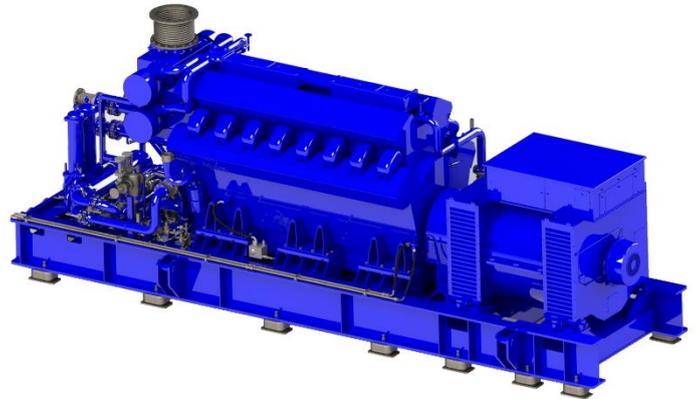


MGS-EU 4000-C

MITSUBISHI GENERATOR SET

EU MADE (France)

Quality, reliability, performance, and partnership
- Mitsubishi Heavy Industries Group.



RATING

| | |
|-----------------------------|-------------------------------------|
| Generating set model | MGS-EU 4000-C |
| Generator voltage | 10000V |
| Frequency | 50 Hz |
| Generator output PRP | 3337 kW e 4171 KVA |
| Power factor – min | 0.8 |
| Duty | Unlimited |
| Rating | PRP – Prime Power |
| Average load factor for 24h | 80% or lower >90% for max 3h/24h |
| Overload | 110% for 1h/12h |
| Installation location | Indoor |

ALTERNATOR DATA

| | |
|--|----------|
| Enclosed, self ventilated, self-regulated, brushless | |
| Bearing configuration | Single |
| Insulation class | H |
| Temperature rise class | F |
| Cooling method | Air IC01 |
| Protection | IP23 |
| Excitation system | Digital |
| PT100 for bearing and stator winding | |
| AVR for single and parallel operation | |
| Space heater | |
| Set of CT's and VT's for measure or protection | |

CE COMPLIANCE

2006/42/EC : machinery

DESIGN CONDITIONS

| | |
|--|----------------|
| Ambient temp - avg/max | 25/40°C |
| Ambient temp – min | 0°C |
| Altitude (maxi) | 1000m a.s.l |
| Relative humidity (maxi) | 85% |
| Fuel oil LHV | 42700kl/kg |
| Fuel oil | Diesel |
| Fuel oil gravity at 15°C | 0.83 to 0.87 |
| Fuel oil sulfur content max | 0.2% by weight |
| Fuel oil viscosity min(60°C)/max(50°C) | 2.0/8.0 cSt |
| Fuel oil cetane number – min | 45 |
| Lube oil capacity - max | 680 liters |
| Emissions—other version available | unregulated |

ENGINE DATA

| | |
|-------------------------------------|------------------------|
| Engine model | S16U-PTK |
| Engine speed | 1000 Rpm |
| Engine brake output | 3457 kWm |
| Cylinder configuration | 16 V |
| Total displacement | 188.194 liters |
| Bore x Stroke | 240 x 260 mm |
| Compression ratio | 12.5:1 |
| Turbocharged | 4 cycles |
| Governor | Electric |
| Cooling method (engine driven pump) | Water (loose radiator) |
| Starting method | Compressed air 30 bar |

LANGUAGE - UNITS

Drawings, documents, nameplates in English

SI metric system

PERFORMANCES @ PRIME (LV : 400V)

| | |
|--|------------|
| Generator output | 3337 kWe |
| Specific consumption – ISO3046/1 : 0/+5% | 205 g/kWh |
| Fuel oil consumption @ 100% | 890 L / h |
| Fuel oil consumption @ 75% | 640 L / h |
| Exhaust gas temperature | 490 °C |
| Exhaust gas flow rate | 737 m3/min |
| Air intake flow rate | 319 m3/min |
| Noise level@ 1m (open skid) | 106 dB (A) |

HEAT BALANCE

| | |
|---|------------------|
| Heat rejection (HT / LT) | 738 / 1107 kW |
| Heat rejection (exhaust) | 2653 kW |
| Thermal radiation (engine block) | 245.97 kW |
| Thermal radiation (generator) | 120 kW |
| Coolant temperature at HT outlet - max | 95°C |
| Coolant temperature at LT inlet - max | 32°C |
| Coolant temperature at LT inlet - derating 5.2% | 45°C |
| Flow rate of coolant radiator circuit – HT/LT | 94.2 / 94.2 m3/h |
| Coolant capacity (engine only) | 700 liters |

TOLERANCES AND CONDITIONS

Efficiency data for average conditions (avg) – derating above 1000 m asl or 40°C intake air temperature or 32°C LT coolant inlet temperature

Fuel input: 0/+5% (ISO3046/1). Submitted to fuel oil specification confirmation

Heat rejection data: +/- 12%. Add 17% margin for remote dry air cooler design

Exhaust gas flow / temperature: +/- 6% - +/- 8%

Pictures are not contractual and may include optional accessories

These data are not contractual. They can be modified by MTEE without prior notice

STANDARDS

I.S.O. : International Standard Organization

C.E.N. : European Standard Committee

I.E.C. : International Electric Commission

J.I.S : Japanese Industrial Standards (for engine)

J.E.C: Japan. Electrotechnical committee (engine)

J.E.M: Japan Elec. Manufacturers Association (Eng.)

Manufacturers standards

GENERATOR SET EMBEDDED CONTROL PANEL

Manual start and stop by push buttons on the (AGC) Automatic Genset Controller (DEIF made)

Automatic start and stop sequence

Automatic engine protection

Manual and automatic synchronization and parallel operation of gensets

Manual and automatic load sharing of generating sets

Automatic start and stop according to increase or decrease of load demand

Automatic control of engine auxiliaries and power supply:

- Jacket water pump
- Intercooler water pump
- Jacket water heater
- Alternator space heater
- Lube oil priming pump
- Radiator cooling fan
- Air starting system
- Genset's enclosure ventilation fans

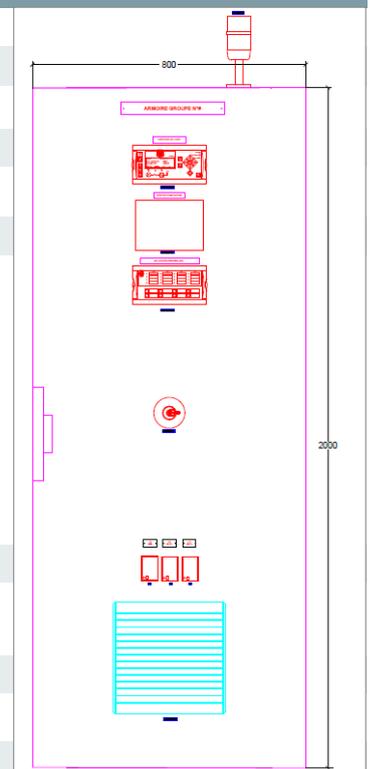
24 V DC energy block to supply PLC and panel equipment

7" Human Machine Interface (HMI) for display and monitoring of operating data, alarms and history logs

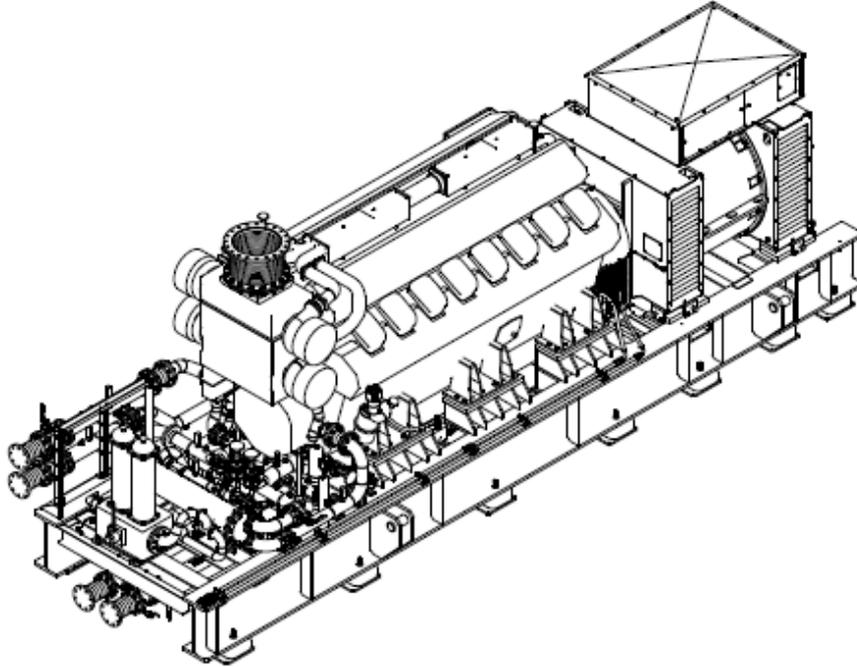
Harness assembly for cable connection of control panel to genset

HMI is equipped with Ethernet TCP/IP com port for internet remote access

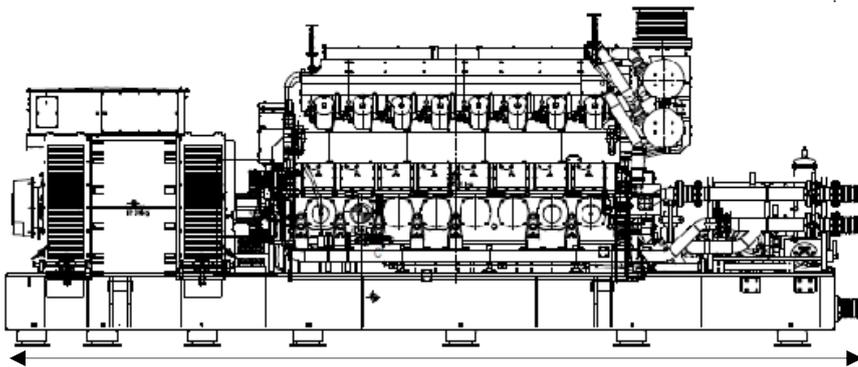
Generating set protection and alarm devices



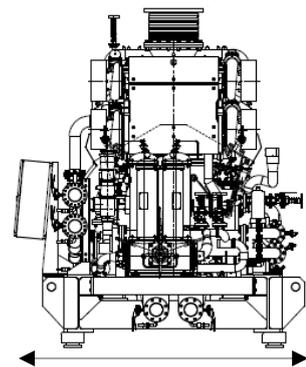
MGS-EU 4000 GENSET (S16U PTK / LSA 56 BM65) LAYOUT



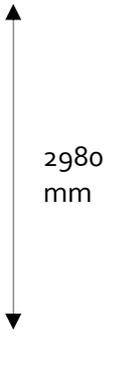
Dry Weight = 45200 Kg



8900 mm



2696 mm



2980
mm

SCOPE OF SUPPLY

● Standard item

○ Option

- Not included or not applicable

Open skid set

HV

| | |
|---|---|
| Steel base frame with engine-alternator | ● |
| Elastic suspensions of the generating set | ● |
| Air starter and 306/10b distribution line | ● |
| Starting air compressor (electric) with 3x200L air vessels (30b) | ○ |
| Low voltage (LV) alternator 400 V | ○ |
| Jacket water heating | ● |
| Alternator space heater | ● |
| Pump for lube oil priming, filling and draining | ● |
| Oil mist separator | ○ |
| Lube oil filters, duplex type | ● |
| Fuel oil filters, duplex type | ● |
| Dry air filter, high efficiency on turbocharger | ○ |
| Engine driven jacket water pump (mounted on engine) | ● |
| Engine driven Intercooler pump (mounted on engine) | ● |
| Remote external dry air cooler | ○ |
| Thermostatic valve for jacket water (with by-pass, mounted on engine) | ● |
| Thermostatic valve for Inter cooler (with by-pass, mounted on engine) | ● |
| Embedded Genset Box, including auxiliaries power supply | ● |
| Remote control panel, including auxiliaries power supply, with Harness Assy | ● |
| Remote Generating set protection Circuit Breaker Panel (LV, HV) | ○ |
| Generating set factory tests (standard program) | ● |
| Generating set finishing color: Blue RAL 5010 | ● |
| Exhaust silencer 30 to 50 dB(A) attenuation (loose supply for open skid) | ○ |
| Exhaust bellow on turbocharger outlet | ● |
| Automatic lube oil level regulator on engine sump | ○ |
| Lube oil service tank 1500 liter capacity up to 6000 liter (loose supply for open skid) | ○ |
| Fuel oil daily tank 1500 liter capacity, up to 6000 liter (loose supply for open skid) | ○ |
| Set of fuel oil flexible for engine | ● |
| Engine standard tools for routine maintenance | ○ |
| Step up transformer LV / HV 15 to 20 kV | ○ |
| LV connection busbar from alternator to transformer | ○ |
| Fuel oil mass flow meter fitted on genset baseframe | ○ |
| Heavy duty oil bath air filter for dust/sand ambient condition | ○ |
| Scada system, connected to genset control panel (remote desktop PC) | ○ |
| Fuel oil centrifugal unit (separator) for water and sludge removal | ○ |
| Oversized dry air cooler for high ambient temp | ○ |
| On site assistance for supervisory, commissioning and training | ○ |
| Alternator according to specific country grid code | ○ |

CONTACTS DETAILS

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More information

Contact your local dealer for more information regarding Mitsubishi Generator Sets and optional equipment or, visit engine-genset.mhi.com

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