

Zenoro Premium Marine Generator

Model: ZAMNLS5725HESE

D2862LE321 Marine Generator Set

572 ekW / 50 HZ 1500 rpm

DIMENSIONS
 contact us for dimensions



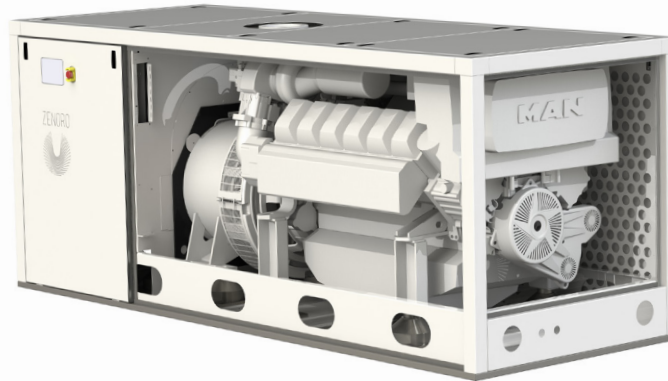
WEIGHT
 dry weight 4780 kg



SOUND REDUCTION
 equal or > than 20 dba at 1 meter
 free field conditions



VIBRATIONS
 low



POWER
 572 ekW 400 V 50 HZ



EMISSION
 IMO 2



COLOURS
 RAL 9010 or custom



ENCLOSURE
 aluminium modular design

GENERATOR RATINGS PRIME (KVA AT POWER FACTOR 0,8)

Voltage	Phase	Amps	ekW/KVA
400/230	3	1032	572/715
380/220	3	1086	572/715
415/240	3	995	572/715

MAN ENGINE SPECIFICATION

V12, 4 CYCLE-DIESEL

Engine type	D2862LE321
Prime Power	600 kWm
Emission	IMO / Tier 2 compliant
Firing order	1-12-2-11-3-10-6-7-5-8-4-9
Displacement	24.24 L (1479 cu. in.)
Rated engine speed	1500
Bore	128 mm (5.04 in.)
Stroke	157 mm (6.18 in.)
Aspiration	Single stage turbocharged & after cooled
Number of Valves	4 valves per cylinder
Injection system	Common Rail
Governor	Electronic diesel control (EDC)
Cooling system	Plate heat exchanger
Air filter	2 x Duralite air filter
Refill capacity	
- Cooling system	100 L (26.5 US GAL)
- Lube oil system	70-90 L (18.5-23.8 US GAL)
Fuel filter	Change-over type
Fuel pre-filter with water	Change-over type, loose supply
Lube oil filter separator	Change-over type, remote
Oil drain & pump	Service side electrical 24 V pump
Oil change interval	Up to 600 hours when fuel & oil requirements are met
Rotation (from flywheel end)	Counter clockwise
Engine crankcase ventilation system	Closed to eliminate engine room contamination
Engine block	High -strength casting with integrated oil & water ducts and replaceable cylinder liners

Turbo charger & exhaust manifold
 Engine lubrication

Water cooled

Average TBO

Closed system with forced feeding by gear pump, oil cooling and filtering

18.000 operating hours

ENGINE ELECTRICAL

Battery voltage	24 volt isolated ground
Starter	7 kW
Battery charging	120 Amps
Battery recommendation	175 Ah, 540 amps (DIN 43539), 900 amps (DIN EN 50342)

COOLING SYSTEM

Seawater pump	Gear driven impeller type
Max. seawater pump suction lift	-0,3 to 0,3 bar
Seawater pump flow	420 Lpm (111 US GAL)
Sea water temp maximum engine in	32 °C
Ambient temperature max.	
- Intake from Engine room	45 °C
- Intake with inlet duct	60 °C

FUEL

Fuel recommended	EN 590
Recommended fuel line inside diameter	Length 20 mm
Total fuel flow	700 L/hr (185 US GAL/hr)
Max. suction head of feed pump	0,35 bar
Max. fuel level above feed pump	0,2 bar

OPERATION REQUIREMENTS

AIR REQUIREMENTS

Engine combustion air	45 m3/min
Cooling air flow required for generator set at 50 °C	84 m3/min
Exhaust flow	95,2 m3/min
Exhaust temperature max	348°C
Max. Exhaust backpressure with	8,0 kPA
Min. Exhaust backpressure	2,0 kPA

FUEL CONSUMPTION*

Diesel fuel consumption at % engine load

100%	137 l/hr	(36.2 US GAL/hr)
75%	105,5 l/hr	(27.9 US GAL/hr)
50%	72 l/hr	(19 US GAL/hr)

Specific fuel consumption 196 g/kWh at 100%

*All above values at rated speed and power. Tolerance +5% according ISO 3046 Specific fuel gravity 0,853@ 60 F (15.5 C)

ZENORO STANDARD FEATURES

- Engine and alternator marine white painted
- Steel frame to support engine & alternator
- Approved vibration isolators
- Drip pan underneath oil & fuel filters
- 1 x Dry exhaust + exhaust compensator with exhaust insulation
- Junction box & controller box in one piece, central service connector
- Emergency button
- ABS, BV classification, other classification societies by option

STANDARD ENGINE SAFETY SYSTEM

- Engine fuel oil pressure low warning & shutdown
- Engine fuel oil leakage from double walled pipes warning
- Engine lube oil pressure low warning
- Engine lube oil pressure low shutdown
- Engine cooling water pressure low warning
- Engine cooling water temperature high warning
- Engine coolant level low warning
- Over speed shutdown
- Belt guard

STANDARD POSITION OF INTERCONNECTIONS

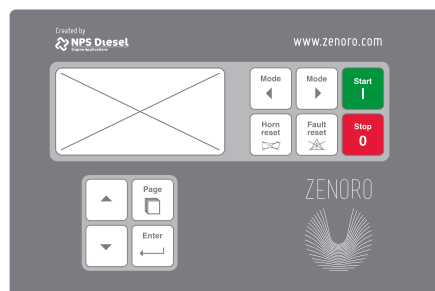
- Fuel connections, fuel inlet/outlet
- Seawater inlet pipe hose connection + rubber seals
- Seawater outlet via pipe hose connection + rubber seals
- Oil drain
- Opening for AC-load leads
- Opening for battery cables

STANDARD HIGH QUALITY HEAVY DUTY SOUND ENCLOSURE

- High quality modular sound enclosure with aluminium extrusion profiles
- RAL 9010 standard color , 2 layers Powder coating, 70% gloss, minimum total layer thickness 120 micron measured according ISO 2808
- Easily built up & dismantle
- Heavy duty service panels, easy removable
- Non-combustible insulation material according IMO (oil & vapour proof)
- Separate generator & engine compartment

ENGINE CONTROLLER PLATFORM FEATURES

- Certified Marine Engine Controller with redundant microprocessor based control for complete engine protection and control
- Engine settings available for Droop load sharing either isochronous load sharing



DISPLAY / USER INTERFACE

- Graphic 128 × 64 pixels display
- English language
- Buttons with mechanical feedback

COMMUNICATION INTERFACES

- Engine speed up/down voltage or current controlled
- Generator ready to start (pot. free contact)
- Engine running (pot. free contact)
- Common warning (pot. free contact)
- Common shutdown (pot. free contact)

ENGINE CONTROL & PARAMETERS

Engine fault code descriptions and codes
Black out start, 3 start attempts
Remote start & stop

Engine parameters are visualized on display and or Modbus RS 232 as:

- | | |
|------------------------|-----------------------|
| - Engine running hours | - Engine status |
| - Oil pressure | - Coolant temperature |
| - Rpm | - Engine load in % |
| - Battery voltage | - Fuel consumption |

HISTORY LOGS

- Event based history
- Reason, Date and Time + all important values are stored
- Battery backed-up RTC

IMPORTANT

Engine controller only, no generator protection, no voltage & power & current measurements. No paralleling functions. Yard responsibility

ALTERNATOR SPECIFICATION

Manufacturer	Leroy Somer
Type	LSAM49.1 L9
Electrical output	572 ekW/715 KVA
Power factor	0,8
Voltage regulator	AVR 450 +/- 0,5%
Type of regulation	AREP
Temp Rise	115°C
Insulation Class	H
Bearing	Single roller bearing
Coupling	Flexible disc
IP	23
Space heater*	250 W 230/240VAC

*To be connected & switched by yard

ALTERNATOR FEATURES

- Compact & low weight
- Standard 12 wire re-connectable winding, 3-phase brushless, 2/3 pitch windings
- High efficiency
- Short circuit current up to 300% of rated current for 10 seconds
- Permanently greased bearings up to 20.000 h

GENERAL

- Plastic wrap packing
- Manuals supplied in cd rom format with instruction, Operating and Maintenance Manual (in PDF format only)
- Factory Quality Report

OPTIONAL

- Wet exhaust mixer outside enclosure for optimum installation
- Wet exhaust temperature high warning & shutdown
- Engine coolant level low warning by Murphy gauge
- Engine oil temperature sensor warning & display
- Seawater flow sensor
- Modbus converter for RS 485 protocol
- Optional Internet/Ethernet connection for remote monitoring
- Electric cable penetrations with Roxtec
- Outside muffler & water separator
- Other Classification societies as DNV-GL, Lloyds, RINA
- Unit certificates for certain notations
- Manuals in hard copy format
- Leroy Somer equipped with 3 phase sensing
- Stainless steel under plate for single elastic mounting
- Double elastics mounting: with heavy underframe minimum 40% of weight above, first & second layer of Rubber Design isolators

OPTIONAL MARINE CERTIFIED CONTROLLER PACKAGE

Marine certified generator controller package:

- Synchronizing, load sharing and breaker control
- Measurement and display of Volts, amps, PF, KW, KVA, kVAR, kWh, kvaHr
- No synchronizing to shore
- No power management
- Circuit breaker (motorized)
- Other details on request

OPTIONAL EXHAUST AFTER TREATMENT SYSTEM

IMO Tier 3 compliant emissions with Zero NOx System

Zero Soot System, electric, fuel burner either passive available

REFERENCE CONDITIONS

Rated speed and power according ISO 3046 (for classification):

- 100 kPa barometric pressure
- 318 K (45°C) inlet air temperature
- 60% inlet air humidity
- 305 K (32°C) see water temperature

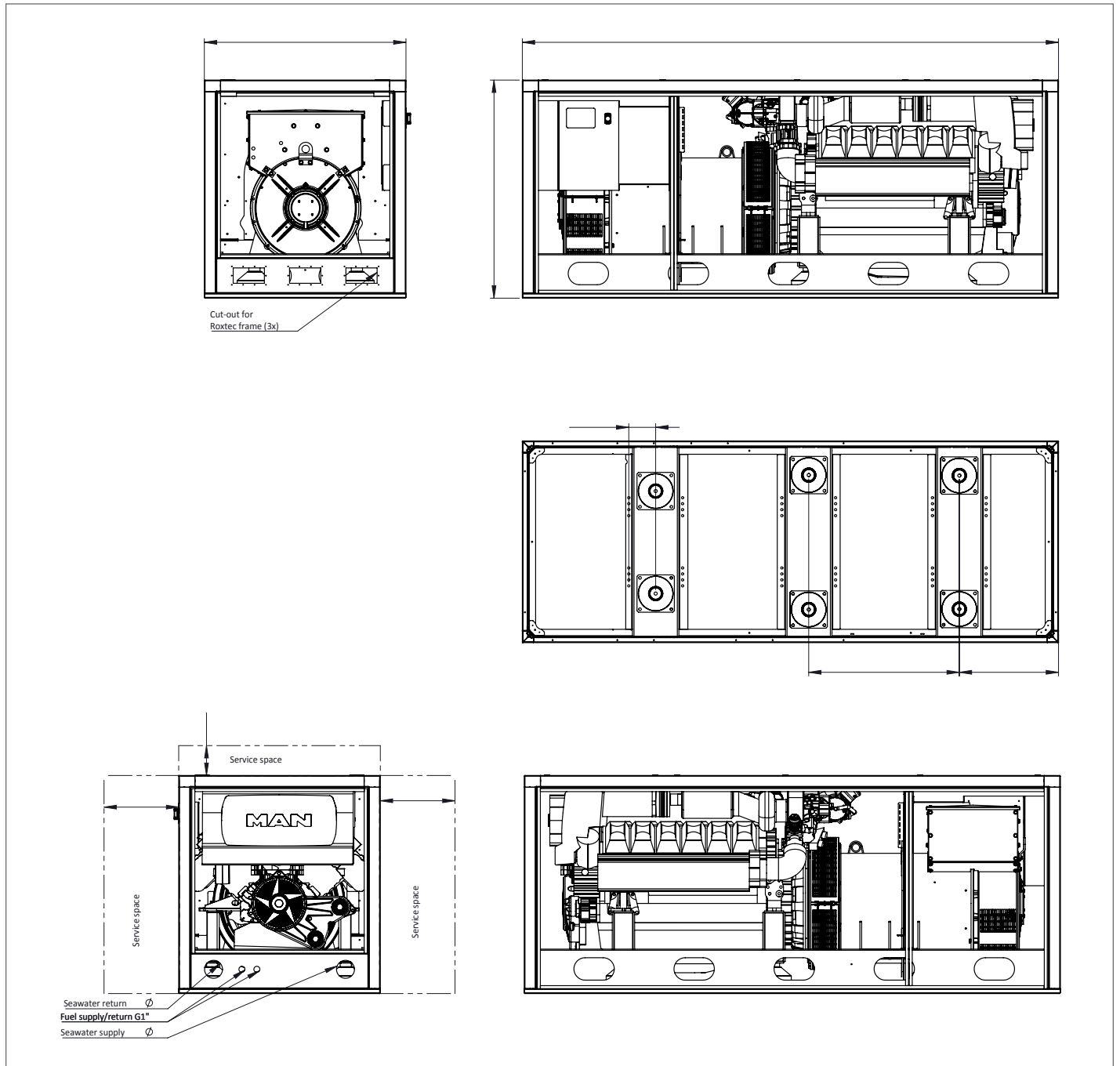
Subject to manufacturing and measurement variations and to change without notice. Actual performance is subject to application and operation conditions outside of Zenoro control.

RATINGS

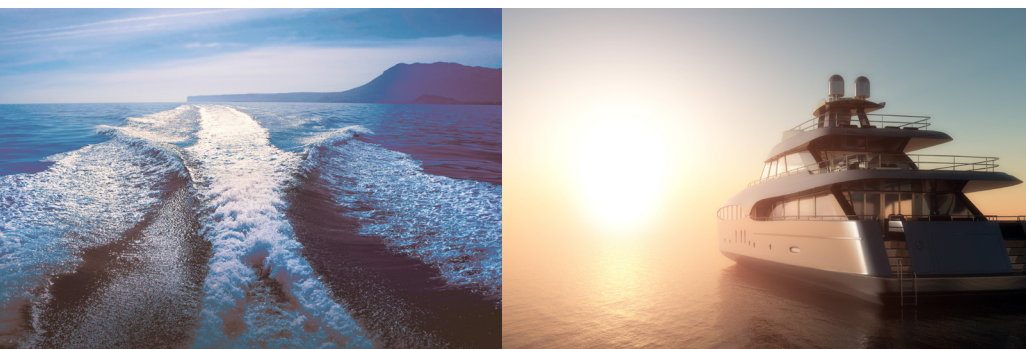
Operation profile: up to 5500 hours per year and a maximum average load < 75%

Marine Generator: The Marine generator engine rating is the power available under normal varying electrical load factors for an unlimited number of hours per year in commercial applications. This rating incorporates a 10% overload capability.

DIMENSIONS



Contact us for dimensions. NOTE: Generator sets to be installed above waterline. If not consult factory.
 This drawing is provided for reference only and is not intended for installation purpose. Contact us either your local distributor for detailed information.



Premium Generators
 for Superyachts