KIRLOSKAR

Enriching Lives

KIRLOSKAR
DIESEL GENERATING SETS

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)	**500.0 kVA 400.0 kW**	**550.0kVA 440.0 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

Features

- Extremely reliable.
- Lower operating cost.
- Easy maintenance – higher uptime.
- Sound attenuated enclosure (canopy) is fully integrated and designed for all weather conditions (weather proof).
- State of the art generating set control system with high degree of accuracy and reliability. Services etc.
- Superior design standards that minimize power deration even at high ambient temperatures.
- 4 valve HPCI technology for lowest fuel consumption in its class.
- Emission compliance to EU COM stage II
- V type engine design for lower footprint.
- Electronic governer as a standard scope of supply.
- Extended time of Lube oil change period of 500 hours.
- 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.

Power, Performance, Peace of Mind.

KIRLOSKAR™ GREEN POWER IDEAS

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 – 640
	SAE – 875
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 1 m for Silent Generating set dB(A)	85
Overall dimensions (cms)	Open – 500x190x230
	SAE –625x225x255
Weight (kgs)	Open Type – 4750
	SAE Type – 6650

CONTROL SYSTEM	
Controller Make	Deepsea
Controller Model	DSE 7320
Digital display instrumentation	Generator Voltage Generator Amps Generator Frequency Mains Voltage Battery Voltage Engine hours Run Oil Pressure Gauge Engine Temperature Gauge Fuel Level kWH meter
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 Low DC Voltage
Automatic Starting & AMF facility	Available

Engine Technical Data

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 (cc)	17980
Gross Prime Power KW (hp) at 1500 rpm as per ISO 3046	447.5 (608.0)
Cooling	Water cooled
Aspiration	Turbocharged After cooled
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 & ISO 8528 Class A1
Fuel pump type	Inline
Fuel pump make	Kirloskar
Recommended Fuel	High speed diesel
Specific Fuel consumption at 100% load (g/hp-hr)	143
Specific Fuel consumption at 75% load (g/hp-hr)	146
Fuel consumption readings are based on diesel fuel with a specific gravity of 0.85 (+5% tolerance applicable as per ISO 3046)	

Air System	
Air Filter Type	Dry type replaceable element
Air Volume required for Ventilation (m^3/hr)	54,420
Combustion air flow (m^3/hr)	3,060
Total Air Flow required for ventilation (m^3/hr)	54,420
Total Fresh air required (m^3/hr)	57,480

Lubrication System	
Type of lube oil filter	Full flow spin on type
Oil to be used	CF4 - 15W40
Oil pump type	Through G-rotor gear pump
Lub oil sump capacity (lit)	45
Lube oil consumption	0.12% 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	2x180AH
Battery charging alternator	Engine mounted 24V battery charger
Battery charger amps	45

Alternator Technical Data

Physical Data	
Manufacturer	Stamford
Model	HCI54D
Number of bearings	1
Insulation class	H
Winding pitch	2/3
Wires	12
Ingress Protection Rating	IP 23
AVR Model	AS 440

Operating Data	
Over speed (RPM)	2250
Excitation	Self excited
Efficiency (%)	94.8
Total harmonic distortion at full load AC waveform	Less than 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 Attenuated Enclosure (Canopy)

Sound Level	75 dB(A) at 1 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	• A full set of Illustrated spare parts catalogue • Operation & Maintenance manual • Circuit Diagrams
Quality Standards	ISO 8528, ISO 3046, IS 100002, BS5514, DIN 6271, ISO 9001, ISO 14001

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