Diesel Generator Set

MTU 10V1600 DS500

400 – 230 V/460 kVA/50 Hz/prime power/series 1600 – 10V1600

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
— NOx emission optimized (NOx < 1500mg/m³ i.N.)
— EU Nonroad St IIIA comp (97/68/EC)
— 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

Optional equipment shown. Standard equipment may vary.
Application data

**Engine**
- Manufacturer: MTU
- Model: 10V1600G10F
- Type: 4-cycle
- Arrangement: 10V
- Displacement: l
- Bore: mm
- Stroke: mm
- Compression ratio: 17.5
- Rated rpm: 1500
- Engine governor: ECU 8
- Gross power: kWm
- Air cleaner: dry

**Fuel system**
- Max. fuel flow: l/hr
- Fuel tank capacity: OPU (EPU) in l
- Autonomy: hr

**Fuel consumption**
- At 100% of power rating:
- At 75% of power rating:
- At 50% of power rating:

**Liquid capacity**
- Total oil system: l
- Total coolant capacity: l

**Generator**
- Generator brand: Mecc-Alte
- Generator type: HM355A3
- Insulation class: H-class
- Bearing: single bearing
- Enclosure: IP23 M
- Exciting system: self-excited, brushless

**Electrical**
- Electric system volts DC
- Number of batteries
- Capacity: Ah

**Air requirements**
- Aspirating: m³/min
- Cooling air flow: m³/s

**Exhaust system**
- Gas temp. (stack): ºC
- Gas volume at stack temp.: m³/min
- Maximum allowable back pressure: kPa

**Cooling/radiator system**
- Ambient capacity of radiator: OPU (EPU) in ºC
- Pressure on rad. exhaust: kPa
- Heat rejection to coolant: kW

**Standard and optional features**

**System ratings (kW/kVA)**

<table>
<thead>
<tr>
<th>10V1600 DS500</th>
<th>Prime operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage</td>
<td>400 V</td>
</tr>
<tr>
<td>Phase</td>
<td>Three phase</td>
</tr>
<tr>
<td>Hz</td>
<td>50</td>
</tr>
<tr>
<td>kWel*</td>
<td>367.2</td>
</tr>
<tr>
<td>kVA**</td>
<td>459</td>
</tr>
<tr>
<td>Rated AMPS</td>
<td>662.5</td>
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</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.

1 Technical data is for a fuel-optimized unit.
### Standard and optional features

#### Engine
- 4-strokes 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, synchonos, 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
- Winding temperature sensors

#### 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
- Programmable timer for MM7 and MC7
- 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
- **Standard features**
  - Exhaust turbochargers
- **Optional features**
  - Set of dry-type air filters with containment indicator
- **Other features**
  - Intercooler, integrated in radiator
  - Heavy duty air filter with automatic dust evacuation

#### Exhaust system
- **Standard features**
  - Industrial silencer 15 dB(A)
- **Optional features**
  - Residential silencer 35 dB(A)
  - Exhaust bellows

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

#### Mounting system
- **Standard features**
  - Mounted on steel base frame
- **Optional features**
  - Resilent mounting of engine and generator

#### Enclosures
- **Standard features**
  - Sound proof enclosure
- **Optional features**
  - Socket box
  - Increased fuel tank capacity

#### Documentation & certifications
- **Standard features**
  - Genset & component manuals
  - Maintenance schedule
- **Optional features**
  - CE-certification for EU
  - Fluids and lubricants specification
Weights and dimensions

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, AS 2789 and DIN 6271.

Average load factor: < 75%.

— Consult your local MTU distributor for derating information.

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

Sound data

<table>
<thead>
<tr>
<th>Unit type</th>
<th>dB(A)</th>
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<tbody>
<tr>
<td>Open power unit:</td>
<td>105</td>
</tr>
<tr>
<td>Enclosed power unit:</td>
<td>79</td>
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According to 2000/14/CE.
Sound data is provided at 1 m for 75% prime power.

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