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 consumption 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
<br>
<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer</td>
<td>mtu</td>
</tr>
<tr>
<td>Model</td>
<td>MTU1600G80F</td>
</tr>
<tr>
<td>Type</td>
<td>4-cycle</td>
</tr>
<tr>
<td>Arrangement</td>
<td>10V</td>
</tr>
<tr>
<td>Displacement: l</td>
<td>17.5</td>
</tr>
<tr>
<td>Bore: mm</td>
<td>122</td>
</tr>
<tr>
<td>Stroke: mm</td>
<td>150</td>
</tr>
<tr>
<td>Compression ratio</td>
<td>17.5</td>
</tr>
<tr>
<td>Rated rpm</td>
<td>1500</td>
</tr>
<tr>
<td>Engine governor</td>
<td>ECU 8</td>
</tr>
<tr>
<td>Gross power: kWm</td>
<td>493</td>
</tr>
<tr>
<td>Air cleaner</td>
<td>dry</td>
</tr>
<tr>
<td>Fuel system</td>
<td>Max. fuel flow: l/hr</td>
</tr>
<tr>
<td>Fuel tank capacity: OPU (EPU) in l</td>
<td>740 (740)</td>
</tr>
<tr>
<td>Autonomy: hr</td>
<td>9</td>
</tr>
<tr>
<td>Fuel consumption</td>
<td>l/hr</td>
</tr>
<tr>
<td>At 100% of power rating:</td>
<td>117.52</td>
</tr>
<tr>
<td>Liquid capacity</td>
<td>Total oil system: l</td>
</tr>
<tr>
<td></td>
<td>Total coolant capacity: l</td>
</tr>
</tbody>
</table>

#### Generator
<br>
<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generator brand</td>
<td>Mecc-Alte</td>
</tr>
<tr>
<td>Generator type</td>
<td>HM355B1</td>
</tr>
<tr>
<td>Insulation class</td>
<td>H-class</td>
</tr>
<tr>
<td>Bearing</td>
<td>single bearing</td>
</tr>
<tr>
<td>Voltage regulation</td>
<td>A.V.R. (electronic)</td>
</tr>
<tr>
<td>Exciting system</td>
<td>self-excited, brushless</td>
</tr>
<tr>
<td>Electric system volts DC</td>
<td>24</td>
</tr>
<tr>
<td>Number of batteries</td>
<td>2</td>
</tr>
<tr>
<td>Capacity: Ah</td>
<td>2x 75</td>
</tr>
<tr>
<td>Air requirements</td>
<td></td>
</tr>
<tr>
<td>Aspirating: m³/min</td>
<td>28.8</td>
</tr>
<tr>
<td>Cooling air flow: m³/s</td>
<td>10.9</td>
</tr>
<tr>
<td>Exhaust system</td>
<td></td>
</tr>
<tr>
<td>Gas temp. (stack): °C</td>
<td>540</td>
</tr>
<tr>
<td>Gas volume at stack temp.: m³/min</td>
<td>82.8</td>
</tr>
<tr>
<td>Maximum allowable back pressure: kPa</td>
<td>15</td>
</tr>
<tr>
<td>Cooling/radiator system</td>
<td></td>
</tr>
<tr>
<td>Ambient capacity of radiator: OPU (EPU) in °C</td>
<td>50 (50)</td>
</tr>
<tr>
<td>Pressure on rad. exhaust: kPa</td>
<td>0.2</td>
</tr>
<tr>
<td>Heat rejection to coolant: kW</td>
<td>227</td>
</tr>
</tbody>
</table>

#### Standard and optional features
<br>
**System ratings (kW/kVA)**
<br>
<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</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>kWe†</td>
<td>448.8</td>
</tr>
<tr>
<td>kVA**</td>
<td>561</td>
</tr>
<tr>
<td>Rated AMPS</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- 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, 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
- Winding temperature sensors
- Remote display
- Expansion module for CAN communication
- Change over power supply for MC7
- Input/output/LED expansion modules for DeepSea controllers
- Programmable timer for MM7 and MC7
- 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 air cooling 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

<table>
<thead>
<tr>
<th>System</th>
<th>Dimensions (LxWxH)</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>
</tr>
</thead>
<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.