



RICH MOTOR COMPANY

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



P 2000-2520 Data Sheet

Output Ratings		
Voltage, Frequency	Prime	Standby
400V, 50HZ	2000KVA/1600KWe	2250KVA/1800KWe

Ratings and Performance Data			
Engine Make & Model:	Perkins 4016-61TRG2		
Alternator Make and Model	OPTION A	OPTION B	OPTION C
	LSA 52.356	-	-

Control Panel	DSE 7320MKII		
Base Frame	Heavy duty fabricated steel		
Circuit breaker type	3Pole ACB LS-ABB-Schneider 3000A		
Frequency	50		
Engine Speed	1500		
Fuel Tank Capacity for Open type	2500L		

Exhaust System	50hz	60hz
Maximum Allowable Back Pressure:		
kPa	3.0 kPa	-

Exhaust Gas flow	m ³ /min	Prime	Standby
		400	420

Exhaust Gas temperature °C	Prime	Standby
	422	422

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	16 60° Vee form	
Bore and stroke	160 x 190 mm	6.3 x 7.5 in
Displacement	61.123 litres	3730 in3
Aspiration	Quad turbocharged. 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	237.2 litres	62.7 US gal
Cooling system	Water cooled	
Total coolant capacity	252 litres	66.6 US gal
Power Factor	0.8	

Technical infoaion

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 filter

Lubrication system

Two triple thermostats
System designed for ambients up to 50°C
Powder coated radiator comprising: water radiator, air charge-cooled radiator, fuel oil
Two twin thermostats / System designed for ambients up to 50°C
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
Turbine inlet temperature shutdown switch
Twin high coolant temperate shutdown switches
Twin low oil pressure shutdown switches
Air shut off valve wiring harness – fully wired

Flywheel and housing

Flywheel to SAE J620 size 18, 533.4 mm (21 in)
SAE 00 flywheel housing

Mountings

Front and rear engine mounting brackets

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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
Model	LSA 52.3S6
No. of Bearings:	1
Insulation Class	H
Winding Pitch Code:	2/3 (wdg 6)
Wires:	6 (Option 12)
Ingress Protection Rating:	IP23
Excitation System:	AREP OR PMG
AVR Model:	R450

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 55011 group 1 class B standard for European zone (CE marking).

Radiant Heat: kW (Btu/min)	80
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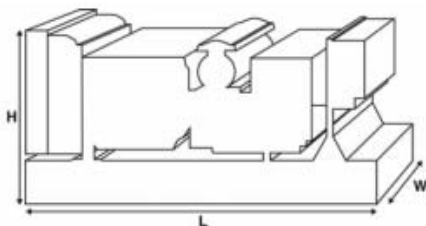
Alternator Performance Data	50Hz		60 HZ
	400V	480V	220/127V
Data Item			
Motor Starting Capability* KVA	2883	3093	*
Short Circuit Capacity** %	*	*	*
Reactances: Per Unit			
Xd	344	344	
X'd	26.1	26.1	
X''d	13.2	13.2	

*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	Width (W) in	Height (H) in	Weight (Kg)
mm	mm	mm	11000
5700	2780	3895	

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

Fuel consumption	1500rpm	1800rpm
Standby power	477/H	
Prime power	421L/H	
75%	337L/H	
50%	216L/H	-
Fuel Tank Capacity for Open type	2500L	

Recommended 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

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.





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Sound Proof P-2000

Our compact design of the P-2000 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 degrees to allow easy maintenace 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 developed 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 rockwool 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

Transportability

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

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 referre to one of our sales team to know more about the extra options

Robust Corrosion Free Enclosure

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

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

50Hz

60Hz

Generator Set Model 40' Container	15m	7m				1m		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-2000	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-2000 40' Container	in mm	in mm	in mm	in Kg	
	12190	2440	4150	19000	2500L

Images are the property of Rich Motor company FZE

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



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