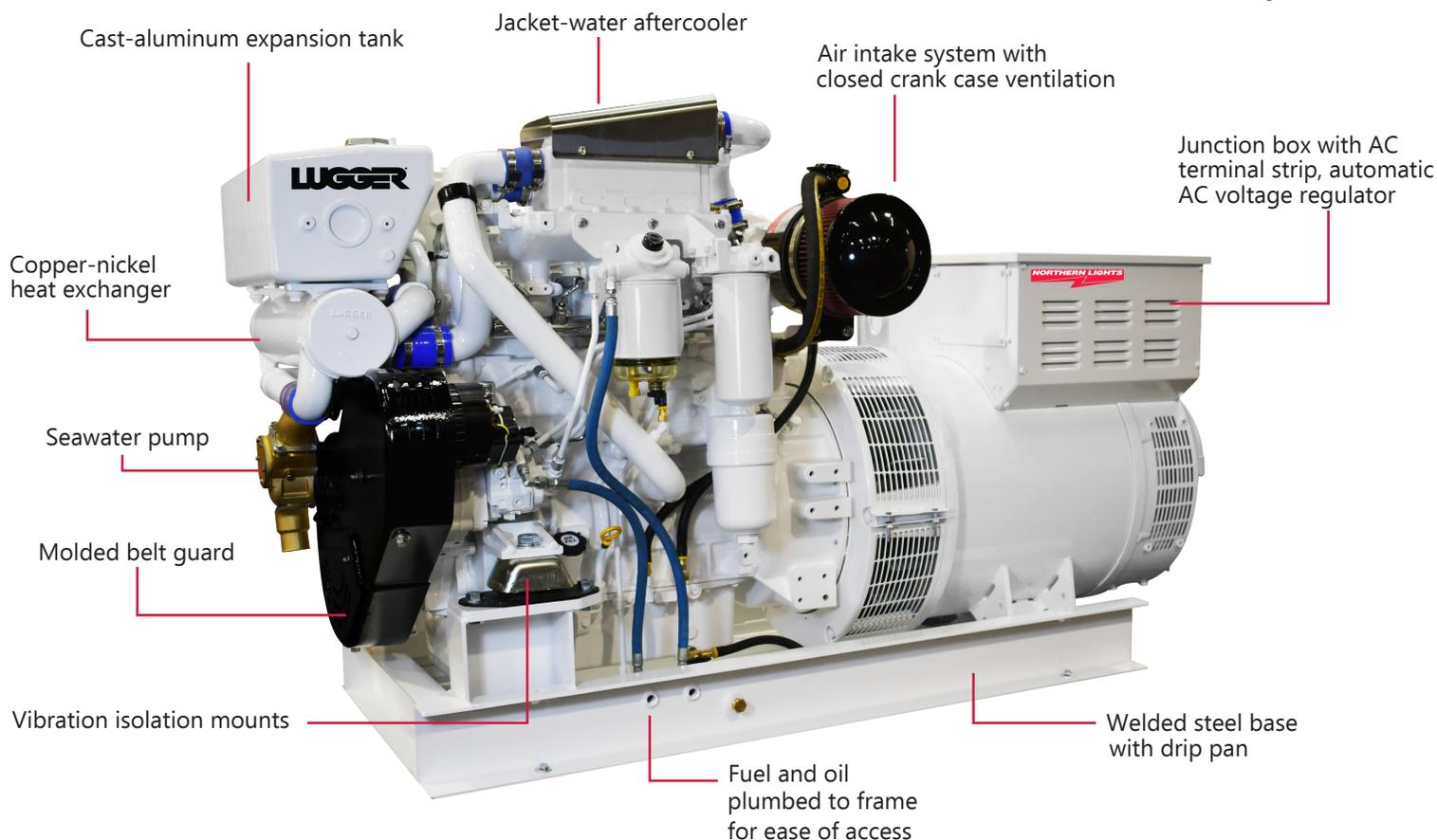




**M4105A1**  
126 KW, 60 Hz

**M4105A2**  
145 KW, 60 Hz



## FEATURES AND BENEFITS POWERED BY LUGGER

- Designed for smallest possible footprint without sacrificing serviceability
- Minimal belts and hoses for longer life
- Reliable cast-iron, gear driven freshwater and silicon bronze seawater pump

### ENGINE BLOCK

- Four cylinder, four cycle, in-line, liquid cooled, overhead valve marine diesels with replaceable wet liners
- Forged crankshaft
- Individual cylinder heads for ease of service
- Mass balancer improves vibration levels
- Heavy duty, plate-type oil cooler
- Ladder frame on lower block easily handles higher power levels
- Shaker pistons with oil gallery for improved cooling and performance

### WORLD CLASS FEATURES

- Belt guard for operator safety
- Cast-iron thermostat housing for long life
- Configured for isochronous or droop speed control with integral electronic governor control supplied by ECU
- 300% short circuit protection via auxiliary winding generator - PMG not required but optionally available
- Welded steel base frame
- Sparking white two part polyurethane paint
- Operator and parts manuals
- Optional sound enclosure for sound attenuation in compact design

### Northern Lights, Inc.

4420 14th Ave NW, Seattle, WA 98107  
Tel: (206) 789-3880 | (800) 762-0165  
www.northern-lights.com  
info@northern-lights.com



	<b>M4105A1</b>	<b>M4105A2</b>
	126 KW, 60 Hz	145 KW, 60 Hz

**Dimensions and Weight** - Do not use for installation. Contact factory for installation drawings and info.

Length - in (mm)	73.94 (1878)	73.94 (1878)
Width - in (mm)	35.92 (912)	35.92 (912)
Height - in (mm)	43.17 (1096)	43.17 (1096)
Weight - lbs (kg)	2561 (1162)	2561 (1162)

**Dimensions and Weight** - w/optional enclosure Do not use for installation. Contact factory for installation drawings and info.

Length - in (mm)	75.4 (1916)	75.4 (1916)
Width - in (mm)	42.0 (1067)	42.0 (1067)
Height - in (mm)	45.0 (1143)	45.0 (1143)
Weight - lbs (kg)	3166 (1437)	3166 (1437)
Voltage regulation	+/-0.5%	+/-0.5%
Frequency control	Isochronous / Droop	Isochronous / Droop
Phase and power factor - standard	Three ph. 0.8	Three ph. 0.8
Phase and power factor - optional (Contact factory for details)	Single ph. 1.0	Single ph. 1.0
Generator full load temperature rise at 45°C ambient	110°C	110°C

**Lugger Diesel Engine Data**

Inline cylinders/aspiration/operating cycle	I-4 / Turbo-Aftercooled/ 4 - Stroke	I-4 / Turbo-Aftercooled/ 4 - Stroke
Displacement - cid (ltr)	293 (4.8)	293 (4.8)
Bore/stroke - inches (mm)	4.13/5.39 (105/137)	4.13/5.39 (105/137)

**Cooling System (Heat exchanger standard, keel cooling optional)**

Heat rejection to jacket water - BTU min	C/F	C/F
Freshwater pump capacity - gpm (lpm)	55 (210)	55 (210)
KC approximate cooling capacity - gal (ltr)	C/F	C/F
HE approximate cooling capacity - gal (ltr)	1.5 (6)	1.5 (6)
Seawater pump capacity - gpm (lpm)	48 (182)	48 (182)
Max seawater pump suction head lift - in (mm)	39 (1000)	39 (1000)
Sea water pump inlet hose ID - in (mm)	2 (51)	2 (51)
Min. seawater inlet/discharge thru-hull - in (mm)	2 (51)	2 (51)

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

DC starting voltage - standard (optional)	12 (24)	12 (24)
Min battery capacity - amp hr/12V CCA (24V CCA)	90 (C/F)	90 (C/F)
Battery size - CCA 12VDC (24 VDC)	750 (C/F)	750 (C/F)
Starter rolling amps @ 0°C - 12VDC (24VDC)	C/F	C/F
12 Volt battery cable size up to 5 ft (1.5m) - mm <sup>2</sup>	50	50

**Air**

Air consumption - m <sup>3</sup> /m (cfm)	10.5 (371)	11.7 (415)
Approx heat radiated to air - BTU/min	C/F	C/F
Generator cooling air flow 1&3Ø - m <sup>3</sup> /m (cfm)	18 (635)	20.4 (720)
Exhaust gas volume - kg/hr (lb/min)	760 (27.9)	848 (31.2)
Exhaust gas temp - C° (F°)	427 (801)	437 (819)
Max. exhaust back pressure - inch H <sup>2</sup> O (mm H <sup>2</sup> O)	30 (762)	30 (762)
Wet exhaust elbow OD- in (mm)	5 (127)	5 (127)
Dry exhaust elbow in (mm)	4 (102)	4 (102)

**Fuel**

Fuel injection pump type and control	Electronic (HPCR)	Electronic (HPCR)
Min suction line size - in (mm)	0.375 (9.525)	0.375 (9.525)
Min return line size - in (mm)	0.375 (9.525)	0.375 (9.525)
Max fuel transfer pump suction lift - ft (m)	3.28 (1)	3.28 (1)
Max fuel flow to transfer pump at - gph	C/F	C/F
Specific fuel consumption max load - lbs.hp.hr	0.364	0.366
Approx. fuel rate at full load - gph (lph)	C/F	C/F

**Max Engine Operating Angle**

Continuous	C/F	C/F
Intermittent (2 minutes)	C/F	C/F

C/F: Consult factory