

YF-1200GF-T / 60HZ



*For illustration purpose

YF-1200GF-T / 60Hz

POWER RATING

Continuous	1200kW
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Voltage Variation

Standard Voltage	3Phase 4 Wires, 480V
Voltages Available	3Phase 4 Wires, 380V, 400V, 416V, 440V and 460V

Note: Outputs for optional voltages may differ from standard output mentioned above.

DIMENSION (REFERENCE DATA)

Overall Dimensions	Length	6160 mm
	Width	2120 mm
	Height	2475 mm

Total Weight (Dry)	18900 kg
Total Weight (With Water & Oil)	19500 kg



ECONOMICAL



RELIABLE



ECO-FRIENDLY



ROBUST
PERFORMANCE



EASY
MAINTENANCE

CONDITIONS & DEFINITIONS

SYM	NAME OF RATING	OVERLOAD OPERATION	DEFINITION	LOAD/OPERATING HOUR*		
				AVE. LOAD FACTOR	AVE. LOAD	OPERATING
C	Continuous	Not allowed	Rating that can continuously generate power without limitation for operating hour per year under the required conditions for warranty in this document.	Maximum 100%	Maximum 100%	Unlimited

* Average load factor (per 24Hr or year) shall be calculated as per the formula in ISO 8528-1:2018 'average power output (Ppp)'.

GENERATOR SET OVERVIEW SPECIFICATION

This specification covers the indoor use MHIESA gas engine generator set and attached equipment.

Generator Set	MODEL		YF-1200GF-T
	Frequency	Hz	60
	Voltage	V	480
	Duty		Continuous
	Rated Output	kVA	1500kVA
		kW	1200kW
	Gen. Eff.	%	42.7
	Hot water	%	11.7
	Exhaust heat	%	21.5
	Total Eff.	%	75.8
	NOx emission at O ₂ =0%	ppm	320
Engine	MODEL		GS16R2-PTK-C
	Speed (min ⁻¹)		1200
	Output (kWm)		1250
	Fuel Consumption m ³ N/h (% Load)	50%	150.7
		75%	214.6
		100%	277.4
	Lub. Oil Consumption (liter/h) 100% Load		0.464
	Cooling System		Closed looped circuit by external radiator

Generation efficiency is based on the following conditions as our standard.

- (1) Initial performance of the rated load
- (2) Generator power factor : 0.9 or higher (lagging)
- (3) Under standard atmospheric according to ISO 3046
- (4) Tolerance: +5%
- (5) Methane number: 80 or higher, fuel gas lower heating value: 36.47 MJ/m³
- (6) Exhaust gas back pressure : 5.0kPa or lower
- (7) Heat output from exhaust: exhaust cooling to 120° C

APPLICABLE STANDARD

The gas generator set is designed in accordance with JIS,JEC, JEM, IEC, ISO and manufacturer's standards unless otherwise specified.

JIS : Japanese Industrial Standards

JEC : Japanese Electrotechnical Committee

JEM : The standard of Japanese Electrical Manufacturers Association

IEC : International Electrotechnical Commission

ISO : International Standard Organization

PAINTING

standard colour Munsell 6.0PB 4.4/5.2

ENVIRONMENT ETC.

MHIESA gas generator sets are designed to meet following operating conditions

Relative humidity : Max. 85%

Ambient Temperature : 5°C ~ 40°C

Altitude above sea level : <150m

GAS ENGINE

PARTICULARS OF GAS ENGINE

Engine model	GS16R2-PTK-C 4 cycle, water cooled, spark ignition pre-mixed fuel gas and air with exhaust turbine turbocharger and intake air cooler
No. of cylinder	16 V
Bore / stroke (mm)	170 / 220
Total displacement	79.9 liter
Frequency regulation	(100% load unloading or 20% loading) Transient ----- 15% or below Steady State ----- 5% or below Recovery Time --- 15 sec or below
Governor	Electronic air-fuel mixture control type
Fuel gas	Dry natural gas
Lubricating oil	Refer to Operation & Maintenance manual
Lubricating system	Forced lubricating by gear pump wet sump system
Lub. oil capacity	460 Liters (oil pan: 430Liters)
Lub. oil filter	Full flow paper element type
Lub. oil cooler	Jacket Water cooled corrugated type
Coolant	Refer to Operation & Maintenance manual
Water pump	Centrifugal type drive by AC motor Required water flow: Jacket water circuit : 75m ³ /h Intercooler circuit : 45m ³ /h
	Pressure loss in engine Jacket water circuit : 150kPa Intercooler circuit : 100kPa
Turbocharger	Exhaust gas turbine
Air cleaner	Paper element
Starting system	Electric starting Starter motor capacity : 7.5kW x 2 (DC24V)
Stopping system	de-energize to engines top type solenoid valve on inlet of fuel gas pipe.

CONTROL & MONITORING SYSTEM

MHIESA gas generator set is standard equipped with an Engine Auxiliary Control Panel, a MHI developed Engine Control Panel (M-Agic), and a Remote Monitoring Panel. An optional Generator Control Panel allows customer easily integrate parallel operation function in their control system.

PARTICULARS OF AC GENERATOR

STANDARD SPECIFICATION

Type	Brushless, self-excited, self-ventilated and rotating field
Protection	IP23
Power factor	0.8 lagging
No. of pole	6 poles
Insulation/Temp. Rise	Class H/F
Exciter	Brushless
Bearing	Single bearing

Generating set remote control panel specification and main functions

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 and manual control of engine 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

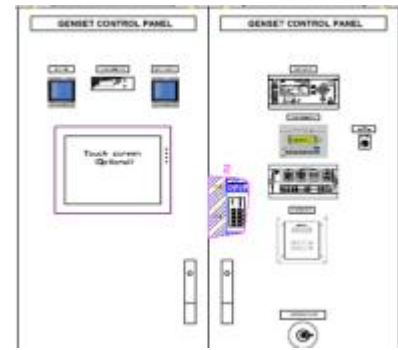
24 V DC energy block to supply PLC and panel equipment

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

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

Generating set protection and alarm devices



Optional Harness assembly for cable connection of Genset Control Panel

As an option, this cable kit is delivered already mounted on genset side, with industrial type connectors for GCP connection.

Optional SCADA system integrated in generating set control panel (15" touch screen)

As an option, a 15" graphic colour touch screen is integrated in the Generating set Control Panel, this item complete the HMI system. It is provided with built-in SCADA software for monitoring and control + remote access by web server via the freeware VNC (Virtual Network Computing).

Generating set remote protection circuit breaker specification and main functions (LV)

- Motorized - 3 poles – 3200 Amps – 0.4 kV
- Electric protection relay - Command coils 24 / 48 V
- Auxiliary contacts - Protection panel of On / off push buttons
- Panel with copper fitting bars.
- Metering device (Class 0.5) for generator net output, auxiliary supply from generator and grid

Sound proofed generating set container main specifications

- Sound proofing baffles
- Rain screens protected by anti volatile grid
- Air extractor fans for heat dissipation
- Room thermostat
- Access doors & maintenance doors, with anti panic bar and locks
- Ladder for access to the roof of container
- Normal indoor lighting and emergency lighting
- Fire detection system
- Gas detection syst. + automatic shut off valve
- External emergency stop button
- All technical passages for cables and pipes



Remote external HT / LT dry air cooler main specification

- Horizontal double bundle
- Copper tubes and aluminum fins
- Expansion tanks on radiator
- Low level switches, level indicator
- Noise level < 65 dB(A)@10 m

