Diesel Generator Set

16V2000 DS1100

Air charge-air cooling/1000kVA/50 Hz/
prime power (TAL)/380 - 415V

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>Prime power</th>
<th>16V2000 DS1100</th>
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</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>1391</td>
</tr>
<tr>
<td>Generator model</td>
<td>575RSL7074</td>
<td>575RSL7074</td>
<td>575RSL7074</td>
</tr>
<tr>
<td>Temp rise</td>
<td>125°C/40°C</td>
<td>125°C/40°C</td>
<td>125°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 25°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 75%

Standard equipment ¹)

Engine
- Air cleaners
- 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 MG1, 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%
- 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
- 125 °C maximum prime 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
16V2000G65TD
Type
4-stroke
Arrangement
16V
Displacement/cylinder: l (cu inch) 1.99 (121)
Bore: mm (inch) 130 (5.1)
Stroke: mm (inch) 150 (5.9)
Compression ratio
16:1
Rated speed: rpm
1500
Engine governor
electronic isochronous
Max power: kWm (bhp)
890 (1194)
Speed regulation
±0.25%
Air filter
dry

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) 3 (9.84)
Recommended fuel
see MTU fluids & lubrication spec.
Total fuel flow: l/hr (gal/hr) 600 (159)

Fuel consumption1)
gal/hr l/hr g/kwh
At 100% of power rating: 63 239 223
At 75% of power rating: 46 174 216
At 50% of power rating: 31 116 216

Cooling/radiator system
Ambient capacity of radiator: °C 40
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) 390 (22,178)
Heat rejection to after cooler: kW (BTUM) 270 (15,354)
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 requirements2)
Aspirating: m³/min (SCFM) 78 (2754)
Air flow required for rad. cooled unit: m³/min 1224 (43219)

Exhaust system
Gas temp. (stack): °C (°F) 540 (1004)
Gas volume flow temp: m³/min (SCFM) 216 (7627)
Maximum allowable back pressure: kPa 5

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1 Values in accordance with ISO 3046-1. Conversion calculated with fuel density of 0.83 g/mL.
2 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

— Prime power ratings apply to installations where utility power is unavailable or unreliable. At varying load, the number of generator set operating hours is unlimited. A 10% overload capacity is available for one hour in twelve. Ratings are in accordance with ISO 8528-1, ISO 3046-1, BS 5514 and AS 2789.
  Average load factor: ≤ 75%.
— Consult your local MTU distributor for derating information.

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