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 fullfills 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
Manufacturer
mtu
Model
10V1600G70F
Type
4-cycle
Arrangement
10V
Displacement: l
17.5
Bore: mm
122
Stroke: mm
150
Compression ratio
17.5
Rated rpm
1500
Engine governor
ECU 8
Gross power: kWm
448
Air cleaner
dry

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

Fuel consumption
At 100% of power rating:
108.87

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

Generator
Generator brand
Mecc-Alte
Generator type
HM355A3
Insulation class
H-class
Bearing
single bearing
Enclosure
IP23 M
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: 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>10V1600 DSS500</th>
<th>Standby 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>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.

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, synchros, 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

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- 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
Weighs and dimensions

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.

### 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>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>dB(A)</th>
</tr>
</thead>
<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.