RMC

RICH MOTOR COMPANY

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

## P 100 - 110 Data Sheet

| Output Ratings | | |
|---|---|---|
| Voltage, Frequency | Prime | Standby |
| 400V, 50HZ | 101.4kva/81.4KWe | 111.9kva/89.6Kwe |
| 220/127, 60 HZ | 114.4kVA/91.5kWe | 126.5kVA/101.2kWe |

| Ratings and Performance Data | | | |
|---|---|---|---|
| Engine Make & Model: | Perkins 1104C-44TAG2 | | |
| Alternator Make and Model | OPTION A | OPTION B | OPTION C |
| | LSA44.3S5 | TAL044D | LINZ PRO 22SD/4 |

| | | | |
|---|---|---|---|
| Control Panel | DSE6020MK2 | | |
| Base Frame | Heavy duty fabricated steel | | |
| Circuit breaker type | 3Pole MCCB LS-ABB-Schneider 150A | | |
| Frequency | 50 OR 60 Hz | | |
| Engine Speed | 1500 OR 1800rpm | | |
| Fuel Tank Capacity for OpenType | 120L | | |
| **Exhaust Sytstem** | | **50hz** | **60hz** |
| Maximum Allowable Back Pressure: kPa | | 15 kPa | 18kPa |
| Exhaust Gas flow $m^3$/min | | | |
| | Prime | 15.2 | 18.4 |
| | Standby | 16.3 | 20.4 |
| Exhaust Gas temperature °C | | | |
| | Prime | 514 | 543 |
| | Standby | 517 | 574 |

**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, BS5514/1.

## Specification

| | |
|---|---|
| Number of cylinders | 4 vertical in-line |
| Bore and stroke | 105 x 127 mm \| 4.1 x 5 in |
| Displacement | 4.4 litres \| 268.5 in3 |
| Aspiration | TURBOCHARGED AIR TO AIR CHARGE COOLED |
| Cycle | 4 stroke |
| Combustion system | Indirect injection |
| Compression ratio | 18.2:1 |
| Rotation | Anti-clockwise, viewed on flywheel |
| Total lubricating capacity | 8.0 litres \| 2.1 US gal |
| Cooling system | Water cooled |
| Total coolant capacity | 13 litres \| 3.43 US gal |
| Power Factor | 0.8 |

## Technical informaion

**Air inlet**

-Mounted air filter

**Fuel system**

Rotary type pump
·Next generation fuel filter

**Lubrication system**

Wet steel sump with filler and dipstic
Spin-on full-flow lub oil filter

**Cooling system**

Thermostatically-controlled system with gear-driven circulation pump and belt-driven pusher fan
Mounted radiator, piping and guards

**Electrical equipment**

12 volt starter motor and 12 volt 65 amp alternator with DC output
Oil pressure and coolant temperature switches
12 volt shut-off solenoid energised to run

**Flywheel and housing**

1500/1800 rev/min
High inertia flywheel to SAE J620 size 10/11½
SAE 3 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 44.3 alternator is designed to be suitable for typical generator applications, such as: backup, marine applications, rental, telecommunications, etc.

Compliant with international standards

The LSA 44.3 alternator conforms to the main international standards and regulations:

- IEC 60034, NEMA MG 1.32-33, ISO 8528-3, CSA / UL 1146 (UL 1004 on request), marine regulations, etc.

It can be integrated into a CE marked generator.

The LSA 44.3 is designed, manufactured and marketed in an ISO 9001 environment and ISO 14001.

| Manufactured By Leroy Somer EU/ linz EU | LSA[1] | TAL[2] | LINZ[3] |
|---|---|---|---|
| Model | **LSA44.3S5** | **TAL044D** | **LINZ PRO 22SD/4** |
| No. of Bearings: | 1 | 1 | 1 |
| Insulation Class | H | H | H |
| Winding Pitch Code: | 2/3 (wdg 6) | 2/3 (wdg 6S) | 2/3 (wdg 6S) |
| Wires: | 12 | 6 | 12 |
| Ingress Protection Rating: | IP23 | IP23 | IP23 |
| Excitation System: | SHUNT | SHUNT | SHUNT |
| AVR Model: | R220 | R120 | HVR11 |
| Short-circuit current | - | - | - |
| Overspeed: rpm | 2250 min-1 | 2250 min-1 | 2250 min-1 |
| Voltage Regulation: (Steady state) | ± 0.5% | ± 1% | ± 1% |
| Wave Form NEMA = TIF: | < 50 | < 50 | < 50 |
| Wave Form IEC = THF: | < 2% | < 2% | < 2% |
| Total Harmonic content LL/LN: | < 4% | < 4% | < 4% |
| Radio Interference: | Suppression is in line with European Standard EN55011 | | |
| Radiant Heat: kW (Btu/min) | 5810 | 5810 | 5810 |

| Alternator Performance Data | 50Hz | | | 60 HZ |
|---|---|---|---|---|
| Data Item | 415/240V | 400/230V | 380/220V | 220/127V |
| Motor Starting Capbility KVA | 125 | 116 | 105 | * |
| Short Circuit Capacity % | * | * | * | * |
| Reactances: Per Unit | | | | |
| Xd | 2.88 | 3.1 | 3.43 | |
| X'd | 0.24 | 0.26 | 0.29 | |
| X''d | 0.092 | 0.099 | 0.11 | |

*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

Certified against the requirements of EU 2007 (EU 97/68/EC Stage II) legislation for non-road mobile machinery,powered by constant speed engines.

| Fuel consumption | 1500rpm | 1800rpm |
|---|---|---|
| Standby power | 24.9L/H | 24.4L/H |
| Prime power | 22.6L/H | 22.3L/H |
| 75% | 17.1L/H | 16.9L/H |
| 50% | 11.2L/H | 11.9L/H |

**Fuel Tank Capacity for OpenType 120L**

## Recommedned fuel Type and oil Type

Fuel specification: BS 2869:

Part 2 1998 Class A2 or DIN EN 590. Lubricating oil: 15W40 to API CG4.

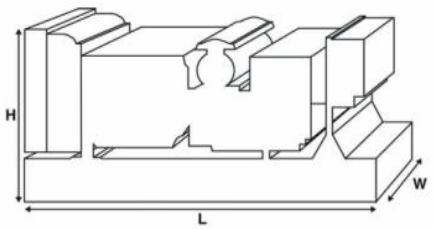
## Controller Technical specs

**Make And Model** **Deep Sea PLC 6020 MK2**

**AUTO START AND AUTO MAINS FAILURE CONTROL MODULES**

## Key

- Efficient power save mode
- 3 phase generator sensing
- 3 phase mains (utility) sensing
- Generator/load power monitoring (kW, kV A, kV Ar, pf)
- Generator overload protection (kW)
- Generator/load current monitoring and protection
- Breaker control via fascia buttons
- Fuel and start outputs,
- 4 configurable DC outputs
- 4 configurable analogue/digital input
- 6 configurable digital inputs
- Support for 0-10 V & 4-20 mA oil pressure sensors
- Configurable staged loading outputs
- Configurable event log (50)
- LCD and LED alarm indicatio
- Comprehensive warning, electrical trip or shutdown protection upon fault conditio
- Engine speed protection
- Engine hours counter
- Engine pre-heat
- Engine run-time scheduler
- Engine idle control for starting & stopping
- Fuel pump control
- Real time cloc
- Battery voltage monitoring
- 3 engine maintenance alarms
- CAN, MPU and alternator speed sensing in one variant




## Dimensions And Weights

| Length (L) in mm | Width (W) in mm | Height (H) in mm | Weight (Kg) |
|---|---|---|---|
| 2050 | 770 | 1260 | 1200 |

## 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-100

Our compact design of the P-100 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

### Robust Corrosion Free Enclosure

*Galvanised steel protected by powder coat paint
*Black finish stainless steel locks and hinges
* Zinc plated / stainless steel fasteners

### Transportability

*Central 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 | | 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-100 | Prime | 68.8 | 68.8 | 75.0.6 | 75.8 | 78.0 | 78.2 | 72.4 | 73.0 | 76.1 | 76.5 | 80.2 | 80.9 |
| | Standby | 68.8 | 68.8 | 75.0.6 | 75.8 | 78.0 | 78.2 | 72.4 | 73.0 | 76.1 | 76.5 | 80.2 | 80.9 |

### Sound Pressure Levels (dBA) Super Silent Enclosure

| Generator Set Model | | 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-100 | Prime | 65.2 | 65.5 | 67.9 | 68.0 | 72.2 | 72.6 | 68.3 | 69.2 | 73.1 | 73.6 | 76.2 | 77.0 |
| | Standby | 65.2 | 65.5 | 67.9 | 68.0 | 72.2 | 72.6 | 68.3 | 69.2 | 73.1 | 73.6 | 76.2 | 77.0 |

### Dimensions and Weights

| Genset Model | L in mm | W in mm | H in mm | Weight in Kg | Fuel Tank Capacity in L |
|---|---|---|---|---|---|
| Normal | 2650 | 1100 | 1530 | 1400 | 130 |
| Super Silent | 2940 | 1100 | 1580 | 1550 | 137 |

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