RMC

RICH MOTOR COMPANY

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RMC Sells, Builds, & Operates Power Generators in Emmerging markets

P 2250-2500 Data Sheet

Output Ratings		
Voltage, Frequency	Prime	Standby
400V, 50HZ	1250KVA/1385KWe	1250KVA/1000KWe

Ratings and Performance Data			
Engine Make & Model:	Perkins4016-61TRG3		
Alternator Make and Model	OPTION A	OPTION B	OPTION C
	LSA 50.2 L9	-	-

Control Panel	DSE 7320MKII
Base Frame	Heavy duty fabricated steel
Circuit breaker type	3Pole ACB LS-ABB-Schneider 3500A
Frequency	50
Engine Speed	1500
Fuel Tank Capacity for open type	2500L

Exhaust Sytstem		50hz	60hz
Maximum Allowable Back Pressure: kPa		3.0 kPa	-
Exhaust Gas flow m^3/min			
	Prime	230	235
	Standby	230	235
Exhaust Gas temperature °C			-
	Prime	422	430
	Standby	422	430

Prime Rating Prime power: Variable load. Unlimited hours usage with an average load factor of 80% of the published prime power over each 24 hour period.
A 10% overload is available for 1 hour in every 12 hours of operation. Standby power: Variable load. Limited to 500 hours annual usage, up to
300 hours of which may be continuous running. No overload is permitted.

Standby Rating These ratings are applicable for supplying continuous electrical power (at variable load) in the event of a utility power failure. No overload is permitted on these ratings. The alternator on this model is peak continuous rated (as defined in ISO 8528-3).

Standard Reference Conditions Note: Standard reference conditions 25°C (77°F) Air Inlet Temp, 100m (328 ft) A.S.L. 30% relative humidity. Fuel consumption data at full load with diesel fuel with specific gravity of 0.85 and conforming to BS2869: 1998, Class A 2 The above ratings represent the engine performance capabilities to conditions specified in ISO 8528/1, ISO 3046/1:1986, BS5514 and DIN 6271

Specification

Number of cylinders	12 60° Vee form
Bore and stroke	160 x 190 mm | 6.3 x 7.5 in
Displacement	45.842 litres | 2797 in3
Aspiration	Turbocharged and air to water charge cooled
Cycle	4 stroke
Combustion system	direct injection
Compression ratio	13.6:1
Rotation	Anti-clockwise, viewed on flywheel
Total lubricating capacity	177 litres | 46.7 US gal
Cooling system	Water cooled
Total coolant capacity	201 litres | 53 US gal
Power Factor	0.8

Technical informaion

Air inlet
Mounted air filter and turbochargers

Fuel system
Direct fuel injection system with fuel lift pump
Governing to ISO 8528-5 class G2 with isochronous capability
Full-flow spin-on fuel oil filte

Lubrication system
l Wet sump with filler and dipstick
l Full-flow spin-on oil filters
l Engine jacket water/lub oil temperature stabiliser

l Two twin thermostats / l System designed for ambients up to 50ºC
l Powder coated radiator comprising: water radiator; fuel oil cooling (optional); all pipes, hoses and clips; fan; pulleys;
fan belts and safety guards

Electrical equipment
24 volt starter motor and 24 volt alternator with integral regulator and DC output
Overspeed switch and magnetic pickup
Turbine inlet temperature shutdown switch
Twin high coolant temperate shutdown switches
Twin low oil pressure shutdown switches

Flywheel and housing
l Flywheel to SAE J620 size 18
l SAE 00 flywheel housing

Mountings
Front and rear engine mounting brackets

Perkins®

LEROY SOMER®

LINZ® ELECTRIC The Electric Generation

Alternator Physical Data

Specially adapted to applications

The LSA 50.2 alternator is designed to be suitable for typical generator applications, such as: backup, marine applications, rental, telecommunications, etc.

Compliant with international standards

The LSA 50.2 alternator conforms to the main international standards and regulations:
- IEC 60034, NEMA MG 1.32-33, ISO 8528-3, CSA / UL 1446 (UL 1004 on request), marine regulations, etc.

It can be integrated into a CE marked generator.

The LSA 50.2 is designed, manufactured and marketed in an ISO 9001 environment and ISO 14001.

Manufactured By Leroy Somer EU/ linz EU	LSA[1]		
Model	LSA 50.2 L9	-	-
No. of Bearings:	1		-
Insulation Class	H		-
Winding Pitch Code:	2/3 (N° 6S)		-
Wires:	6		-
Ingress Protection Rating:	IP23		-
Excitation System:	AREP OR PMI		-
AVR Model:	D510C		-
Overspeed: rpm	2250 min-1	-	
Voltage Regulation: (Steady state)	± 0.5%	-	
Wave Form NEMA = TIF:	< 50	-	
Wave Form IEC = THF:	< 2%	-	
Total Harmonic content LL/LN:	< 3.5%	-	
Radio Interference:	R 791 interference suppression conforming to standard EN 61000-6-3, EN 61000-6-2, EN 55011 group 1 class B standard for European zone (CE marking).		
Radiant Heat: kW (Btu/min)	41710	41710	-

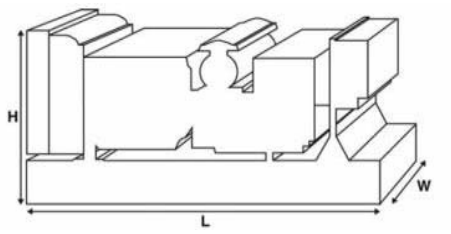
Alternator Performance Data	50Hz			60 HZ
Data Item	400V	480V		220/127V
Motor Starting Capability* KVA	8266	8870		*
Short Circuit Capacity** %	* 300	* 300	*	*
Reactances: Per Unit				
Xd	344	344		
X'd	26.1	26.1		
X''d	13.2	13.2		

*Reactances shown are applicable to prime ratings. *Based on 30% voltage dip at 0 power factor.Reactances shown are applicable to prime ratings. *Based on 30% voltage dip at 0.0 power factor and SHUNT excitation. **With optional permanent magnet generator or AREP excitation

Emissions

All 4016-61TRG ratings are optimised to "Best Fuel Consumption" and do not comply to harmonised International regulation emission limit.

Generator Set Standards The equipment meets the following standards: BS5000, ISO 8528, ISO 3046, IEC 60034, NEMA MG-1.22. RMC is a fully accredited ISO 9001 company.



Dimensions And Weights

Length (L) in mm	Width (W) in mm	Height (H) in mm	Weight (Kg)
6000	2185	3895	11000

Fuel consumption	1500rpm	1800rpm
Standby power	528/H	
Prime power	473L/H	
75%	346L/H	
50%	235L/H	
Fuel Tank Capacity for open type	2500L	

Recommedned fuel Type and oil Type

Fuel specification: BS2869: Class A1 .

Recommended lubricating oil to conform with the specification of API CH4 15W-40 or MIL - L - 2104C

Controller Technical specs

Make And Model: **Deep Sea PLC 7320 MK2**

AUTO START AND AUTO MAINS FAILURE CONTROL MODULES

Key Feature:

- 4-Line back-lit LCD text display
- Multiple Display Languages
- Five key menu navigation
- LCD alarm indication
- Heated display option available
- Customisable power-up text and images
- DSENet expansion compatibility
- Data logging facility
- Internal PLC editor
- Protections disable feature
- Fully configurable via PC using USB, RS232 & RS485 communication
- Front panel configuration with PIN protection
- Power save mode
- 3 phase generator sensing and protection
- 3 phase mains (utility) sensing and protection (DSE7320 MKII only)
- Automatic load transfer control (DSE7320 MKII only)
- Generator current and power monitoring (kW, kvar, kVA, pf)
- Mains current and power monitoring (kW, kvar, kVA, pf) (DSE7320 MKII only)
- kW and kvar overload and reverse power alarms
- Over current protection
- Unbalanced load protection
- Independent earth fault protection
- Breaker control via fascia buttons
- 3 configurable maintenance alarms
- Compatible with a wide range of CAN engines, including tier 4 engine support
- Uses DSE Configuration Suite PC Software for simplified Configuration
- Fuel and start outputs configurable when using CAN
- 6 configurable DC outputs
- 2 configurable volt-free relay outputs
- 6 configurable analogue/digital inputs
- Support for 0 V to 10 V & 4 mA to 20 mA sensors
- 8 configurable digital inputs
- Configurable 5 stage dummy load and load shedding outputs
- CAN, MPU and alternator frequency speed sensing in one variant
- Real time clock
- Manual and automatic fuel pump control
- Engine pre-heat and post-heat functions
- Engine run-time scheduler
- Engine idle control for starting & stopping
- Fuel usage monitor and low fuel level alarms
- Simultaneous use of RS232 and RS485 communication ports
- True dual mutual standby using RS232 or RS485 for accurate engine hours balancing.
- MODBUS RTU support with configurable MODBUS pages.
- Advanced SMS messaging (additional external modem required)
- Start & stop capability via SMS messaging
- Licence-free PC software
- IP65 rating (with supplied gasket) offers increased resistance to water ingress
- Modules can be integrated into building management systems (BMS) using MODBUS RTU

Warranty

All prime equipment, limited to 2,000 running hours per year, has a one year manufacturer's warranty. Standby equipment, limited to 500 running hours per year, has a two year manufacturer's warranty. For details on warranty cover please contact Rich Motor , or visit our website: www.richmotor.com

RMC is the most trusted supplier of power and O&M services in UAE and The Middle East . We build, install, and service power solutions tailored to fit any need up to 2MW.

BAS CERTIFICATION BAS ISO 9001 REGISTERED

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Sound Proof P-2250

Our compact design of the P-2250 Kva Normal and Super enclosures ensure optimum performance in the harshest environments. Designed and Fabricated using the latest technology and high-tech equipments, RMC Enclosures are built to Last. Doors & access panels can be Opened 180 degress to allow easy maintenanace and service access. Extremely durable and robust, the enclosures are designed to resist corrosion and handling damage with the ability to withstand rough handling common on many construction sites. throught the years RMC Specialist and Engineers have researched and developped the performace , looks and pratcticality of the enclosure. All our enclosure are weather Proof , corrosion resistant using only galvanized steel sheet, sound absorbant material with rockwhool insulation covered with a layer of perforated galavanized steel sheet and a residential exhaust muffler . It offers durability and high sound suppression.

Excellent Access for Maintenance

* 4 Access Doors for better service space
* 2 acces doors on the front and back
* Lube Oil and Coolant drainage valve
* external fuel filling Gauge with Level indicator
* Buil In Ladder

Robust Corrosion Free Enclosure

*40 Feet ISO Container
* stainless steel locks and hinges
* Zinc plated / stainless steel fasteners

Transportability

* 4 corner Lifting points ontop of the roof
*Two Forklift pocket at the bottom of the Base frame facilitating handling

Security and Safety

*Control panel viewing via large viewing window in lockable enclosure door
* Emergency stop push button mounted on enclosure exterior & one on the control panel
*Cooling fan and battery charging alternator fully guarded
*Fuel fill and battery can only be reached via lockable access doors and gauges
*Fully enclosed exhaust silencing system for operator safety

Fuel Tank

BuiltIn fuel tank - Extendable
*External bulk tank connection provision via ball valve mounted on the side of the enclosure

Optional Equipment :

Electronic fuel level sensor
Fuel Leak detector
Double skin tank
Manual/Automatic fuel filling pump
* kindly refere to one of our sales team to know more about the extra options

Generator Set Model 40' Containaer		50Hz						60Hz					
		15m		7m		1m		15m		7m		1m	
		75% Load	100% Load	75% Load	100% Load	75% Load	100% Load	75% Load	100% Load	75% Load	100% Load	75% Load	100% Load
P-2250	Prime	74.8	75.9	79.6	79.8	82.0	83.2	N/A					
	Standby	74.8	75.9	79.6	79.8	82.0	83.2						

Dimensions and Weights

Genset Model	L	W	H	Weight	Fuel
P-2250 40' Container	in mm	in mm	in mm	in Kg	
	12190	2440	4150	19000	2500L

The mentioned data in this sheet are subject to change without prior notice , Due to continuous research and development.

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