

## 65 - 99 kW

### Selection without compromise.

If you depend on a marine generator set for your livelihood, you can't take shortcuts in either performance or reliability. Northern Lights C-Series generator sets are designed with simplicity and efficiency in mind. Our M65C13 and M99C13 models are US EPA Tier III compliant and provide unmatched power production at commercial ready prices. Rely on the power production leaders at Northern Lights to keep your vessel running at peak performance.

### Tough diesels marinized for life at sea.

Built for continuous duty, many Northern Lights C Series sets have logged over 30,000 hours without a rebuild. Northern Lights products are built to withstand the rigors of the unforgiving marine environment.

### Simple to operate and maintain.

Hoses, gaskets and belts have been minimized. Most service points are on a single side to simplify maintenance.

### Superior generator ends.

The sea is no place for a stand-by generator. All Northern Lights sets have low 110°/50° temperature rise ratings, Class H epoxy insulation and ±1% voltage regulation

### Complete options list.

Each option is designed to integrate into a total power system specifically designed for your vessel. Consider a high power PTO that can supply up to 149 HP of hydraulic power at the touch of a button.

### Total unit load testing.

Complete load testing is done with all accessories installed. Testing is just one of the quality controls that makes Northern Lights generator sets a tremendous value.

### High resale value.

Northern Lights' quality reputation is a big plus when you sell your vessel. Buyers will know you cared enough to install the industry's best equipment.

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## Component Specific Features

### Engine Block

- Four cylinder, four cycle, in-line, liquid cooled, overhead valve, marine diesels based on heavy-duty 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.
- Dual gear-driven, counter-rotating balancing shafts for 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.
- M65C13: Diaphragm-type, mechanical fuel transfer pump with manual priming lever.
- M99C13: 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 for longer life.
- 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.
- M99C13: Jacket water aftercooler provides optimized combustion and output. No second keel cooler needed.

### Cooling System

- Keel cooled with heat exchanger option
- Cast expansion tank.
- Two thermostats for quick warm-ups and safety.
- Cast-iron exhaust manifold for reliable temperature control.

### DC Electrical System

- Negative ground, 12 volt DC system includes starter motor and alternator with regulator.
- Low oil pressure and high coolant temperature safety shutdown system.
- 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 110°/50° heat rise ratings.
- Engines and generators are torsionally matched for long life.
- Automatic voltage regulator; ±1% regulation over the entire range from no load to full load.
- Configured for isochronous frequency control with integral electronic governor control supplied by ECU.

### Special Equipment

- US EPA Tier III compliant.
- Welded steel base frame
- Belt guard
- Captive vibration isolation mounts
- Tough gray enamel paint
- Operator's and parts manuals

# M65C13 and M99C13

## General Specifications and Dimensions

AC Output*	M65C13	M99C13
60 Hz, 1800 RPM* kW	65 kW	99 kW
Voltage regulation	<b>Both Models:</b> 1%	
Frequency droop control	<b>Both Models:</b> Isochronous 0%	
Phase and power factor	<b>Both Models:</b> Three phase -0.8 power factor std. Opt.: Single phase -1.0 power factor	
Generator full load temperature rise	<b>Both Models:</b> 110°C temperature rise at 50°C ambient	
Lugger Diesel Engine Data		
Inline cylinders/aspiration/operating cycle**	I-4 / Turbocharged / 4	I-4 / Turbo & Aftercooled / 4
Displacement - cid (liter)	<b>Both Models:</b> 276 (4.5)	
Bore/stroke - inches (mm)	<b>Both Models:</b> 4.19/5 (106/127)	
Fuel injection pump type and control	<b>Both Models:</b> Electronic (HPCR)	
Cooling System (Keel cooling standard, heat exchanger optional)		
Heat rejection to jacket water -1800 rpm BTU min	4,548	7,001
Freshwater pump capacity - 1800 rpm/gpm (lpm)***	30.9 (117)	40.9 (155)
Approximate cooling capacity - gal (ltr)	4.5 (17)	5.2 (20)
KC connection size in/out - inch	<b>Both Models:</b> 1.5	
Heat exchanger approx. cooling capacity - gal (ltr)	3.7 (14)	4.4 (17)
Seawater pump capacity - 1800 rpm/gpm(lpm)	24 (91)	52 (197)
Max seawater pump suction head lift - ft (m)	<b>Both Models:</b> 10 (3)	
Sea water pump inlet hose ID - in (mm)	1.25 (32)	2.0 (51)
Min. seawater inlet/discharge thru-hull - in (mm)	1.25 (32)	2.0 (51)
DC Electrical (12V standard, 24V optional)		
DC starting voltage - standard (optional)	<b>Both Models:</b> 12 (24)	
Min battery capacity - amp hr/12V CCA (24V CCA)	<b>Both Models:</b> 200/1100 (750)	
Starter rolling amps @ 0°C - 12VDC (24VDC)	<b>Both Models:</b> 920 (600)	
12 Volt battery cable size up to 10 ft (3m)	<b>Both Models:</b> 2/0	
Air		
Air consumption - 1800 rpm/cfm (m <sup>3</sup> /m)	215 (6.1)	301 (8.5)
Approx heat radiated to air - 1800 rpm/BTU/min	596	826
Generator cooling air flow 1&3Ø - 1800 rpm cfm	595	1,308
Exhaust gas volume - 1800 rpm/cfm (m <sup>3</sup> /m)	521 (14.7)	685 (19.4)
Exhaust gas temp - 1800 rpm/F° (C°)	846 (452)	813 (434)
Max. exhaust back Pressure - inch H <sup>2</sup> O (mm H <sup>2</sup> O)	<b>Both Models:</b> 30 (762)	
Wet exhaust elbow OD- in (mm)	<b>Both Models:</b> 4 (102)	
Dry exhaust elbow in (mm)	<b>Both Models:</b> 4 (102)	
Fuel		
Fuel injection pump type and control	<b>Both Models:</b> HPCR	
Min suction - in (mm)	<b>Both Models:</b> 3/8 (10)	
Min return line - in (mm)	<b>Both Models:</b> 1/4 (6)	
Max fuel transfer pump suction lift - in (mm)	<b>Both Models:</b> 80 (2032)	
Max fuel flow to transfer pump at 1800 rpm - gph	19.5	40.0
Specific fuel consumption max load 1800 rpm - lbs.hp.hr	0.394	0.366
Approx. fuel rate <sup>3</sup> at 1800 RPM full load - gph (lph)****	5.5 (20.8)	7.6 (28.9)
Max Engine Operating Angle		
Continuous (with separate expansion tank)	<b>Both Models:</b> 30°	
Intermittent (2 minutes)	<b>Both Models:</b> 45°	
Dimensions and Weight (Do not use for installation. Contact factory for installation drawings and info. Contact factory for single phase dimensions.)		
Length - inches (mm)	64.9 (1648)	69.2 (1757)
Width - inches (mm)	28.0 (711)	30.4 (771)
Height - inches (mm)	39.8 (1011)	43.0 (1092)
Weight - pounds (kilograms)	2072 (940)	2565 (1164)

### NOTES:

\* Prime kW ratings for 3Ø at 0.8 power factor. Consult factory for deration factors.  
\*\* Net flywheel hp rating for fully equipped engine at rated speed under SAE J816b.

\*\*\* Based on 185°F maximum coolant outlet temperature and 6 psi maximum external system restrictions.

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

### Dealer

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**NORTHERN LIGHTS**