Diesel Generator Set

MTU 10V1600 DS500

400 – 230 V/507 kVA/50 Hz/standby power/series 1600 – 10V1600

Optional equipment shown. Standard equipment may vary.

Product highlights

Benefits
— Industry-leading average load factor
— Low fuel consumption
— Emissions optimizations available
— High availability and reliability
— Outstanding load acceptance
— Long maintenance intervals

Support
— Global product support offered

Standards
— Engine-generator set is designed and manufactured in facilities certified to standards ISO 2008:9001
— Generator set complies to ISO 8528 and fulfills performance level G3
— Generator meets BS5000; NEMA MG 1; ISO; DIN EN and IEC standards

Available optimizations
— Exhaust emission EU 97/68 EC Stage III A
— NEA Singapore for off road diesel engines (ORDE)
— ARAI CPCB Stage II
— Fuel optimized

Wide standard scope of supply
— 4P circuit breaker
— Island operation control panel
— Integrated fuel tank
— Industrial silencer (15 dB(A))
— Batteries & battery charger

Complete range of accessories available
— Sound attenuated enclosure
— Fuel system accessories
— Control panel & ATS
— Range of additional electronical options

Warranty
— Standard 36 months warranty after shipment
Application data

Engine
Manufacturer: MTU
Model: 10V1600G70F
Type: 4-cycle
Arrangement: 10V
Displacement: 17.5 liters
Bore: 122 mm
Stroke: 150 mm
Compression ratio: 17.5
Rated rpm: 1500
Engine governor: ECU 8
Gross power: 448 kW
Fuel cleaner: dry

Fuel system
Max. fuel flow: 342 l/hr
Fuel tank capacity: OPU (EPU) in l = 740 (740)
Autonomy: 9 hours

Fuel consumption
At 100% of power rating: 108.87 l/hr

Liquid capacity
Total oil system: 60.5 l
Total coolant capacity: 94 l

Generator
Generator brand: Mecc-Alte
Generator type: HM355A3
Insulation class: H-class
Bearing: single bearing
Exciting system: self-excited, brushless

Electrical
Electric system volts DC: 24
Number of batteries: 2
Capacity: Ah = 2x 75

Air requirements
Aspirating: m³/min = 27
Cooling air flow: m³/s = 10.9

Exhaust system
Gas temp. (stack): °C = 520
Gas volume at stack temp.: m³/min = 75
Maximum allowable back pressure: kPa = 15

Cooling/radiator system
Ambient capacity of radiator: OPU (EPU) in °C = 50 (50)
Pressure on rad. exhaust: kPa = 0.2
Heat rejection to coolant: kW = 216

Standard and optional features
System ratings (kW/kVA)

<table>
<thead>
<tr>
<th>Voltage</th>
<th>10V1600 G5500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standby operation</td>
<td></td>
</tr>
<tr>
<td>Phase</td>
<td>Three phase</td>
</tr>
<tr>
<td>Hz</td>
<td>50</td>
</tr>
<tr>
<td>kWel*</td>
<td>404.8</td>
</tr>
<tr>
<td>kVA**</td>
<td>506</td>
</tr>
<tr>
<td>Rated AMPS</td>
<td>730.3</td>
</tr>
</tbody>
</table>

* cos phi = 1.0
** cos phi = 0.8
Also available for following voltages: 380V & 415V - for details please contact your local MTU dealer.
## Standard and optional features

### Engine
- 4-stroke diesel engine
- Flywheel housing SAE 1
- Flywheel 14”
- Four-valve, overhead camshaft
- Piston cooling via oil spray nozzle
- Forged crankshaft & connecting rods
- Oil pan
- Lube oil circulation pump
- Dry exhaust manifolds
- Hot components and radiator guards
- Mobile components guards
- Lube oil filter

### Fuel system
- Fuel main filter
- Fuel pre-filter with water separator
- Common rail fuel injection
- Integrated fuel tank (level sensor and drain cap incl.)
- Automatic fuel transfer pump
- Heavy-duty fuel pre-filter with water separator
- 3-way valve for fuel filling
- Fuel cooler

### Generator
- 3-Phase, synchronous, brushless, self exciting, self regulating, self ventilating alternator
- IP23 M protection degree
- IP23 protection cover
- Bearing temperature sensors
- Insulation class H
- Anti condensation heater
- Permanent magnet

### Control panel & electric options
- Control and power electric panel, with measurements devices and controller
- ATS (Automatic Transfer Switch)
- Control version for parallel operation
- Control version for synchronizing a single genset with mains
- Winding temperature sensors
- Remote display
- Expansion module for CAN communication
- Change over power supply for MC7
- Input output/LED expansion modules for DeepSea controllers
- ModBus connection to customer systems TCP/IP
- Control version for synchronizing with mains without blackout
- Converter kits CAN to RS485/USB/LAN

### Circuit breaker/power distribution
- 4 poles manual circuit breaker (motorized with DeepSea controllers)

### Starting/charging system
- 24V electric system
- Starting batteries installed
- Pre-heating resistance/jacket water heater
- Battery charging alternator
- Battery disconnector
- Battery charger

- Represents standard features
- Represents optional features
Standard and optional features

Air intake system
- Exhaust turbochargers
- Set of dry-type air filters with containment indicator
- Intercooler, integrated in radiator
- Heavy duty air filter with automatic dust evacuation

Exhaust system
- Industrial silencer 15 dB(A)
- Residential silencer 35 dB(A)
- Exhaust bellows

Cooling system
- Coolant circulation pump
- Front type radiator for jacket water and charge aircooling circuit with integrated expansion tank
- Engine mounted fan drive

Mounting system
- Mounted on steel base frame
- Resilient mounting of engine and generator

Enclosures
- Sound proof enclosure
- Socket box
- Increased fuel tank capacity

Documentation & certifications
- Genset & component manuals
- Maintenance schedule
- CE-certification for EU
- Fluids and lubricants specification
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 (wet/with standard accessories)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open power unit (OPU)</td>
<td>3600 x 1604 x 2121 mm</td>
<td>3872 kg</td>
</tr>
<tr>
<td>Enclosed power unit</td>
<td>4500 x 1800 x 2340 mm</td>
<td>5582 kg</td>
</tr>
</tbody>
</table>

Consult the factory for accurate weights and dimensions for your specific engine-generator set. Lengths may vary with other voltages. Do not use for installation design.

Sound data

<table>
<thead>
<tr>
<th>Unit type</th>
<th></th>
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<tbody>
<tr>
<td>Open power unit: dB(A)</td>
<td>104</td>
</tr>
<tr>
<td>Enclosed power unit: dB(A)</td>
<td>79</td>
</tr>
</tbody>
</table>

According to 2000/14/CE.
Sound data is provided at 1m for 75% prime power.

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, AS 2789 and DIN 6271. Average load factor: < 85%, max. 500h/year.

Consult your local MTU distributor for derating information.

Rated power for reference conditions at 25°C and 100m above sea level.

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