Diesel Generator Set

16V2000 DS1000

Air charge-air cooling/1000kVA/50 Hz/
standby power (fuel consumption optimized)/380 - 415V

Optional equipment shown. Standard equipment and colors (base frame, generator: grey, engine: blue) may vary.

Product highlights

Benefits

— Industry-leading average load factor
— Outstanding fuel economy
— Optimized maintenance intervals
— Low installation costs
— Best-in-class reliability and availability
— Lifting vertically or with diagonal pull
— Compact design

System ratings

<table>
<thead>
<tr>
<th>Standby power</th>
<th>16V2000 DS1000</th>
<th>16V2000 DS1000</th>
<th>16V2000 DS1000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage (L-L)</td>
<td>380V</td>
<td>400V</td>
<td>415V</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Phase</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>PF</td>
<td>0.8</td>
<td>0.8</td>
<td>0.8</td>
</tr>
<tr>
<td>Hz</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>kW</td>
<td>800</td>
<td>800</td>
<td>800</td>
</tr>
<tr>
<td>kVA</td>
<td>1000</td>
<td>1000</td>
<td>1000</td>
</tr>
<tr>
<td>Amps</td>
<td>1519</td>
<td>1443</td>
<td>1319</td>
</tr>
<tr>
<td>Generator model</td>
<td>575RSL7074</td>
<td>575RSL7074</td>
<td>575RSL7074</td>
</tr>
<tr>
<td>Temp rise</td>
<td>150°C/40°C</td>
<td>150°C/40°C</td>
<td>150°C/40°C</td>
</tr>
<tr>
<td>Connection</td>
<td>6 LEAD HI WYE</td>
<td>6 LEAD HI WYE</td>
<td>6 LEAD HI WYE</td>
</tr>
</tbody>
</table>

1 Power available up to 40°C/400 m
Certifications and standards

- Engine-generator set is designed and manufactured in facilities certified to standards ISO 9001:2008 and ISO 14001:2004
- Performance Assurance Certification (PAC)
  - Engine-generator set tested according to ISO 8528-5 for transient response
  - Verified product design, quality and performance integrity
  - All engine systems are prototype and factory tested
- Power rating
  - Permissible average power output during 24 hours of operation up to 85%

Standard equipment

Engine
- Air filters
- Oil pump for draining
- Full flow oil filters
- Closed crankcase ventilation
- Jacket water pump
- Thermostats
- Exhaust manifold – dry
- Belt driven radiator fan
- Radiator – unit mounted
- Electric starting motor – 24V
- Governor – electronic isochronous
- Base – formed steel
- SAE flywheel & bell housing
- Charging alternator
- Flexible fuel connectors
- Flexible exhaust connection

Generator
- NEMA MGL, IEEE and ANSI standards compliance for temperature rise and motor
- VDE 0530, IEC 60034-1, BS 4999, BS 5000, CSA 22.2-100, AS 1359
- Sustained short circuit current of up to 250% of the rated current for up to 10 seconds
- Self-ventilated and drip-proof IP23
- Superior voltage waveform
- Digital, volts-per-hertz regulator
- No load to full load regulation
- Brushless alternator with brushless pilot exciter
- 4 Pole, rotating field
- 150 °C maximum standby temperature rise
- Heavy duty shielded ball bearings with a minimum B-10 life of 40,000 hrs
- Flexible coupling
- Full amortisseur windings
- 3-phase voltage sensing
- ±0.25% voltage regulation
- 100% of rated load – one step according to NFPA 110
- 3% maximum harmonic content

Standard features

- The engine-generator set complies to G3
- Engine generator set tested according to ISO 8528-5 for transient response
- Accepts rated load in one step as per NFPA 110
- All engine-generator sets are type and factory tested
- Global product support
- Cooling System (integral set-mounted; engine driven fan)
- 16V2000 diesel engine (31.84 liter (1943 cu inch) displacement; 4-stroke)
- Engine-generator resiliently mounted
- Complete range of accessories
- Brushless, rotating field generator (PMG excitation; 250% short circuit capability; 2/3 pitch stator windings)
- Complete system metering
- LCD display

1 Represents standard product only. Consult your local MTU distributor for additional configurations.
## Application data

### Engine

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer</td>
<td>MTU</td>
</tr>
<tr>
<td>Model</td>
<td>16V2000G2STD</td>
</tr>
<tr>
<td>Type</td>
<td>4-stroke</td>
</tr>
<tr>
<td>Arrangement</td>
<td>16V</td>
</tr>
<tr>
<td>Displacement/cylinder: l (cu inch)</td>
<td>1.99 (121)</td>
</tr>
<tr>
<td>Bore: mm (inch)</td>
<td>130 (5.1)</td>
</tr>
<tr>
<td>Stroke: mm (inch)</td>
<td>150 (5.9)</td>
</tr>
<tr>
<td>Compression ratio</td>
<td>16:1</td>
</tr>
<tr>
<td>Rated speed: rpm</td>
<td>1500</td>
</tr>
<tr>
<td>Engine governor</td>
<td>electronic isochronous</td>
</tr>
<tr>
<td>Max power: kWm (bhp)</td>
<td>890 (1197)</td>
</tr>
<tr>
<td>Speed regulation</td>
<td>±0.25%</td>
</tr>
<tr>
<td>Air filter</td>
<td>dry</td>
</tr>
</tbody>
</table>

### Lube oil capacity

| Total oil system: l (gal)                      | 102 (27)               |

### Electrical

- Electric Volts DC: 24
- Cold cranking amps under -17.8°C (0°F): 1000

### Fuel system

- Fuel supply connection size: M22 x 1.5 - 60°/male
- Fuel return connection size: M12 x 1.5 - 60°/male
- Maximum fuel lift: m (ft): 5 (16)
- Recommended fuel: see MTU fluids & lubrication spec.
- Total fuel flow: l/hr (gal/hr): 600 (159)

### Fuel consumption

<table>
<thead>
<tr>
<th>Power rating</th>
<th>gal/hr</th>
<th>l/hr</th>
<th>g/kwh</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>56</td>
<td>212</td>
<td>198</td>
</tr>
<tr>
<td>75%</td>
<td>42</td>
<td>158</td>
<td>196</td>
</tr>
<tr>
<td>50%</td>
<td>28</td>
<td>108</td>
<td>201</td>
</tr>
</tbody>
</table>

### Cooling/radiator system

- Ambient capacity of radiator: °C 40 (optional 50)
- Max. restriction of cooling air, intake, and discharge side of rad.: kPa (in. H₂O) 0.2 (0.803)
- Water pump capacity: l/min (gpm) 667 (176)
- Heat rejection to coolant: kW (BTUM) 400 (22,748)
- Heat rejection to after cooler: kW (BTUM) 170 (9,668)
- Heat radiated to ambient: kW (BTUM) 45 (2,559)
- Engine coolant capacity: l (gal) 110 (29)
- Coolant to cooler temperature: °C (°F) 95 (203)

### Air requirements

- Aspirating: m³/min (SCFM) 66 (2329)
- Air flow required for rad. cooled unit: m³/min 1236 (43606)

### Exhaust system

- Gas temp. (stack): °C (°F) 530 (986)
- Gas volume flow temp: m³/min (SCFM): 180 (6350)
- Maximum allowable back pressure: kPA 8.5 (34)

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1. Values in accordance with ISO 3046-1. Conversion calculated with fuel density of 0.83 g/mL.
2. System ratings at 50°C may differ.
3. Air density = 1.184 kg/m³ (0.0739 lbm/ft³)
Weights and dimensions

Rating definitions and conditions

— Standby ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. No overload capability for this rating. Ratings are in accordance with ISO 8528-1, ISO-3046-1, BS 5514 and AS 2789. Average load factor: ≤ 85%.
— Operating hours/year: max. 500.
— Consult your local MTU distributor for derating information.

Drawing above for illustration purposes only, based on standard open power 400 Volt engine-generator set. Lengths may vary with other voltages. Do not use for installation design. See website for unit specific template drawings.

<table>
<thead>
<tr>
<th>System</th>
<th>Dimensions (L x W x H)</th>
<th>Weight (dry/less tank)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open power unit (OPU)</td>
<td>4691 x 1920 x 2226 mm (185 x 76 x 88 inch)</td>
<td>6388 kg (14,084 lbs)</td>
</tr>
</tbody>
</table>

Weights and dimensions are based on open power units and are estimates only. Consult the factory for accurate weights and dimensions for your specific engine-generator set.

Sound data
— Consult your local MTU distributor for sound data.

Emissions data
— Consult your local MTU distributor for emissions data.

Rolls-Royce Group
www.mtu-solutions.com/powergen