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
- NOx emission optimized (NOx < 1500mg/m³ i.N.)
- 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**

### Engine
- **Manufacturer** mtu
- **Model** 12V1600G20F
- **Type** 4-cycle
- **Arrangement** 12V
- **Displacement: l** 21
- **Bore: mm** 122
- **Stroke: mm** 150
- **Compression ratio** 17.5
- **Rated rpm** 1500
- **Engine governor** ECU 8
- **Gross power: kWm** 576
- **Air cleaner** dry

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

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

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

### Generator
- **Brand** Mecc-Alte
- **Type** HM355B3
- **Insulation class** H-class
- **Bearing** single bearing
- **Exciting system** self-excited, brushless

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

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

### Exhaust system
- **Gas temp. (stack): °C** 485
- **Gas volume at stack temp.: m³/min** 126
- **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** 236

**Standard and optional features**

### System ratings (kW/kVA)

<table>
<thead>
<tr>
<th>Voltage</th>
<th>400 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase</td>
<td>Three phase</td>
</tr>
<tr>
<td>Hz</td>
<td>50</td>
</tr>
<tr>
<td>kWel*</td>
<td>529.6</td>
</tr>
<tr>
<td>kVA**</td>
<td>662</td>
</tr>
<tr>
<td>Rated AMPS</td>
<td>955.5</td>
</tr>
</tbody>
</table>

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1 Technical data is for a fuel-optimized unit.
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, synchronous, brushless, self exciting, self regulating, self ventilating alternator
- Winding temperature sensors

- 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

- 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
- [ ] 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

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.

System | Dimensions (LxWxH) | Weight (wet/with standard accessories)
---|---|---
Open power unit (OPU) | 3600 x 1604 x 2121 mm | 4671 kg
Enclosed power unit | 5000 x 2100 x 2369 mm | 6881 kg

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: dBA</td>
<td>109</td>
</tr>
<tr>
<td>Enclosed power unit: dBA</td>
<td>90</td>
</tr>
</tbody>
</table>

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

Rolls-Royce Group
www.mtu-solutions.com/powergen