Diesel Generator Set

mtu 12V1600 DS730

400 – 230 V/728 kVA/50 Hz/standby power/series 1600 – 12V1600

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
- NEA Singapore for off road diesel engines (ORDE)
- 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**

<table>
<thead>
<tr>
<th><strong>Engine</strong></th>
<th><strong>Generator</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer</td>
<td>MTU</td>
</tr>
<tr>
<td>Model</td>
<td>12V1600G80F</td>
</tr>
<tr>
<td>Type</td>
<td>4-cycle</td>
</tr>
<tr>
<td>Arrangement</td>
<td>12V</td>
</tr>
<tr>
<td>Displacement: l</td>
<td>21</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>634</td>
</tr>
<tr>
<td>Air cleaner</td>
<td>dry</td>
</tr>
</tbody>
</table>

**Fuel system**

| Max. fuel flow: l/hr | 342 |
| Fuel tank capacity: OPU (EPU) in l | 740 (950) |
| Autonomy: hr | 7 |

**Fuel consumption**

| l/hr | 141.54 |
| At 100% of power rating: | |

**Liquid capacity**

| Total oil system: l | 72.5 |
| Total coolant capacity: l | 99 |

**Air requirements**

| Aspirating: m³/min | 45 |
| Cooling air flow: m³/s | 11.7 |

**Exhaust system**

| Gas temp. (stack): °C | 485 |
| Gas volume at stack temp.: m³/min | 120 |
| Maximum allowable back pressure: kPa | 15 |

**Cooling/radiator system**

| Ambient capacity of radiator: OPU (EPU) in °C | 40 (35) |
| Pressure on rad. exhaust: kPa | 0.2 |
| Heat rejection to coolant: kW | 255 |

**Standard and optional features**

**System ratings (kW/kVA)**

<table>
<thead>
<tr>
<th><strong>12V1600 DS730</strong></th>
<th><strong>Standby operation</strong></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>582.4</td>
</tr>
<tr>
<td>kVA**</td>
<td>728</td>
</tr>
<tr>
<td>Rated AMPS</td>
<td>1050.8</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.

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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, synchons, 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
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
- Resilent 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>4671 kg</td>
</tr>
<tr>
<td>Enclosed power unit</td>
<td>5000 x 2100 x 2369 mm</td>
<td>6881 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>110</td>
</tr>
<tr>
<td>Enclosed power unit: dB(A)</td>
<td>90</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.