HULOOL MOTORS LLC FZ
حلـول للمحـركات
HULOOL MOTORS

GENERATOR SET MODEL (HM-2000)

Technical Data Sheet

ALTERNATOR DATA	
Make	Leroy Somer
Model	LSA52.3S6
No. of bearings	1
Insulation class	H
Total Harmonic Content	<4%
Ingress Protection	IP23
Excitation System	AREP
Winding Pitch	2/3
AVR Model	D510C
Overspeed	2250 mn-1
Voltage Regulation (steady)	± 0.5%
Short Circuit Capacity	300% (3 In): 10s

GENERATOR SET MODEL (HM-1500)

OUTPUT RATINGS	PRIME	STANDBY
400-415 V, 3 ph, 50 Hz, 1500 rpm	2000 KVA (1600 KW)	2200 KVA (1760 KW)

ENGINE / TECHNICAL DATA		
Engine Make	Perkins	
Engine Model	4016-TAG2A	
Governing Class	ISO 8528-5 G2	
Number of Cylinders	16	
Cylinder Arrangement	60° Vee Form	
Bore and Stroke	160 mm x 190 mm	
Displacement / Cubic Capacity	61.123 L	
Induction System	Turbocharged	
Cycle	4 stroke	
Combustion System	Direct Injection	
Compression Ratio	13.6:1 L	
Rotation	Anti-clockwise, viewed on flywheel	
Cooling System	Water - cooled	
Frequency and Engine Speed	50 Hz & 1500 rpm	
	PRIME	STANDBY
Gross Engine Power	1766 kW (2367 hp)	1937 kW (12597 hp)
Fuel Consumption @ 50% load	210.0 L/hr	-
@ 75% load	316.0 L/hr	-
@ 100% load	434.0 L/hr	483.0 L/hr.
Total Lubrication System Capacity	214.0 L	214.0 L
Total Coolant Capacity (Inc. radiator)	316.0 L	316.0 L
Boost Pressure Ratio	3.49	3.8
Exhaust Temperature	493°C	493°C
Radiator Cooling Air Flow (Min)	40.5 m^3/s	40.5 m^3/s
Combustion Air Flow	137.0 m^3/min	145.0 m^3/min
Exhaust Gas Flow	320.0 m^3/min	387.0 m^3/min

GENERAL SPECIFICATIONS

1. ENGINE
Perkins four stroke heavy duty high performance industrial type diesel engine.

2. COOLING RADIATOR
Radiator and cooling fan, complete with safety guards, designed to cool the engine at high ambient temperatures. (Consult your dealer for deration factors)

3. EXHAUST SYSTEM
Heavy duty Industrial Exhaust Silence.

Silencer noise reduction level	-
Maximum allowable back pressure	6.6 (kPa)

4. CIRCUIT BREAKER TYPE
3 pole ACB ABB (supplied disconnected and without cables).

5. FUEL SYSTEM
On Generating Sets up to 700 KVA, the baseframe design is incorporated with an integral fuel tank with a capacity of approx.
8 hours running at Full Load. The tank is supplied complete with fill cap breather, fuel feed and return lines to the Engine and drain plug.

6. ALTERNATOR

- **INSULATION SYSTEM**
  - The insulation system is Class H.
  - All windings are impregnated in either a triple dip thermosetting liquid, oil and acid resisting polyester varnish or vacuum pressure impregnated with a special polyester resin.
  - Heavy coat of antitracking varnish additional protection against moisture or condensation.
- **AUTOMATIC VOLTAGE REGULATOR**
  The fully sealed Automatic Voltage Regulator maintains the Voltage Regulation at ±1%. Nominal adjustment by means of a trim pot incorpoated on the AVR.

(cont.)

www.huloolmotors.com
info@huloolmotors.com
Office 24, 8th Floor, Opal Tower
Business Bay, Dubai, U.A.E.
مـكـتـب ٢٤، الطـابق الثـامـن، بـرج أوبـال
الخليج التجاري، دبي، الامارات العربية المتحدة
+971 54 568 4435
+971 56 206 9555

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CONTROL PANEL

Make	DEEP SEA	Model	DSE 7320

The **DSE 7320** is an Auto Mains (Utility) Failure Control Module. It is operated via the START, STOP, AUTO and MANUAL soft touch membrane buttons on the front panel. DSE7320 can be controlled remotely using either a GSM Modem, Ethernet via DSE860/865 or via RS485.

PROTECTION

- Fail to start
- Low oil pressure
- High engine temperature
- U/O Voltage shutdown
- U/O Frequency shutdown
- Underspeed, Overspeed
- Loss of engine speed detection
- High/Low battery voltage
- kW overload
- Unbalanced load
- Low fuel alarm (if fitted)
- Battery charger failure (if fitted)

DIMENSIONS AND WEIGHT

	Length	Width	Height	Weight
Open Type	5870 mm	2900 mm	3470 mm	15700 kg
Closed Type	12000 mm	2440 mm	3500 mm	26900 kg

RATINGS DEFINITION

Prime Power
These ratings are applicable for supplying continuous electrical power (at variable load) in lieu of commercially purchased power.
10% overload power is available for 1 hour in 12 hours continuous operation.

Standby Power
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.

STANDARD REFERENCE CONDITIONS

Output ratings are presented at 25°C air inlet temperature, barometric pressure 100 kPa, relative humidity 30%. This generating set is designed to operate at high ambient temperatures (up to 55°C), humidity (up to 99%) and higher altitudes. Deration may apply, please consult your dealer for specific site ratings.

AVAILABLE OPTIONS & ACCESSORIES

We offer a range of optional features and accessories to tailor our generatin sets to meet your power needs.

OPTIONS
- A variety of generating set control and synchronizing panels
- Additional protection alarms and shutdowns
- Water fuel separator
- Water jacket heater
- Battery charger

ACCESSORIES
- Genuine spare parts
- Load banks
- Auxiliary fuel tanks
- Manual & automatic transfer switches

GENERAL SPECIFICATIONS

- **MOTOR STARTING**
  An overload capacity equivalent to 300% of the Full Load impedance at zero Power Factor can be sustained for 10 seconds, when PMG option is fitted.

7. MOUNTING ARRANGEMENT

- **BASE FRAME**
  The complete Generating Set is mounted as a whole on a heavy duty fabricated steel Base frame.
- **COUPLING**
  The Engine and Alternator are directly coupled by means of an SAE flange.
  The Engine flywheel is flexibly coupled to the Alternator rotor.
- **ANTI-VIBRATION MOUNTING PADS**
  Anti-Vibration pads are affixed between the Engine/Alternator feet and the Base frame thus ensuring complete vibration isolation of the rotating assembly.
- **SAFETY GUARDS**
  The Fan & Fan Drive along with the Battery Charging Alternator are Safety Guard protected for personnel protection.

8 FACTORY TESTS

- The Generating set is load tested before dispatch
- All protective devices control functions and site load conditions are simulated. The generator and it's systems are checked before dispatch.

9. EQUIPMENT FINISHING
All mild steel components are fully degreased and painted with powder coated paint to ensure maximum scuff resistance and durability.

10. DOCUMENTATIONS
Operation & Maintenance manual, Circuit wiring diagrams and Commissioning/Fault Finding instruction leaflets are accompanied with the Generator.

11. QUALITY STANDARDS
The equipment meets the following standards: BS4999, BS5000, BS5514 IEC 60034, VDE0530, NEMA MG 1.22 and ISO 8528.

12. WARRANTY
All of the Generating Sets provided by Hulool Motors are covered under a warranty policy for a period of 12 months.