Diesel Generator Set

12V2000 DS890

Water charge-air cooling/820kVA/50 Hz/
prime power (fuel consumption optimized)/380 - 415V

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

Product highlights

Benefits
— Low installation costs
— Best fuel consumption values
— Long maintenance intervals
— Best-in-class reliability and availability
— Lifting vertically or with diagonal pull
— Compact design

System ratings

<table>
<thead>
<tr>
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</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>648</td>
<td>656</td>
<td>624</td>
</tr>
<tr>
<td>kVA</td>
<td>810</td>
<td>820</td>
<td>780</td>
</tr>
<tr>
<td>Amps</td>
<td>1231</td>
<td>1184</td>
<td>1085</td>
</tr>
<tr>
<td>Generator model</td>
<td>574RSL7066</td>
<td>574RSL7066</td>
<td>574RSL7066</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>
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</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 75%

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
- 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, BS4999, BS5000, CSA22.2-100, AS 1363
- 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
- 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
- 12V2000 diesel engine (23.88 liter (1457 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**: 12V2000G65TB
- **Type**: 4-stroke
- **Arrangement**: 12V
- **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) 695 (932)
- **Speed regulation**: ≤0.25%
- **Air filter**: dry

#### Lube oil capacity
- **Total oil system**: l (gal) 77 (20)

#### 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) 480 (127)

### Fuel consumption

<table>
<thead>
<tr>
<th></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>44</td>
<td>168</td>
<td>201</td>
</tr>
<tr>
<td>At 75% of power rating</td>
<td>34</td>
<td>127</td>
<td>203</td>
</tr>
<tr>
<td>At 50% of power rating</td>
<td>23</td>
<td>88</td>
<td>210</td>
</tr>
</tbody>
</table>

### Cooling/radiator system
- **Water pump capacity**: l/min (gpm) 667 (176)
- **Heat rejection to coolant**: kW (BTUM) 285 (16,207)
- **Heat rejection to after cooler**: kW (BTUM) 160 (9,099)
- **Heat radiated to ambient**: kW (BTUM) 40 (2,275)
- **Engine coolant capacity**: l (gal) 110 (29)

### Air requirements
- **Aspirating**: m³/min (SCFM) 51 (1799)

### Exhaust system
- **Gas temp. (stack)**: °C (°F) 555 (1031)
- **Gas volume flow temp**: m³/min (SCFM) 138 (4873)
- **Maximum allowable back pressure**: kPA 8.5

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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>3648 x 1750 x 1805 mm (43.6 x 69 x 71.1 inch)</td>
<td>4891 kg (10,784 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.