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>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 \(^1\)

**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 \(^1\)

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

#### Lube oil capacity
- **Total oil system (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)**: 5 (16)
- **Recommended fuel**: see MTU fluids & lubrication spec.
- **Total fuel flow (l/hr (gal/hr))**: 600 (159)

#### Fuel consumption

<table>
<thead>
<tr>
<th>Condition</th>
<th>gal/hr</th>
<th>l/hr</th>
<th>g/kwh</th>
</tr>
</thead>
<tbody>
<tr>
<td>At 100% of power rating</td>
<td>56</td>
<td>212</td>
<td>198</td>
</tr>
<tr>
<td>At 75% of power rating</td>
<td>42</td>
<td>158</td>
<td>196</td>
</tr>
<tr>
<td>At 50% of power rating</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

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.

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.