

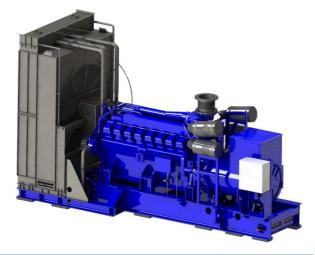
# MGS-EU 2500F1-C - RADIATOR

# MITSUBISHI GENERATOR SET

#### **EU MADE (France)**

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

RATING	
Generating set model	MGS-EU 2500F1-C
Generator voltage	400 V or HV up to 20kV
Frequency	50 Hz
Generator output PRP	1656 kWe 2070 KVA
Power factor - min	0.8
Duty	Prime Power
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



DESIGN CONDITIONS	
Ambient temp - avg/max	25/40°C
Ambient temp – min	o°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	o.83 to o.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	230 liters
Emissions	Regulated (F1)
NOx at std-by power & 02.5%	2000 mg/Nm3

ALTERNATOR DATA		
Enclosed, self ventilated, self-regulated, brushless		
Bearing configuration	Single	
Insulation class	Н	
Temperature rise class	Н	
Cooling method	Air ICo1	
Protection	IP <sub>23</sub>	
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 model	S16R F1 PTAW2		
Engine speed	1500 Rpm		
Engine brake output	1715 kWm		
Cylinder configuration	16 V		
Total displacement	65.37 liters		
Bore x Stroke	170 x 180 mm		
Compression ratio	14.0:1		
Turbocharged	4 cycles		
Governor	Electric		
Cooling method (engine driven pump)	Water (radiator)		
Starting method	Electrical 24 V DC		

#### **CE COMPLIANCE**

2006/42/EC : machinery

## LANGUAGE – UNITS

Drawings, documents, nameplates in English

 ${\sf SI\ metric\ system}$ 



PERFORMANCES @ PRIME (LV : 400V	<sup>'</sup> )
Generator output	1656 kWe
Specific consumption – ISO3046/1 : 0/+5%	211 g/kWh
Fuel oil consumption @ 100%	416 L / h
Fuel oil consumption @ 75%	308 L / h
Exhaust gas temperature	480° C
Exhaust gas flow rate	424 m3/min
Air intake flow rate	160 m3/min
Noise level@ 1m (open skid)	110.5 dB (A)

RADIATOR DATA	
Heat rejection	571/674 kW
Air on temperature by 1000m a.s.l	45°C
Coolant	MEG 30%
Max external pressure drop	150Pa
Max outlet temperature (air)	77°C
Air flow	39.5 m3/s
Coolant capacity incl. engine	356 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 (if applicable)
- Alternator space heater

Lube oil priming pump (if applicable)

24 V DC energy block to supply control system and panel equipment

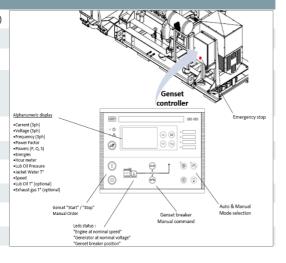
24 V DC charger to supply engine starting batteries

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



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

Air circuit breaker (ACB)

Motorized - 3 poles - 3200 amp - 400 VAC (4 poles on request)

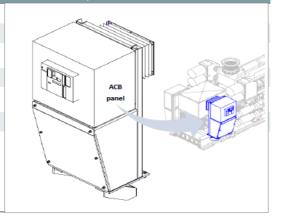
Electric protection relay

Command coil 24 V DC

Auxiliary contacts

Key lock, On/Off button lock, Safety labels

Downstream side protected by cover case for easy cable connection with no free access to live parts

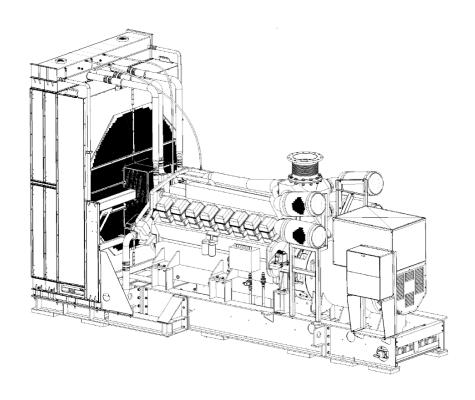


MOVE THE WORLD FORW→RD MITSUBISHI

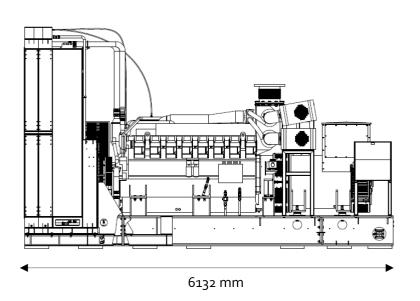
MITSUBISHI HEAVY INDUSTRIES GROUP

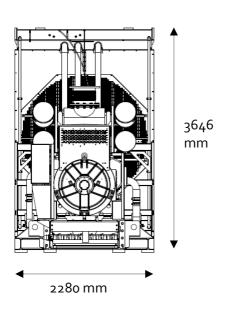


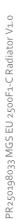
# MGS-EU 2500 F1 GENSET (S16R F1 PTAW2 / ECO46 1L/4A) LAYOUT



Dry Weight = 15800 Kg









# SCOPE OF SUPPLY

- Standard item
- o Option

Steel base frame with engine-alternator-radiator         .	- Not included or not applicable	Open skid set		Containerized set	
Elastic suspensions of the generating set Starting batteries and cables High voltage (HV) alternator 3 to 11 kV with 100V VTs Jacket water heating Jacket water pump (mounted or engine) Jacket light in the properties of the pr		LV	HV	LV	HV
Elastic suspensions of the generating set Starting batteries and cables High voltage (HV) alternator 3 to 11 kV with 100V VTs Jacket water heating Jacket water pump (mounted or engine) Jacket light in the properties of the pr	Steel base frame with engine-alternator-radiator	•	•	•	•
Starting batteries and cables High voltage (HV) alternator 3 to 1 kV with 100V VTS		•	•	•	•
High voltage (HV) alternator 3 to 1 kV with 100V VTS  acket water heating  Alternator space heater  Pump for lube oil priming, filling and draining  OOO  OI mist separator  OOO  Dry air filter, high efficiency on turbocharger  Engine driven jacket water pump (mounted on engine)  Remote external dry air cooler (removal of radiator on base frame)  Nemostatic valve for jacket water (with by-pass, mounted on engine)  Embedded Genset Control Panel, including auxiliaries power supply  Remote control panel, including auxiliaries power supply, with Harness Assy  OOO  OOO  Embedded Generating set protection Circuit Breaker Panel (LV, Remote Control Panel, including auxiliaries power supply  Remote Control panel, including auxiliaries power supply, with Harness Assy  OOOO  GOOO  Embedded Generating set protection Circuit Breaker Panel (LV, HV)  OOOOO  GOOO  Embedded Generating set protection Circuit Breaker Panel (LV, HV)  OOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOO		•	•	•	•
Jacket water heating Alternator space heater Pump for Jube oil priming, filling and draining O O O O O O O O O O O O O O O O O O O	High voltage (HV) alternator 3 to 11 kV with 100V VTs	-	0	-	0
Alternator space heater Pump for Jube oil priming, filling and draining 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Jacket water heating	0	0	0	0
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Engine standard tools for routine maintenance  O O O O O O O O O O O O O O O O O O		•	•	•	•
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		0	0	0	0
Alternator according to specific country grid code o o o o	Alternator according to specific country grid code	0	0	0	0

## **CONTACTS DETAILS**

MITSUBISHI TURBOCHARGER AND ENGINE EUROPE B.V. 70 rue Jean Jaurès 59 770 MARLY France

Phone: + 33 3 27 32 48 48 Fax: + 33 3 27 32 48 49

e-mail: mteef@mtee.eu

#### More information

Contact your local dealer for more information regarding Mitsubishi Generator Sets and optional equipment or, visit <a href="equipment-genset.mhi.com">equipment or,</a> visit <a href="equipment-genset.mhi.com">equipment or,</a>