consult Factory		Consult Factory		Consult Factory		Consult Factory		Consult Factory	
Seawater pump capacity - gpm	92.5	74	92.5	74	92.5	74	92.5	74	92.5	74
Max. seawater pump suction head - inch	Consult Factory		Consult Factory		Consult Factory		Consult Factory		Consult Factory	
<b>DC Electrical</b>										
DC starting voltage - standard	24		24		24		24		24	
Min. battery capacity - amp hr/24V CCA	Consult Factory		Consult Factory		Consult Factory		Consult Factory		Consult Factory	
Starter rolling amps @ 32°F - 24VDC	Consult Factory		Consult Factory		Consult Factory		Consult Factory		Consult Factory	
<b>Air</b>										
Generator cooling air flow - CFM	1020	850	880	730	880	730	1550	1280	1520	1255
Air consumption - CFM	566	418	813	660	819	583	1025	795	954	795
Exhaust gas volume - CFM	1478	1184	1984	1784	2072	1666	2708	2149	2655	2237
Exhaust gas temp °F	907	1018	842	970	887	1044	941	979	1004	1018
Approx. heat radiated to air - BTU/min	1480		1480		1480		1480		1480	
Max. exhaust back pressure - inch H2O	32		32		32		32		32	
<b>Fuel</b>										
Fuel injection pump type & control	HPCR Electronic		HPCR Electronic		HPCR Electronic		HPCR Electronic		HPCR Electronic	
Min. suction & return line - inch	0.47		0.47		0.47		0.47		0.47	
Max. fuel transfer pump suction lift - inch H2O	59		59		59		59		59	
Fuel delivery rate - gph	Consult Factory		Consult Factory		Consult Factory		Consult Factory		Consult Factory	
Specific fuel consumption max load - lb/kW*h	0.342	0.345	0.329	0.322	0.327	0.334	0.332	0.321	0.326	0.329
Approx. full load fuel rate - gph	14.2	12.7	18.5	18.2	20.6	18	26.2	22.2	27.7	23.5
Full load fuel returned to tank -gph										
Max. engine operating angle - continuous	Consult Factory		Consult Factory		Consult Factory		Consult Factory		Consult Factory	
Max. engine operating angle - intermittent	30°		30°		30°		30°		30°	
<b>Dimensions and Weight</b>										
Length - inches	Consult Factory		Consult Factory		Consult Factory		Consult Factory		Consult Factory	
Width - inches	Consult Factory		Consult Factory		Consult Factory		Consult Factory		Consult Factory	
Height - inches	Consult Factory		Consult Factory		Consult Factory		Consult Factory		Consult Factory	
Approx. dry weight - lbs	Consult Factory		Consult Factory		Consult Factory		Consult Factory		Consult Factory	
Sound enclosure LxWxH - inches	Consult Factory		Consult Factory		Consult Factory		Consult Factory		Consult Factory	