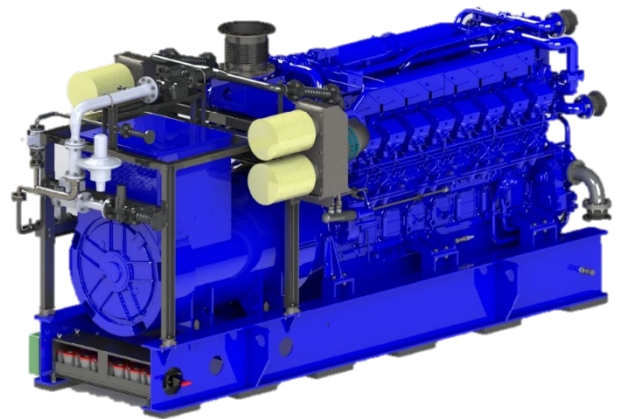


MGS-G-EU 1875-C

# MITSUBISHI GAS GENERATOR SET

EU MADE (France)

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



## RATING

|                        |                   |
|------------------------|-------------------|
| Generating set model   | MGS-G-EU 1875-C   |
| Generator voltage      | 400 V             |
| Frequency              | 50 Hz             |
| Generator output COP   | 1500 kWe 1875 KVA |
| Power factor – max/min | 1/0.8             |
| Duty                   | Base load         |
| Rating                 | Continuous        |
| Overload               | Not available     |
| Installation location  | Indoor            |

## DESIGN CONDITIONS

|  |                        |
|--|------------------------|
| Ambient temp - avg/max                 | 25/40°C                |
| Ambient temp – min                     | -15°C                  |
| Altitude (maxi)                        | 150 m a.s.l            |
| Relative humidity (maxi)               | 85%                    |
| Fuel oil LHV                           | 36470kJ/kg             |
| Fuel gas                               | Natural gas            |
| Lube oil consumption – max             | 0.3 g/kWh              |
| Fuel gas methan number – min           | 80                     |
| Lube oil capacity - max                | 460 liters             |
| NOx emission level (O <sub>2</sub> 5%) | 500 mg/Nm <sup>3</sup> |

## 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 for measure or protection                |          |

## ENGINE DATA

|                                |                        |
|--------------------------------|------------------------|
| Engine model                   | GS16R2-PTK             |
| Engine speed                   | 1500 Rpm               |
| Engine brake output            | 1563 kWm               |
| Cylinder configuration         | 16 V                   |
| Total displacement             | 79.9 liters            |
| Bore x Stroke                  | 170 x 220 mm           |
| Compression ratio              | 12:1                   |
| Turbocharged                   | 4 cycles               |
| Governor                       | Electronic             |
| Cooling method (electric pump) | Water (loose radiator) |
| Starting method                | Electrical 24 V DC     |
| Gas pressure at gas line inlet | 350 to 500 Kpa         |

## CE COMPLIANCE

2006/42/EC : machinery

## LANGUAGE – UNITS

Drawings, documents, nameplates in English

SI metric system

### PERFORMANCES @ COP (LV : 400V )

|   |                         |
|---|-------------------------|
| Auxiliary consumption (Cooling & ventilation) avg/max | 35/38 kW                |
| Step up transformer losses                            | -                       |
| Gross generator output                                | 1500 kW                 |
| Fuel gas input  | 3409 kW                 |
| Fuel gas flow rate                                    | 337 Nm <sup>3</sup> /h  |
| Electrical efficiency                                 | 44%                     |
| Exhaust gas temperature                               | 400°C                   |
| Exhaust gas flow rate                                 | 6773 Nm <sup>3</sup> /h |
| Air intake flow rate                                  | 120 m <sup>3</sup> /min |
| Noise level@ 1m - max                                 | 108 dB (A)              |

### HEAT BALANCE

|   |                      |
|---|----------------------|
| Heat rejection on Jacket water, HT circuit (recoverable)                | 532 kW               |
| Heat rejection on lube oil and charge air, LT circuit (not recoverable) | 457 kW               |
| Heat rejection on exhaust (at 120°C)                                    | 729 kW               |
| Thermal radiation (engine block)  | 47 kW                |
| Thermal efficiency  | 37 %                 |
| Flow rate of HT cooling circuit   | 75 m <sup>3</sup> /h |
| Flow rate of LT cooling circuit   | 30 m <sup>3</sup> /h |
| Cooling water temperature at HT outlet – max                            | 91°C +/-2            |
| Cooling temperature at LT inlet – Avg / max                             | 35/49 °C             |

### TOLERANCES AND CONDITIONS

Efficiency data for average conditions (avg) – derating above 150 m asl or 40°C intake air temperature

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

Heat rejection data: 12 % .Add 17 % for radiator 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 REMOTE CONTROL & AUXILIARY 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 of auxiliaries :

- Jacket water pump
- Intercooler water pump
- Jacket water heater
- Alternator heater
- Lube oil priming pump
- Radiator cooling fan
- Temperature control valves for jacket water and inter cooler
- Generating set ventilation fans

24 V DC energy block to supply PLC and panel equipment

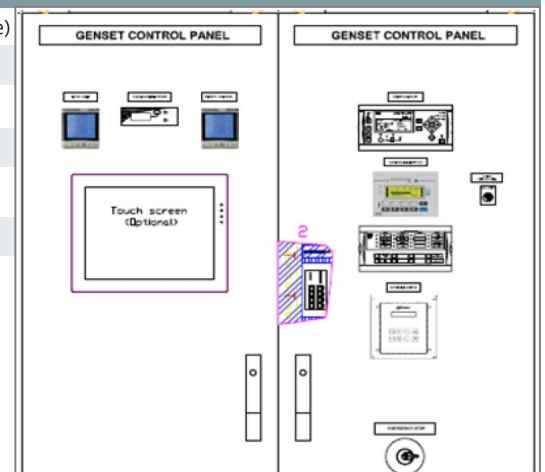
24 V DC charger to supply engine starting batteries

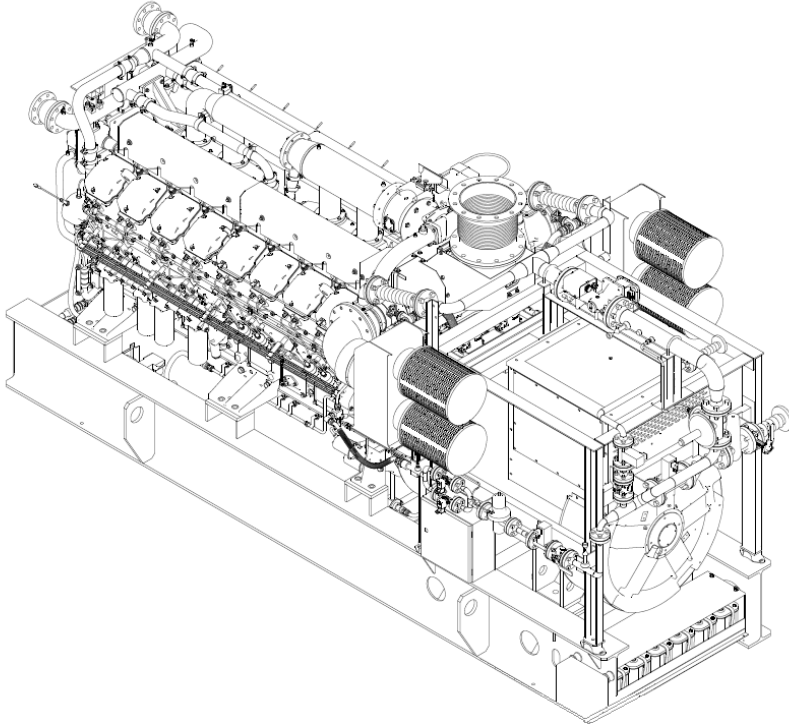
7" Human Machine Interface (HMI) for display and monitoring of operating data, alarms and history logs

Harness assembly for cable connection of control panel to genset

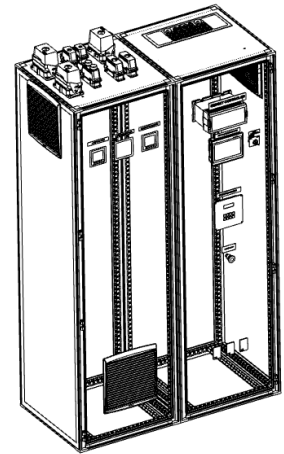
HMI is equipped with Ethernet TCP/IP com port for internet remote access

Generating set protection and alarm devices

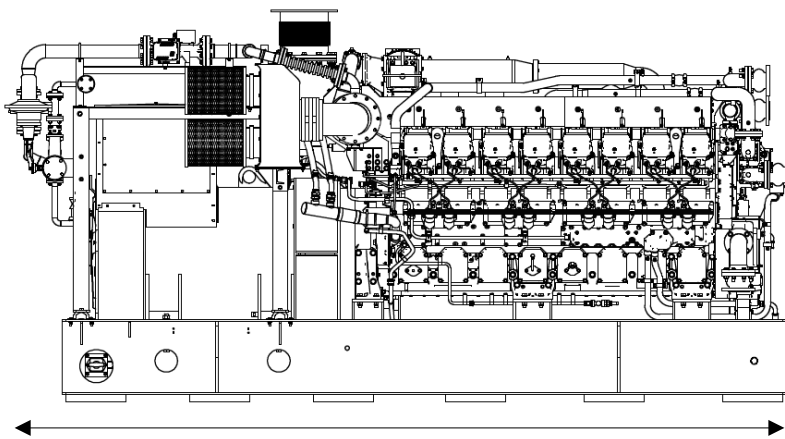




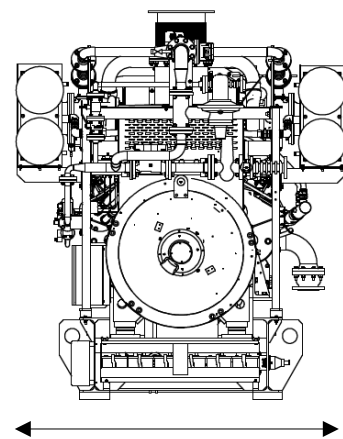
Scope is including the harness cable between genset and panel with plug&play connectors



Dry Weight = 14000Kg



5180 mm



2196 mm

2560 mm

## SCOPE OF SUPPLY

- Standard item
- Option
- 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 12 kV with 100V VTs                    | -             | ○  | -                 | ○  |
| Pump for lube oil priming  | ●             | -  | ●                 | -  |
| Jacket water heating + alternator heating                                | ●             | -  | ●                 | -  |
| Fuel main and pre chamber gas train fitted on generating set             | ●             | -  | ●                 | -  |
| Oil mist separator   | ●             | -  | ●                 | -  |
| Dry air filter, high efficiency on turbocharger                          | ●             | -  | ●                 | -  |
| Electrical jacket water pump (loose supply for open skid)                | ○             | -  | ●                 | -  |
| Electrical Intercooler pump (loose supply for open skid)                 | ○             | -  | ●                 | -  |
| Remote external dry air cooler   | ○             | -  | ●                 | -  |
| Temp. control valve for jacket water (loose supply for open skid)        | ●             | -  | ●                 | -  |
| Temp. control valve for Inter cooler (loose supply for open skid)        | ●             | -  | ●                 | -  |
| Remote box for radiator fan (feeders and meter)                          | ○             | -  | ●                 | -  |
| Generating set remote control & auxiliary panel (GCP)                    | ●             | -  | ●                 | -  |
| Harness assembly for GCP with connectors (mounted on genset side)        | ●             | -  | ●                 | -  |
| Remote Generating set protection Circuit Breaker (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 filling device on engine sump                                  | ●             | -  | ●                 | -  |
| Lube oil service tank 200 liter capacity (loose supply for open skid)    | ○             | -  | ●                 | -  |
| Set of flexible connections for engine                                   | ●             | -  | ●                 | -  |
| Engine standard tools for routine maintenance                            | ●             | -  | ●                 | -  |
| Step up transformer LV / HV 10 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 dry air cooler                                | -             | -  | ●                 | -  |
| Cooling circuit degassing and priming pipes                              | -             | -  | ●                 | -  |
| Lube oil pipes from service tank to engine sump filling device           | -             | -  | ●                 | -  |
| LV cables from alternator to protection circuit breaker                  | -             | -  | ●                 | -  |
| HV cables from transformer to protection circuit breaker                 | -             | -  | -                 | ○  |
| Fuel gas flow meter fitted on gas train                                  | ○             | -  | ○                 | -  |
| Scada system, Integrated in genset control panel (15" touch screen)      | ○             | -  | ○                 | -  |
| Gas compressor for pre chamber gas train in case of site low press       | ○             | -  | ○                 | -  |
| Oversized dry air cooler for high ambient temp                           | ○             | -  | ○                 | -  |
| CHP hot water production module 70/90°C                                  | ○             | -  | ○                 | -  |
| Thermal metering   | ○             | -  | ○                 | -  |
| 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 Mitsubishi Engine & Energy dealer for more information regarding Mitsubishi Generator Sets and optional equipment.  
 Or visit [www.mtee.eu](http://www.mtee.eu)