Diesel Generator Set

MTU 12V1600 DS730

400 – 230 V/662 kVA/50 Hz/prime 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
— TA-Luft (NOx < 1500mg/m³ i.N.) optimized
— NEA Singapore for off road diesel engines (ORDE)
— 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:** 12V1600G20F
- **Type:** 4-cycle
- **Arrangement:** 12V
- **Displacement:** 21 l
- **Bore:** 122 mm
- **Stroke:** 150 mm
- **Compression ratio:** 17.5
- **Rated rpm:** 1500
- **Engine governor:** ECU 8
- **Gross power:** 576 kWm
- **Air cleaner:** dry

#### Fuel system
- **Max. fuel flow:** 342 l/hr
- **Fuel tank capacity:** 740 (950) l
- **Autonomy:** 7 hr

#### Fuel consumption
- **At 100% of power rating:** 128.6 l/h
- **At 75% of power rating:** 98.96 l/h
- **At 50% of power rating:** 68.99 l/h

#### Liquid capacity
- **Total oil system:** 72.5 l
- **Total coolant capacity:** 99 l

### Generator
- **Generator brand:** Mecc-Alte
- **Generator type:** HM355B3
- **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:** 2x 75 Ah

#### Air requirements
- **Aspirating:** 48 m³/min
- **Cooling air flow:** 11.7 m³/s

#### Exhaust system
- **Gas temp. (stack):** 485 °C
- **Gas volume at stack temp.:** 126 m³/min
- **Maximum allowable back pressure:** 15 kPa

#### Cooling/radiator system
- **Ambient capacity of radiator:** 40 (35) °C
- **Pressure on rad. exhaust:** 0.2 kPa
- **Heat rejection to coolant:** 236 kW

### Standard and optional features

#### System ratings (kW/kVA)

<table>
<thead>
<tr>
<th>12V1600 DS730</th>
<th>Prime 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>529.6</td>
</tr>
<tr>
<td><strong>kVA</strong></td>
<td>662</td>
</tr>
<tr>
<td><strong>Rated AMPS</strong></td>
<td>955.5</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, synchronous, 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
- [ ] 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

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>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>dB(A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open power unit:</td>
<td>109</td>
</tr>
<tr>
<td>Enclosed power unit:</td>
<td>90</td>
</tr>
</tbody>
</table>

According to 2000/14/CE.
Sound data is provided at 7m for 75% prime power.

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.