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 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 1)

<table>
<thead>
<tr>
<th>Engine</th>
<th>Generator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer</td>
<td>MTU</td>
</tr>
<tr>
<td>Model</td>
<td>12V1600G20F</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>Gross power: kWm</td>
<td>576</td>
</tr>
<tr>
<td><strong>Air cleaner</strong></td>
<td>dry</td>
</tr>
<tr>
<td><strong>Fuel system</strong></td>
<td>740 (950)</td>
</tr>
<tr>
<td><strong>Fuel consumption</strong></td>
<td>l/hr</td>
</tr>
<tr>
<td>Liquid capacity</td>
<td><strong>At 50% of power rating:</strong></td>
</tr>
<tr>
<td>Total oil system: l</td>
<td>72.5</td>
</tr>
<tr>
<td><strong>Liquid capacity</strong></td>
<td>99</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Electrical</strong></th>
<th><strong>Air requirements</strong></th>
<th><strong>Cooling/radiator system</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric system volts DC</td>
<td><strong>At 100% of power rating:</strong></td>
<td><strong>Ambient capacity of radiator: OPU (EPU) in °C</strong></td>
</tr>
<tr>
<td>24</td>
<td>Gas temp. (stack): °C</td>
<td>485</td>
</tr>
<tr>
<td>2</td>
<td>Gas volume at stack temp.: m³/min</td>
<td>126</td>
</tr>
<tr>
<td>2x 75</td>
<td>Maximum allowable back pressure: kPa</td>
<td>15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Standard and optional features</th>
<th>System ratings (kW/kVA)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>12V1600 DS730</strong></td>
<td><strong>Prime operation</strong></td>
</tr>
<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>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.

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* 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-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, synchonous, 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
- 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

## 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
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 (L x W x H) | 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: dB(A)</td>
<td>109</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 7m for 75% prime power.

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