

ZENORO PREMIUM MARINE GENERATOR

4045TFM85 Marine Generator Set

55 ekW / 50 Hz / 1500 rpm

Model: ZAJDLS0555HESE

DIMENSIONS
1754 x 850 x 1046 mm



WEIGHT
dry weight 1150 kg



SOUND REDUCTION
equal or > than 20 dB(A) at
1 meter free field conditions



VIBRATIONS
yacht standard



POWER
55 ekW / 400 V / 50 Hz



EMISSION
IMO exempted



COLOURS
RAL 9010 or custom



ENCLOSURE
modular design

GENERATOR RATINGS PRIME (KVA AT POWER FACTOR 0.8)

| Voltage | Phase | Amps | ekW / kVA |
|-----------|-------|------|------------|
| 400 / 230 | 3 | 99 | 55 / 68.75 |
| 380 / 220 | 3 | 104 | 55 / 68.75 |
| 415 / 240 | 3 | 95 | 55 / 68.75 |

JOHN DEERE ENGINE SPECIFICATION

INLINE 4 CYLINDERS, 4 CYCLE-DIESEL

| | |
|-------------------------------------|---|
| Engine type | 4045TFM85 |
| Prime Power | 61 kWm |
| Emission | IMO exempted |
| Firing order | 1-3-4-2 |
| Displacement | 4.5 L (275 cu. in.) |
| Rated engine speed | 1500 rpm |
| Bore | 106 mm (4.17 in.) |
| Stroke | 127 mm (5.00 in.) |
| Aspiration | Turbocharged |
| Combustion | Direct injection |
| Governor | Electronic |
| Cooling system | Heat exchanged |
| Refill capacity | |
| - Cooling system | 14 L (3.7 US GAL) |
| - Lube oil system | 15 L (3.96 US GAL) |
| Coolant change interval | Up to six years or 6000 hours of operation with John Deere COOL-GARD™ II Premix, COOL-GARD II PG Premix and COOL-GARD II Concentrate. |
| Oil change interval | 375 hours with John Deere "Plus-50 Oils" & use of Low Sulphur fuel <1000 ppm. |
| Rotation (from flywheel end) | Counter clockwise |
| Engine crankcase ventilation system | Closed to eliminate engine room contamination |

ENGINE ELECTRICAL

| | |
|------------------------|-------------------------|
| Battery voltage | 24 volt isolated ground |
| Battery charging | 50 amps |
| Battery recommendation | 625 CCA |

COOLING SYSTEM

| | |
|----------------------------------|---------------------------|
| Seawater pump | Gear driven impeller type |
| Max. seawater pump suction lift | 3.0 m (10 ft) |
| Seawater pump flow | 78 L/m (21 US GAL/m) |
| Sea water temp maximum engine in | 32 °C |

FUEL

| | |
|---|--|
| Fuel recommended | EN 590 or ASTM D975 |
| Fuel injection system | HPCR |
| Recommended fuel line inside diameter | 5 mm* |
| *Max. fuel inlet restriction | 20 kPa |
| Total fuel flow | 71 L/hr (18.8 US GAL/hr) |
| Maximum fuel height above transfer pump | 2.4 m |
| Fuel pre-filter | Yard supply min. 30 micron, recom. 10 micron |

OPERATION REQUIREMENTS

AIR REQUIREMENTS

| | |
|---|---------------------------|
| Engine combustion air | 4.2 m³/min |
| Max air intake restriction (dirty) | 6.25 kPa |
| Ambient temperature max. | 45 °C |
| Cooling air flow required for generator | 15.72 m³/min set at 45 °C |
| Exhaust flow | 10.51 m³/min |
| Exhaust temperature max. | 482 °C |
| Maximum exhaust backpressure | 7.5 kPa |

FUEL CONSUMPTION

| Diesel fuel consumption at % load | | |
|-----------------------------------|-----------|-----------------|
| 100% | 16.6 L/hr | (4.4 US GAL/hr) |
| 75% | 12.3 L/hr | (3.3 US GAL/hr) |
| 50% | 8.5 L/hr | (2.2 US GAL/hr) |
| 25% | 4.9 L/hr | (1.3 US GAL/hr) |

All above values at rated speed and power at standard conditions per SAE J1995 unless otherwise noted.



ZENORO STANDARD FEATURES

- Engine and alternator marine white painted
- Single service side (oil filter, fuel filter & air filter)
- Double walled fuel lines
- Steel frame to support engine & alternator
- Approved vibration isolators
- Wet elbow through enclosure 4 inch connection
- Junction box & controller box in one piece, central service connector
- Emergency button
- ABS, BV, RINA classification, other classification societies by option

STANDARD ENGINE SAFETY SYSTEM

- Horn for alarm warnings
- Engine oil pressure low warning & shutdown
- Engine coolant temperature high warning & shutdown
- Wet exhaust elbow temperature high warning & shutdown
- Fuel oil leakage from double walled fuel lines warning
- Over speed shutdown
- Belt guard

STANDARD POSITION OF INTERCONNECTIONS, SEE DRAWING

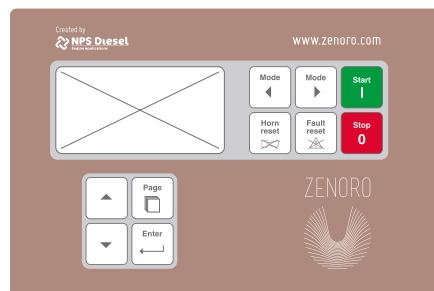
- Fuel connections, fuel inlet/outlet
- Seawater inlet pipe hose connection
- Seawater outlet via wet elbow
- Oil drain
- Opening for AC-load leads
- Opening for battery cables

STANDARD HIGH QUALITY HEAVY DUTY SOUND ENCLOSURE

- High quality modular sound enclosure with aluminium extrusion profiles & standard zincor panels
- RAL 9010 standard color, 2 layers powder coating
- 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

- 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 | LSAM44.3 S2 |
| Electrical output | 55 kW / 68.75 kVA |
| Power factor | 0.8 |
| Automatic Voltage Regulator | D350 digital AVR |
| | Regulation accuracy (+/- 0.25%) |
| Type of regulation | AREP |
| Temp Rise | 115 °C |
| Insulation Class | H |
| Bearing | Single roller bearing |
| Coupling | Flexible disc |
| IP | 23 |
| Space heater* | 125 W / 230 - 240 VAC |

*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 digital format with instruction, operating and maintenance manual (in PDF format only)
- Factory quality report

OPTIONAL

- Drip pan underneath fuel filter(s)
- Engine coolant level low warning by Murphy gauge
- Engine oil temperature sensor warning & display
- Duplex fuel oil filter switchable
- Dry exhaust
- Engine oil drain with hose & hand pump
- Seawater flow sensor
- Modbus converter for RS 485 protocol
- Circuit breaker (motorized)
- Optional internet/ethernet connection for remote monitoring
- Electric cable penetrations with Rextec
- Siphon break
- Muffler & water separator (external or integrated)
- PTO (power take off front)
- Other classification societies as Lloyds, GL-DNV
- Manuals in hard copy format
- Sound enclosure with aluminium panels
- Stainless steel baseplate for single elastic
- Double elastic mounts (2 layers)

OPTIONAL EXHAUST AFTER TREATMENT SYSTEM

Zero Soot System fuel burner either electrical regenerated, for details see www.xeamos.com

Exhaust after treatment can be integrated on top of the sound enclosure. If applicable fuel set & blower will be mounted inside sound enclosure.

REFERENCE CONDITIONS

- Rated speed and power
- Gross Power guaranteed within +/-5% at SAE J1995 and ISO3046
- J1995 and ISO 1346 conditions:
 - 25 °C (77 °F) air inlet temperature
 - 99 kPa (29.31 in. Hg) barometric pressure
 - 40 °C (104 °F) fuel inlet temperature
 - 0.853 fuel specific gravity @ 15 °C (60 °F)

Ambient air temperature is defined to be the temperature of ambient air close to operating vessel that is not influenced at any manner by operating characteristics of the vessel (free field temperature).

All values from current available data. Subject to manufacturing and measurement variations and to change without notice. Actual performance is subject to application and operation conditions outside of Zenoro control.

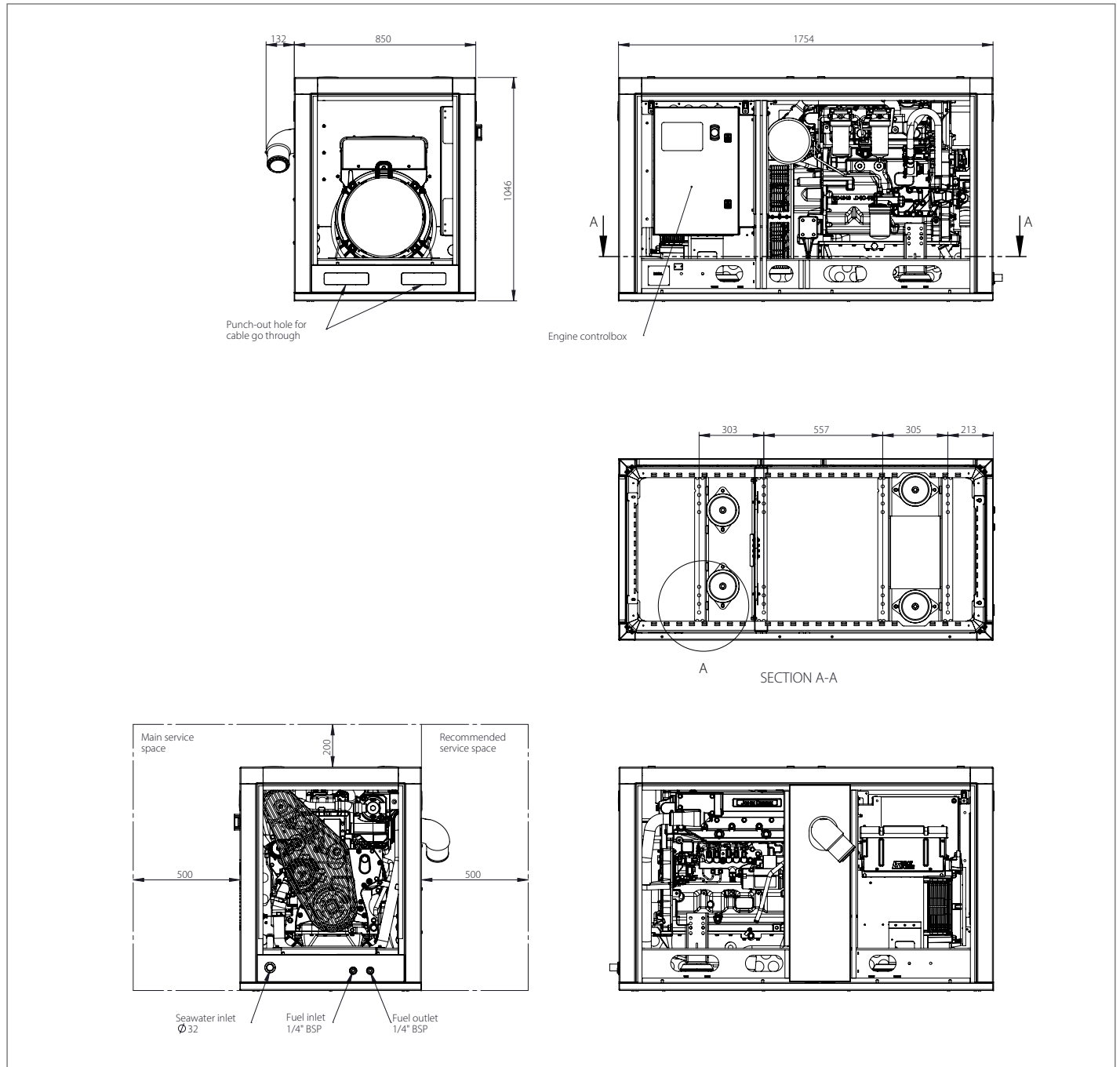
RATINGS

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, and conforms to ISO 8528 prime power. Average load over a 24-hour period shall not exceed 67% of the prime rating, of which no more than 2 hours are between 100% and 110% of the prime rating.

The marine generator rating is restricted to generator applications only. The criteria used to establish marine generator application ratings are the same used to establish industrial prime power generator application ratings.

DIMENSIONS



NOTE: Generator sets to be installed above waterline. If not consult factory. Minimum space required to remove air panels 200 mm, non air panels 80 mm. This drawing is provided for reference only and is not intended for installation purpose. Contact us either your local distributor for detailed information.

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