

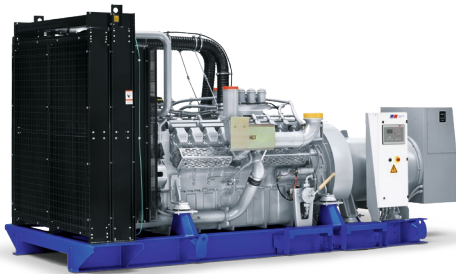


TST CO.
www.TST-CO.com

Diesel Generator Set

16V2000 DS1000

Air charge-air cooling/900kVA/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

- 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 ratings¹⁾

| Prime power | 16V2000 DS1000 | 16V2000 DS1000 | 16V2000 DS1000 |
|-----------------|----------------|----------------|----------------|
| Voltage (L-L) | 380V | 400V | 415V |
| Phase | 3 | 3 | 3 |
| PF | 0.8 | 0.8 | 0.8 |
| Hz | 50 | 50 | 50 |
| kW | 720 | 720 | 720 |
| kVA | 900 | 900 | 900 |
| Amps | 1367 | 1299 | 1252 |
| Generator model | 575RSL7074 | 575RSL7074 | 575RSL7074 |
| Temp rise | 125°C/40°C | 125°C/40°C | 125°C/40°C |
| Connection | 6 LEAD HI WYE | 6 LEAD HI WYE | 6 LEAD HI WYE |

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
- 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% 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 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

Application data

Engine

| | |
|------------------------------------|------------------------|
| Manufacturer | MTU |
| Model | 16V2000G25TD |
| 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) | 810 (1086) |
| 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) | 5 (16) |
| 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: | 51 | 193 | 198 |
| At 75% of power rating: | 38 | 145 | 198 |
| At 50% of power rating: | 26 | 99 | 203 |

Cooling/radiator system

| | |
|---|--------------------------------|
| Ambient capacity of radiator: °C | 40 (optional 50) ²⁾ |
| Max. restriction of cooling air, intake, and discharge side of rad.: kPa (in. H ₂ O) | 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) | 145 (8,246) |
| 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 requirements³⁾

| | |
|---|--------------|
| Aspirating: m ³ /min (SCFM) | 60 (2117) |
| Air flow required for rad. cooled unit: m ³ /min | 1236 (43606) |

Exhaust system

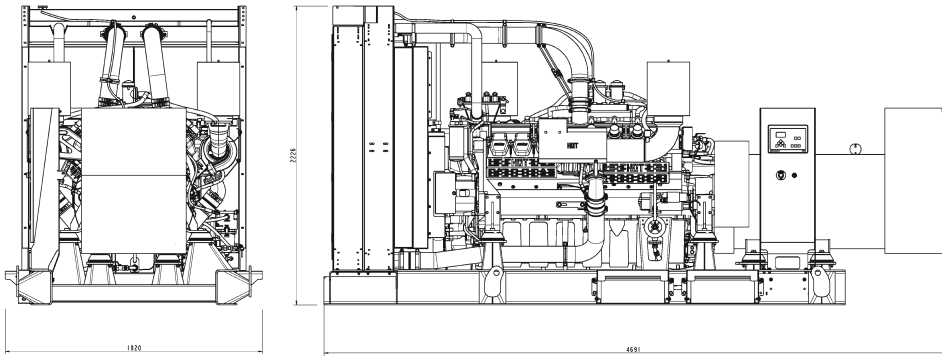
| | |
|--|------------|
| Gas temp. (stack): °C (°F) | 530 (968) |
| Gas volume flow temp: m ³ /min (SCFM) | 180 (6350) |
| Maximum allowable back pressure: kPa | 8,5 (34) |

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.

| System | Dimensions (L x W x H) | Weight (dry/less tank) |
|-----------------------|--|------------------------|
| Open power unit (OPU) | 4691 x 1920 x 2226 mm (185 x 76 x 88 inch) | 6388 kg (14,084 lbs) |

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: $\leq 75\%$.
- Consult your local MTU distributor for derating information.

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