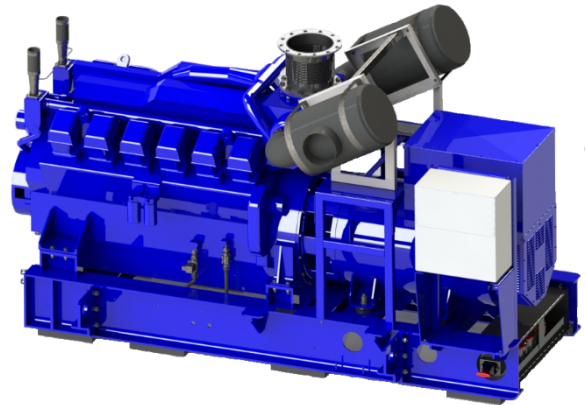


## MGS-EU 1200-C for Data Center

# MITSUBISHI GENERATOR SET

EU MADE (France)

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



### RATING

Generating set model	MGS-EU 1200-C
Generator voltage	400 V
Frequency	50 Hz
Generator output DCCP	1064 kWe 1330 KVA
Power factor - min	0.8
Duty	Unlimited
Rating	Data Center Continuous Power – DCCP
Average load factor for 24h	Maximum 100%
Average load factor per year	Maximum 100%
Overload	110% for 1h/12h
Installation location	Indoor

### DESIGN CONDITIONS

Ambient temp - avg/max	25/40°C
Ambient temp – min	0°C
Altitude (maxi)	1000 m a.s.l
Relative humidity (maxi)	85%
Fuel oil LHV	42700kJ/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	180 liters
Emissions-other version available	unregulated

### ALTERNATOR DATA

Enclosed, self ventilated, self-regulated, brushless	
Bearing configuration	Single
Insulation class	H
Temperature rise class	H
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 for measure or protection	

### ENGINE DATA

Engine model	S12R PTA
Engine speed	1500 Rpm
Engine brake output	1110 kWm
Cylinder configuration	12 V
Total displacement	49.03 liters
Bore x Stroke	170 x 180 mm
Compression ratio	15.0:1
Turbocharged	4 cycles
Governor	Electric
Cooling method (engine driven pump)	Water (loose radiator)
Starting method	Electrical 24 V DC

### COMPLIANCE

2006/42/EC : machinery CE Directive
Tier III and Tier IV : Uptime Institute

### LANGUAGE – UNITS

Drawings, documents, nameplates in English
SI metric system

**PERFORMANCES @DCC POWER (LV:400V)**

Generator output	1064 kWe
Specific consumption – ISO3046/1 : 0/+5%	213 g/kWh
Fuel oil consumption @ 100%	271 L / h
Fuel oil consumption @ 75%	207 L / h
Exhaust gas temperature	450 °C
Exhaust gas flow rate	235 m3/min
Air intake flow rate	89 m3/min
Noise level@ 1m (open skid)	105.0 dB (A)

**HEAT BALANCE**

Heat rejection	649 kW
Heat rejection (exhaust)	758 kW
Thermal radiation (engine block)	78 kW
Thermal radiation (generator)	41 kW
Coolant temperature at HT outlet - max	98°C
Flow rate of coolant radiator circuit	99 m3/h
Coolant capacity (engine only)	125 liters

**TOLERANCES AND CONDITIONS**

- Efficiency data for average conditions (avg) – derating above 1000 m asl or 40°C intake air 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

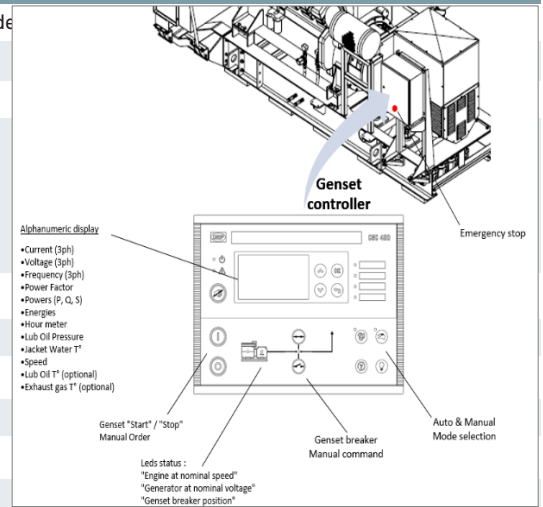
**STANDARDS**

- 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

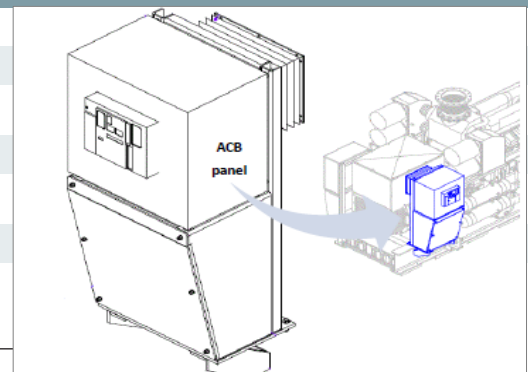
**GENERATOR SET EMBEDDED CONTROL PANEL**

- Manual start and stop by push buttons on the (CGC) Compact Genset Controller (DEIF made)
- Automatic start and stop sequence (AMF)
- Automatic engine and alternator protection
- Automatic control of engine auxiliaries and power supply:
  - Jacket water heater (\*)
  - Alternator space heater
  - Lube oil priming pump (\*)
  - Loose radiator
- 24 V DC energy block to supply control system and panel equipment
- 24 V DC charger to supply engine starting batteries
- Redundant 24 V DC charger, starting batteries and electric starter (\*)
- Display and monitoring of operating data, alarms and history logs
- Optional functions for parallel operation with other genset or grid
- Optional functions for power management, peak shaving, etc...
- Modbus RS485 - Optional ethernet TCP/IP com port for internet remote access

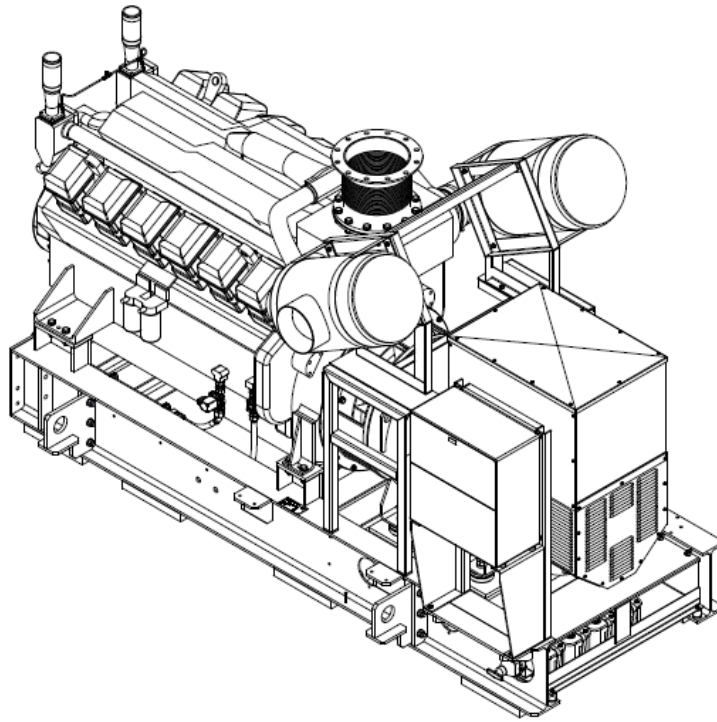
(\*) Recommended option for Tier III -Tier IV Uptime compliance


**GENERATOR SET EMBEDDED CIRCUIT BREAKER PANEL (OPTION FOR CE MARKING)**

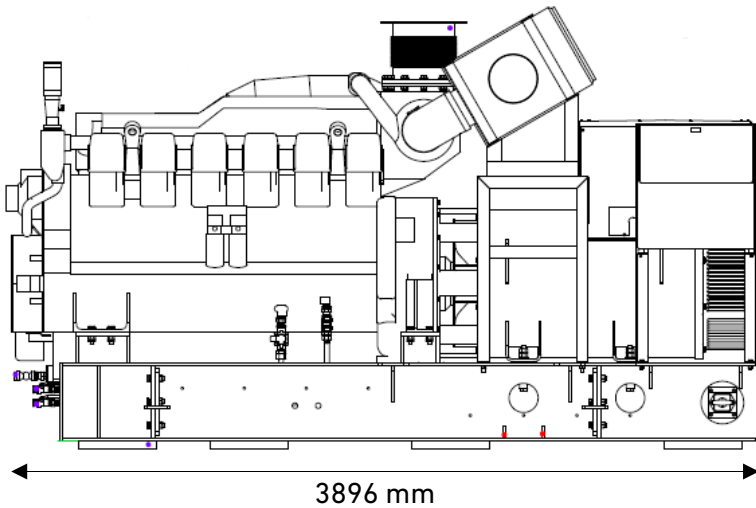
- Air circuit breaker (ACB)
- Motorized – 3 poles – 2000 amp – 400 VAC (4 poles on request)
- Electric protection relay
- Command coil 24 V DC
- Auxiliary contacts
- Key lock, On/Off button lock, Safety labels



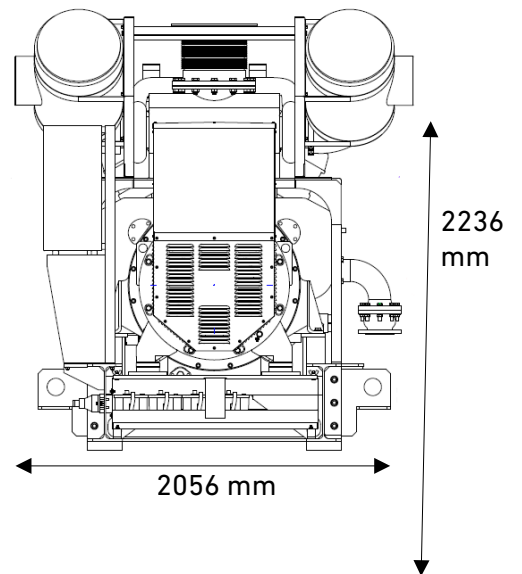
MGS-EU 1200 GENSET (S12R PTA / ECO 43 VL4A) LAYOUT



Dry Weight = 9 750 Kg



3896 mm



2056 mm

2236 mm

## SCOPE OF SUPPLY

- Standard item
- Option (\*) Recommended option for Tier III -Tier IV Uptime compliance
- Not included or not applicable

	Open skid set		Containerized set	
	LV	HV	LV	HV
Steel base frame with engine-alternator	●	●	●	●
Elastic suspensions of the generating set	●	●	●	●
Starting batteries and cables	●	●	●	●
High voltage (HV) alternator 3 to 11 kV with 100V VTs	-	○	-	○
Jacket water heating (*)	○	○	○	○
Redundant 24Vdc charger with starting batteries and electric starter (*)	○	○	○	○
Alternator space heater	●	●	●	●
Pump for lube oil priming, filling and draining (*)	○	○	○	○
Oil mist separator	○	○	○	○
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 Control Panel, including auxiliaries power supply	●	●	●	●
Remote control panel, including auxiliaries power supply, with Harness Assy	○	○	○	○
Embedded Generating set protection Circuit Breaker Panel (LV)	○	○	●	●
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 200 liter capacity (loose supply for open skid)	○	○	●	●
Fuel oil daily tank 500 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	-	○	-	○
Sound proofed generating set container	-	-	●	●
Elbow pipe between the engine and the silencer	-	-	●	●
Water pipes from engine to remote dry air cooler	-	-	○	○
Lube oil pipes from service tank to engine lube oil level regulator	-	-	●	●
LV cables from alternator to protection circuit breaker	-	-	●	-
HV cables from transformer to protection circuit breaker	-	-	-	●
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](http://engine-genset.mhi.com)