KIRLOSKAR

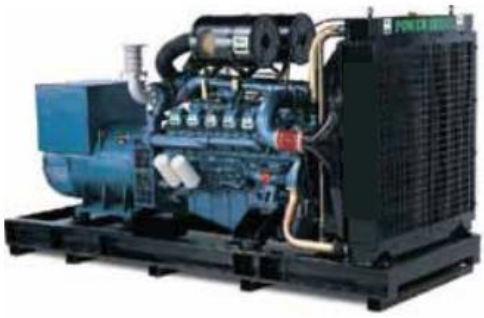
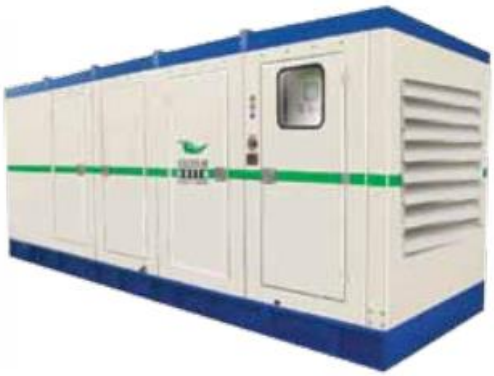
KIRLOSKAR
DIESEL GENERATING SETS

Enriching Lives

KG500W / KG500WS

Diesel Generating Set Output Ratings			
Model	**Prime Rating at 0.8 pf (lag)**	**Standby Rating at 0.8 pf (lag)**	**Phase / Volts / Hz**
KG500W (OPEN)	**500 kVA 400 kW**	**550 kVA 440 kW**	**3 Phase / 415 V / 50 Hz**
KG500WS (SAE)			

- **SAE – Sound Attenuated Enclosure**
- **Ratings are according to ISO 8528; refer to ratings definition on page 2.**

KG500W	KG500WS
	

Note: Above picture shown for illustration purpose only, actual product may be different.

Features

- Extremely reliable.
- Lower operating cost.
- Easy maintenance – higher uptime.
- Sound attenuating enclosure (canopy) is fully integrated and designed for all weather conditions (weather proof).
- Best in class Sound attenuation – 70 dB(A) at 7 meters as per ISO 8528
- State of the art generating set control system with high degree of accuracy and reliability.
- V type engine design for lower footprint.
- Extended service interval to 500hrs
- Superior design standards that minimize power deration even at high ambient temperatures.
- Efficient and prompt after sales service available.
- Winner of the frost & Sullivan Voice of Customer Award in the "Best Bang for Buck" category in the Indian Generating sets Market.

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Ratings Definition:

Standby Ratings:

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)

Prime Rating:

These ratings are applicable for supplying continuous electrical power (at variable load) in lieu of commercial purchased power. There is no limitation to the annual hours of operation and this model can supply 10% overload power for 1 hour in 12 hours.

Continuous Rating:

These ratings are applicable for supplying power continuously to a constant load upto the full output rating for unlimited hours. No sustained overload capability is available for this rating.

GENERATING SET SPECIFICATIONS	
Model - Open Type	KG500W
Model - SAE Type	KG500WS
Frequency (Hz)	50
Power Factor	0.8
Phase	Three phase
Line Voltage (Volts)	415
Phase Voltage (Volts)	240
Fuel Tank Capacity (Liters)	Open – 665
	SAE – 860
Fuel consumption at 100% load (lit/hr) +5% tolerance	99.67
Fuel consumption at 75% load (lit/hr) +5% tolerance	76.32
Sound level at 7 m for Silent Generating set dB(A)	70
Overall dimensions (cms)	Open – 500x190x230
	SAE – 521x212x231
Weight (kgs)	Open Type – 4750
	SAE Type – 6650(Approx.)

CONTROL SYSTEM	
	
Controller Make	Deepsea
Controller Model	DSE 7320 MKII
Digital display instrumentation	Generator Voltage Generator Amps Generator Frequency Generator kWh Power factor Mains Voltage Battery Voltage Engine hours Run Oil Pressure Gauge Engine Temperature Gauge Fuel Level
Shutdowns/Safeties	Fail to Stop Low Oil pressure High Engine Temperature Under/Over-speed Under/Over voltage Emergency Stop Failed to reach loading voltage Failed to reach loading frequency Charge Fail Over Current & over kW Low DC Voltage Low coolant level
Automatic Starting & AMF facility	Available

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Engine Technical Data

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Physical Data	
Engine Make	Kirloskar
Engine Model	DV10
Number of cylinders	10
Configuration	V type
Type	Four stroke
Bore x Stroke (mm)	130 x 150
Displacement (Ltr)	17.98
Cooling	Water cooled
Aspiration	Turbocharged Aftercooled
Compression Ratio	16.5 : 1
Starting Arrangement	24V Electric

Fuel System	
Type of fuel filter	Spin on type
Governor Type	Electronic
Class of Governing	ISO 3046 Class A1 & ISO 8528-5, Class G2
Fuel pump type	Inline
Fuel pump make	Kirloskar
Recommended Fuel	Class A2, High speed diesel
Fuel consumption at 100% load (lit/hr) +5% tolerance	99.67
Fuel consumption at 75% load (lit/hr) +5% tolerance	76.32
Fuel consumption readings are based on diesel fuel with a specific gravity of 0.85 and confirming to BS 2869, Class A2)	

Air System	
Air Filter Type	Dry type replaceable element
Air Volume required for Ventilation (m^3/hr)	54420
Combustion air flow (m^3/hr)	3060
Total Air Flow required for ventilation (m^3/hr)	54420
Total Fresh air required (m^3/hr)	57480

Lubrication System	
Type of lube oil filter	Full flow spin on type
Oil to be used	SAE 15W-40 API : CI4
Oil pump type	Through G-rotor gear pump
Lub oil sump capacity (lit)	45
Lube oil consumption	0.3% of fuel consumption

Cooling System	
Cooling system capacity (lit)	133
Water pump type	Centrifugal
Radiator fan load (hp)	20.4

Electrical System	
Starting Arrangement	24V Electric
Starter	24V Electric
Starter Battery Rating	2 x 180AH
Battery charging alternator	Engine mounted 24V battery charger
Battery charger amps	45

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Alternator Technical Data

Physical Data	
Manufacturer	Stamford
Model	HCI544D1
Number of bearings	1
Insulation class	H
Winding pitch	2/3
Wires	12
Ingress Protection Rating	IP 23
AVR Model	AS440

Operating Data	
Over speed (RPM)	2250
Excitation	Self excited
Efficiency (%)	94.8
THD at full linear balanced load AC waveform	$\leq$ 5%
Voltage Regulation (%)	± 1.0
Reactance per unit (Xd)	2.53
Reactance per unit (X'd)	0.13
Reactance per unit (X''d)	0.09

Sound Attenuating Enclosure (Canopy)

Sound Level	70 dB(A) at 7 meter as per ISO 8528
Construction	• Fully Integrated, metal construction for ALL WEATHER USE (weather proof). • Black zinc die cast, Aluminium hinges or Stainless steel hinges tested to withstand corrosive environment conditions. • Fuel filling spout with lock. • Emergency stop button on canopy exterior. • Provision of glass window for viewing control panel • Provision for lifting canopy
Maintenance	Easy access through lockable doors for operation/maintenance and repair works (including access for radiator service)
Protection Standard	IP 23 Standard

General Data

Documents in (soft copies)	• Generator user manual • A full set of Illustrated spare parts catalogue • Operation & Maintenance manual • Circuit Diagrams pasted inside control panel
Quality Standards	ISO 8528, ISO 3046, IS 100002, BS5514, DIN 6271, ISO 9001, ISO 14001

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