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# KIRLOSKAR DIESEL GENERATING SETS

## KG35W / KG35WS

Diesel Generating Set Output Ratings					
Model	Prime Rating at 0.8 pf (lag)	Standby Rating at 0.8 pf (lag)	Phase / Hz	Standard Voltage (L-L)	Optional Voltage (L-L)
KG35W (OPEN)	35 kVA 28 kW	38.5 kVA 30.8 kW	3 Phase / 60 Hz	220V	380V to 480V*
KG35WS (SAE)					

- S  
SAE – Sound Attenuated Enclosure \* kVA rating may change please consult KOEL
- Ratings are according to ISO 8528; refer to ratings definition on page 2.



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.
- Ideally suitable for critical industries like Construction, Manufacturing, Textile, Services etc.
- Superior design standards that minimize power deration even at high ambient temperatures.
- Efficient and prompt after sales service available.

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**Ratings Definition:**

**Emergency Standby Power (ESP) :**

Emergency standby power is defined as the maximum power available during a variable electrical power sequence, under the stated operating conditions, for which a generating set is capable of delivering in the event of utility power outage. The permissible average power output over 24hours of operation shall not exceed 70% of the ESP. No overload is permitted above ESP rating.


**Prime Rated Power (PRP) :**

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 Rated Power :**

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	KG35W
Model - SAE Type	KG35WS
Line Voltage (Volts)	220V   380V
Phase Voltage (Volts)	127V   220V
Frequency (Hz)	60
Power Factor	0.8
Phase	Three phase
Fuel Tank Capacity (Liters)	Open – 65
	SAE – 75
Fuel consumption at 100% load (lit/hr) +5% tolerance	9.6
Fuel consumption at 75% load (lit/hr) +5% tolerance	7.2
Sound level at 7 m for Silent Generating set dB	70
Overall dimensions (cms)	Open – 150 x 109 x 134
	SAE – 219 x 100 x 153
Weight (kgs)	Open Type – 790
	SAE Type – 1100

CONTROL SYSTEM	
	
Controller Make	Deepsea
Controller Model	DSE 6120 MKII
Digital display instrumentation	Generator Voltage Generator Amps Generator Frequency Generator kW, kVA, kVAr Generator kWh Generator 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 Low DC Voltage warning Low coolant level
Automatic Starting & AMF facility	Available



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# Engine Technical Data

Physical Data	
Engine Make	Kirloskar
Engine Model	3R1040
Cylinders / Configuration	3/ Inline
Type	Four stroke
Bore x Stroke (mm)	105 x 120
Displacement (Ltr)	3.12
Cooling	Water cooled
Aspiration	Natural
Compression Ratio	18 : 1
hp Prime @ 1800rpm	46
hp Standby @ 1800rpm	50.6

Fuel System	
Type of fuel filter	Two stage spin on type
Governor Type	Mechanical
Class of Governing	ISO 8528-5, Class G2
Fuel pump type	Inline
Fuel pump make	Mico Bosch
Recommended Fuel	Class A2, High speed diesel
Fuel consumption at 100% load (lit/hr) +5% tolerance	9.6
Fuel consumption at 75% load (lit/hr) +5% tolerance	7.2
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 <sup>3</sup> /hr)	4011
Combustion air flow (m <sup>3</sup> /hr)	140
Total Air Flow required for ventilation (m <sup>3</sup> /hr)	4263
Total Fresh air required (m <sup>3</sup> /hr)	4472

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)	9
Lube oil consumption	0.3% of fuel consumption

Cooling System	
Cooling system capacity (lit)	12
Water pump type	Centrifugal
Radiator fan load (hp)	2

Electrical System	
Starting Arrangement	12V Electric
Starter	12V Electric
Starter Battery Rating	100Ah
Battery charging alternator	Engine mounted 12V battery charger
Battery charger amps	35



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# Alternator Technical Data

Physical Data		
Line Voltage (Volts)	220V	380V
Manufacturer	Stamford	
Model	PI 144 G1	PI 144 G1
Number of bearings	1	
Insulation class	H	
Winding pitch	2/3	
Wires	12	
Ingress Protection Rating	IP 23	
AVR Model	AS 480	

Operating Data		
Line Voltage (Volts)	220V	380V
Over speed (RPM)	2250	
Excitation	Self excited	
Efficiency (%)	86.6	86.7
THD at full linear balanced load AC waveform	≤ 5%	
Voltage Regulation (%)	± 1.0	
Reactance per unit (Xd)	1.97	2.06
Reactance per unit (X'd)	0.18	0.19
Reactance per unit (X''d)	0.13	0.14

## Sound Attenuating Enclosure (Canopy)

Sound Level	70 dB at 7 meter as per ISO 8528
Construction	<ul style="list-style-type: none"> <li>Fully Integrated, metal construction for ALL WEATHER USE (weather proof).</li> <li>Black zinc die cast, Aluminium hinges or Stainless steel hinges tested to withstand corrosive environment conditions.</li> <li>Fuel filling spout with lock.</li> <li>Emergency stop button on canopy exterior.</li> <li>Provision of glass window for viewing control panel</li> <li>Provision for lifting canopy</li> </ul>
Maintenance	Easy access through lockable doors for operation/maintenance and repair works (including access for radiator service)
Protection Standard	IP 23

## General Data

Documents	<ul style="list-style-type: none"> <li>A full set of Illustrated spare parts catalogue</li> <li>Operation &amp; Maintenance manual</li> <li>Circuit Diagrams</li> </ul>
Quality Standards	ISO 8528, ISO 3046, IS 100002, BS5514, DIN 6271, ISO 9001, ISO 14001



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### KIRLOSKAR OIL ENGINES LIMITED

Head Office: Laxmanrao Kirloskar Road, Khadki, Pune 411 003, India.  
Tel.: +91 20 2581 0341 / 534 Fax: +91 20 2581 3208 Website : [www.koel.co.in](http://www.koel.co.in)

### International business offices

#### KIRLOSKAR DMCC

JBC-5, Cluster W, Jumeirah Lake Towers, P.O.Box 37745, Dubai. U.A.E  
Tel.: +971 4 443 8591 Fax: +971 4 441 4532  
Email: [enquiry@kirloskar.ae](mailto:enquiry@kirloskar.ae) Website : [www.kirloskar.ae](http://www.kirloskar.ae)

#### JOBURG INDUSTRIAL TRADING S.A.(Pty) LTD.

Unit B1, The Stables Business Park, Cnr of Third Avenue & Second Road, Limbro Park, Modderfontein, Johannesburg.  
Tel.: +27(0) 11 553 6900/6903 Email: [kirsons@kirloskar.co.za](mailto:kirsons@kirloskar.co.za)

#### KIRLOSKAR KENYA LTD.

P.O. Box 60061, Off Dunga Road, Nairobi, Kenya. Tel.: +254 20 653 6632  
Fax: +254 20 653 3390 Email: [rspatil@kirloskar.co.ke](mailto:rspatil@kirloskar.co.ke)

#### KOEL AMERICAS CORPORATION

33300 Egypt Lane, Suite C300, Magnolia, TEXAS – 77354, United States  
Office Phone: +1 346 248 5777 Email: [Vinay.Kulkarni@koelamerica.com](mailto:Vinay.Kulkarni@koelamerica.com)

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