



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 fullfills performance level G3
- Generator meets BS5000; NEMA MG 1; ISO; DIN EN and IEC standards

Available optimizations

- NO_x emission optimized (NO_x < 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



A Rolls-Royce
solution

Application data ¹⁾

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

| | |
|--------------------------|-------|
| | l/hr |
| 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

| | |
|--------------------|-------------------------|
| 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: Ah | 2x 75 |

Air requirements

| | |
|-------------------------------------|------|
| Aspirating: m ³ /min | 48 |
| Cooling air flow: m ³ /s | 11.7 |

Exhaust system

| | |
|--|-----|
| Gas temp. (stack): °C | 485 |
| Gas volume at stack temp.: m ³ /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)

| | 12V1600 DS730 |
|------------|-----------------|
| | Prime operation |
| Voltage | 400 V |
| Phase | Three phase |
| Hz | 50 |
| kWel* | 529.6 |
| kVA** | 662 |
| Rated AMPS | 955.5 |

* 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- 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, synchronos, 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 disconnecter
- 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
- Resilient mounting of engine and generator

Enclosures

- Sound proof enclosure
- Socket box
- Increased fuel tank capacity

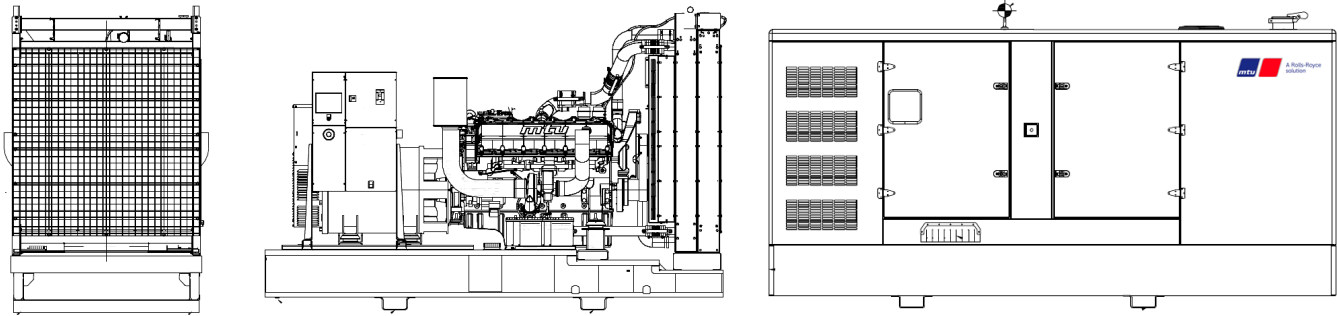
Documentation & certifications

- Genset & component manuals
- Maintenance schedule
- CE-certification for EU
- Fluids and lubricants specification

Represents standard features

Represents optional features

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.

| 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

| Unit type | |
|----------------------------|-----|
| Open power unit: dB(A) | 109 |
| Enclosed power unit: dB(A) | 90 |

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.