**KG82.5W / KG82.5WS**

**Diesel Generating Set Output Ratings**

<table>
<thead>
<tr>
<th>Model</th>
<th>Prime Rating at 0.8 pf (lag)</th>
<th>Standby Rating at 0.8 pf (lag)</th>
<th>Phase / Volts / Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>KG82.5W (OPEN)</td>
<td>82.5 kVA 66 kW</td>
<td>91 kVA 72.8 kW</td>
<td>3 Phase / 380 V / 50 Hz</td>
</tr>
<tr>
<td>KG82.5WS (SAE)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

**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 – 75 dB(A) at one meter 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, Telecom, Services etc.
- 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.

*Power, Performance, Peace of Mind.*
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

<table>
<thead>
<tr>
<th>Model - Open Type</th>
<th>KG82.5W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model - SAE Type</td>
<td>KG82.5WS</td>
</tr>
<tr>
<td>Frequency (Hz)</td>
<td>50</td>
</tr>
<tr>
<td>Power Factor</td>
<td>0.8</td>
</tr>
<tr>
<td>Phase</td>
<td>Three phase</td>
</tr>
<tr>
<td>Line Voltage (Volts)</td>
<td>380</td>
</tr>
<tr>
<td>Phase Voltage (Volts)</td>
<td>220</td>
</tr>
<tr>
<td>Fuel Tank Capacity (Liters)</td>
<td>Open – 160</td>
</tr>
<tr>
<td></td>
<td>SAE – 160</td>
</tr>
<tr>
<td>Fuel consumption at 100% load (lit/hr) +5% tolerance</td>
<td>19.24</td>
</tr>
<tr>
<td>Fuel consumption at 75% load (lit/hr) +5% tolerance</td>
<td>14.43</td>
</tr>
<tr>
<td>Sound level at 1 m for Silent Generating set dB(A)</td>
<td>75</td>
</tr>
<tr>
<td>Overall dimensions (cms)</td>
<td>Open - 235x110x175</td>
</tr>
<tr>
<td></td>
<td>SAE – 372x142x190</td>
</tr>
<tr>
<td>Weight (kgs)</td>
<td>Open Type – 1200</td>
</tr>
<tr>
<td></td>
<td>SAE Type – 1940</td>
</tr>
</tbody>
</table>

### CONTROL SYSTEM

<table>
<thead>
<tr>
<th>Controller Make</th>
<th>Deepsea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Controller Model</td>
<td>DSE 6122</td>
</tr>
<tr>
<td>Digital display</td>
<td>Generator Voltage</td>
</tr>
<tr>
<td></td>
<td>Generator Amps</td>
</tr>
<tr>
<td></td>
<td>Generator Frequency</td>
</tr>
<tr>
<td></td>
<td>Mains Voltage</td>
</tr>
<tr>
<td></td>
<td>Battery Voltage</td>
</tr>
<tr>
<td></td>
<td>Engine hours Run</td>
</tr>
<tr>
<td></td>
<td>Oil Pressure Gauge</td>
</tr>
<tr>
<td></td>
<td>Engine Temperature Gauge</td>
</tr>
<tr>
<td></td>
<td>Fuel Level</td>
</tr>
<tr>
<td>Shutdowns/Safeties</td>
<td>Fail to Stop</td>
</tr>
<tr>
<td></td>
<td>Low Oil pressure</td>
</tr>
<tr>
<td></td>
<td>High Engine Temperature</td>
</tr>
<tr>
<td></td>
<td>Under/Over-speed</td>
</tr>
<tr>
<td></td>
<td>Under/Over voltage</td>
</tr>
<tr>
<td></td>
<td>Emergency Stop</td>
</tr>
<tr>
<td></td>
<td>Failed to reach loading voltage</td>
</tr>
<tr>
<td></td>
<td>Failed to reach loading frequency</td>
</tr>
<tr>
<td></td>
<td>Charge Fail</td>
</tr>
<tr>
<td></td>
<td>Over Current Low DC Voltage</td>
</tr>
<tr>
<td>Automatic Starting &amp; AMF facility</td>
<td>Available</td>
</tr>
</tbody>
</table>
# Engine Technical Data

## Physical Data

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine Make</td>
<td>Kirloskar</td>
</tr>
<tr>
<td>Engine Model</td>
<td>4R1040TA</td>
</tr>
<tr>
<td>Number of cylinders</td>
<td>4</td>
</tr>
<tr>
<td>Configuration</td>
<td>Inline</td>
</tr>
<tr>
<td>Type</td>
<td>Four stroke</td>
</tr>
<tr>
<td>Bore x Stroke (mm)</td>
<td>105 x 120</td>
</tr>
<tr>
<td>Displacement (cc)</td>
<td>4160</td>
</tr>
<tr>
<td>Cooling</td>
<td>Water cooled</td>
</tr>
<tr>
<td>Aspiration</td>
<td>Turbocharged Aftercooled</td>
</tr>
<tr>
<td>Compression Ratio</td>
<td>18 : 1</td>
</tr>
<tr>
<td>Starting Arrangement</td>
<td>12V Electric</td>
</tr>
</tbody>
</table>

## Fuel System

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of fuel filter</td>
<td>Two stage spin on type</td>
</tr>
<tr>
<td>Governor Type</td>
<td>Mechanical</td>
</tr>
<tr>
<td>Class of Governing</td>
<td>ISO 3046 Class A1 &amp; ISO 8528-5, Class G2</td>
</tr>
<tr>
<td>Fuel pump type</td>
<td>Inline</td>
</tr>
<tr>
<td>Fuel pump make</td>
<td>MICO - BOSCH</td>
</tr>
<tr>
<td>Recommended Fuel</td>
<td>Class A2, High speed diesel</td>
</tr>
<tr>
<td>Fuel consumption at 100% load (lit/hr) +5% tolerance</td>
<td>19.24</td>
</tr>
<tr>
<td>Fuel consumption at 75% load (lit/hr) +5% tolerance</td>
<td>14.43</td>
</tr>
<tr>
<td>Fuel consumption readings are based on diesel fuel with a specific gravity of 0.85 and confirming to BS 2869, Class A2)</td>
<td></td>
</tr>
</tbody>
</table>

## Air System

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Filter Type</td>
<td>Dry type replaceable element</td>
</tr>
<tr>
<td>Air Volume required for Ventilation (m³/hr)</td>
<td>7720</td>
</tr>
<tr>
<td>Combustion air flow (m³/hr)</td>
<td>187</td>
</tr>
<tr>
<td>Total Air Flow required for ventilation (m³/hr)</td>
<td>8433</td>
</tr>
<tr>
<td>Total Fresh air required (m³/hr)</td>
<td>7860</td>
</tr>
</tbody>
</table>

## Lubrication System

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of lube oil filter</td>
<td>Full flow spin on type</td>
</tr>
<tr>
<td>Oil to be used</td>
<td>Multi grade 15W40</td>
</tr>
<tr>
<td>Oil pump type</td>
<td>Through G-rotor gear pump</td>
</tr>
<tr>
<td>Lub oil sump capacity (lit)</td>
<td>11</td>
</tr>
<tr>
<td>Lube oil consumption</td>
<td>0.3% of fuel consumption</td>
</tr>
</tbody>
</table>

## Cooling System

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooling system capacity (lit)</td>
<td>24</td>
</tr>
<tr>
<td>Water pump type</td>
<td>Centrifugal</td>
</tr>
<tr>
<td>Radiator fan load (hp)</td>
<td>4.5</td>
</tr>
</tbody>
</table>

## Electrical System

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starting Arrangement</td>
<td>12V Electric</td>
</tr>
<tr>
<td>Starter</td>
<td>12V Electric</td>
</tr>
<tr>
<td>Starter Battery Rating</td>
<td>135</td>
</tr>
<tr>
<td>Battery charging alternator</td>
<td>Engine mounted 12V battery charger</td>
</tr>
<tr>
<td>Battery charger amps</td>
<td>35</td>
</tr>
</tbody>
</table>
Alternator Technical Data

<table>
<thead>
<tr>
<th>Physical Data</th>
<th>Operating Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer</td>
<td>Over speed (RPM)</td>
</tr>
<tr>
<td>Model</td>
<td>Excitation</td>
</tr>
<tr>
<td>Number of bearings</td>
<td>Efficiency (%)</td>
</tr>
<tr>
<td>Insulation class</td>
<td>Total harmonic distortion at full load AC waveform</td>
</tr>
<tr>
<td>Winding pitch</td>
<td>Voltage Regulation (%)</td>
</tr>
<tr>
<td>Wires</td>
<td>Reactance per unit (Xd)</td>
</tr>
<tr>
<td>Ingress Protection Rating</td>
<td>Reactance per unit (X’d)</td>
</tr>
<tr>
<td>AVR Model</td>
<td>Reactance per unit (X’’d)</td>
</tr>
</tbody>
</table>

Sound Attenuating 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)

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Power, Performance, Peace of Mind.