Diesel Generator Set

MTU 10V1600 DS560

400 – 230 V/562 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**: 10V1600G80F
- **Type**: 4-cycle
- **Arrangement**: 10V
- **Displacement**: 17.5 l
- **Bore**: 122 mm
- **Stroke**: 150 mm
- **Compression ratio**: 17.5
- **Rated rpm**: 1500
- **Engine governor**: ECU 8
- **Gross power**: 493 kWm
- **Air cleaner**: dry

**Fuel system**
- **Max. fuel flow**: 342 l/hr
- **Fuel tank capacity**: 740 (740) l
- **Autonomy**: 9 hr

**Fuel consumption**
- **At 100% of power rating**: 117.52 l/h

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

**Generator**
- **Generator brand**: Mecc-Alte
- **Generator type**: HM355B1
- **Insulation class**: H-class
- **Bearing**: single bearing
- **Voltage regulation**: A.V.R. (electronic)
- **Exciting system**: self-excited, brushless

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

**Air requirements**
- **Aspirating**: 28.8 m³/min
- **Cooling air flow**: 10.9 m³/s

**Exhaust system**
- **Gas temp. (stack)**: 540 °C
- **Gas volume at stack temp.**: 82.8 m³/min
- **Maximum allowable back pressure**: 15 kPa

**Cooling/radiator system**
- **Ambient capacity of radiator**: 50 (50) °C
- **Pressure on rad. exhaust**: 0.2 kPa
- **Heat rejection to coolant**: 227 kW

**Standard and optional features**

**System ratings (kW/kVA)**

<table>
<thead>
<tr>
<th>10V1600 DS560</th>
<th>Standby operation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Voltage</strong></td>
<td>400 V</td>
</tr>
<tr>
<td><strong>Phase</strong></td>
<td>Three phase</td>
</tr>
<tr>
<td><strong>Hz</strong></td>
<td>50</td>
</tr>
<tr>
<td><strong>kWel</strong></td>
<td>448.8</td>
</tr>
<tr>
<td><strong>kVA</strong></td>
<td>561</td>
</tr>
<tr>
<td><strong>Rated AMPS</strong></td>
<td>809.7</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, synchronos, 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
- 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

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

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

**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>4002 kg</td>
</tr>
<tr>
<td>Enclosed power unit</td>
<td>4500 x 1800 x 2340 mm</td>
<td>5712 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>105</td>
</tr>
<tr>
<td>Enclosed power unit: dB(A)</td>
<td>85</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.