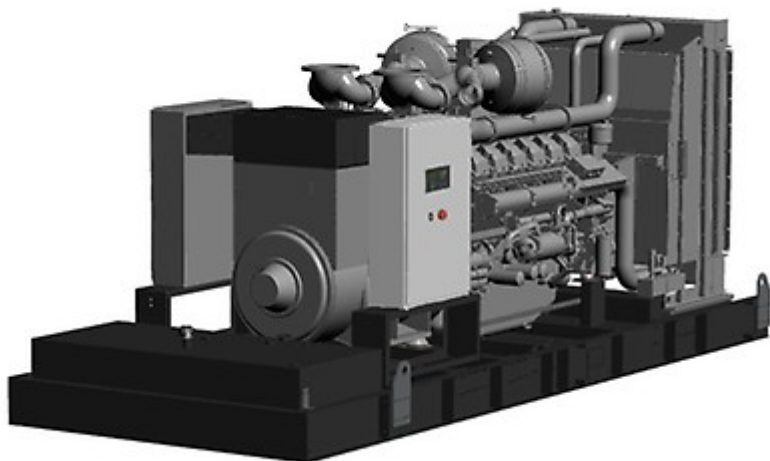


# GSW1425MH



## Main Features

Frequency	Hz	50
Voltage	V	400
Power factor	cos $\phi$	0.8
Phase and connection		3

## Power Rating

Standby power LTP	kVA	1400.00
Standby power LTP	kW	1120.00
Prime power PRP	kVA	1275.00
Prime power PRP	kW	1020.00

## Ratings definition (According to standard ISO8528 1:2005)

### PRP - Prime Power:

It is defined as being the maximum power which a generating set is capable of delivering continuously whilst supplying a variable electrical load when operated for an unlimited number of hours per year under the agreed operating conditions with the maintenance intervals and procedures being carried out as prescribed by the manufacturer. The permissible average power output over 24 h of operation shall not exceed 70 % of the prime power.

### LTP - Limited-Time running Power:

It is defined as the maximum power available, under the agreed operating conditions, for which the generating set is capable of delivering for up to 500 h of operation per year (whose no more than 300 for continuative use) with the maintenance intervals and procedures being carried out as prescribed by the manufacturers. No overload capability is available.

## DIESEL ENGINE FEATURES

### General data

Manufacturer	MITSUBISHI
Model	S12R-PTA
N° cylinders / disposition	12 in "V" angle
Bore and Stroke	170 / 180 mm
Total displacement	49030 cc
Compression ratio	14.0 :1
Fuel injection	Direct
Aspiration system	Turbocharged
Cooling system	Water

### Operating data

Engine speed	1500 rpm
Net PRP Power	1080 kWm
Net LTP Power	1190 kWm
<i>Rating conditions: 25°C air inlet temperature, barometric pressure 100 kPa, relative humidity 30%</i>	
Fuel consumption at 100% PRP	261 l/h
Air flow (cooling + combustion)	1898 m³/min
Exhaust gas flow	26 m³/min

### Engine equipment

Air filters

Fuel injection pump

Fuel filter

Lube Oil filter

Electronic speed governor

Mechanical radiator

Electric starting motor 24V DC

## Alternator Specifications

Alternator	Mecc Alte	
Model	ECO43-2LN/4	
Voltage	V	400
Frequency	Hz	50
Power factor	cos $\phi$	0.8
Voltage regulation system	Electronic	
Poles	4	
Type	Brushless	
Standard AVR	DER1	
Voltage tolerance	%	1
Efficiency @ 75% load	%	96.2
Class	H	
IP protection	21	
Phases	3	



### Mechanical structure

Robust mechanical structure which permits easy access to the connections and components during routine maintenance check-ups.

### Voltage regulator

Voltage regulation with DER 1. The digital DER 1 is a Digital controlled regulator, based on DSP (Digital Signal Processor) that combines function as Voltage Regulation and Alternator Protections and Diagnostic into a very small single board.

Voltage supply: 40Vac+270Vac

Maximum continuous output current: 4Adc

Frequency range: 12Hz+72Hz

Single phase sensing automatic recognition

Average value of voltage regulation

Voltage regulation range (sensing) from 75Vac to 300Vac

Precision of voltage regulation:  $\pm 1\%$  from no-load to nominal load in static condition, with any power factor and for frequency variations ranging from -5% to +20% of the nominal value.

Precision of voltage regulation:  $\pm 0,5\%$  in stabilized conditions (load, temperature).

Transient voltage drop and overvoltage within  $\pm 15\%$

Voltage recovery time within  $\pm 3\%$  of the value set, in less than 300 msec.

Underspeed protection with adjustable threshold and slope

Overvoltage and undervoltage alarms

Excitation overcurrent protection with delayed intervention

Allarm conditions storage (type of alarm, number of events, duration of the last event, total time)

Memorization of the regulator operation time



### Windings / Excitation system

Generator stator is wound to 2/3 pitch. This eliminates triplen (3rd, 9th, 15th ...) harmonics on the voltage waveform and is found to be the optimum design for trouble-free supply of non-linear loads. The 2/3 pitch design avoids excessive neutral currents sometimes seen with higher winding pitches. MAUX (Standard): The MAUX MeccAlte Auxiliary Winding is a separate winding within the main stators that feeds the regulator. This winding enables to take an overload of 300% forced current (short circuit maintenance) for 20 seconds. This is ideal for motor starting requirements. PMAUX (optional): Alternator can be equipped with the optional PMAUX (Permanent Magnet Generator) which matches the performance and is capable of supporting both linear and distorted loads.

### Insulation / Impregnation

Insulation is of class H standard. Impregnation is made with premium tropicalised epoxy resins by dipping and dripping. High voltage parts are impregnated by vacuum, so the insulation level is always very good. In the high-power models, the stator windings undergo a second insulation process. Grey protection is applied on the main and exciter stator to give enhanced protection.

### Reference standards

Alternator manufactured according to , and complies with , the most common specification such as CEI 2-3, IEC 34-1, EN 60034-1, VDE 0530, BS 4999-5000, CAN/CSA-C22.2 No14-95-No100-95.

## Genset equipment

### BASE FRAME:

Base frame made of welded steel profiles, complete with anti-vibration mountings properly sized.

The baseframe has a grounding point to connect all metal parts of the generating set and it provides a high structural strength.

### ENGINE COMPLETE WITH:

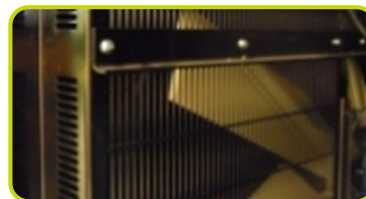
- Liquids (no fuel)
- Manual oil Draining pump

### PROTECTIONS:

- Moving and rotating parts protection against accidental contacts

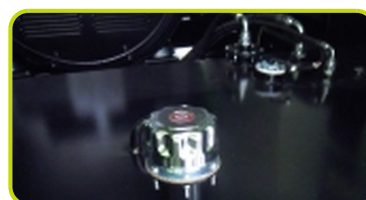
### LIFTING:

- Lifting points frame structure.



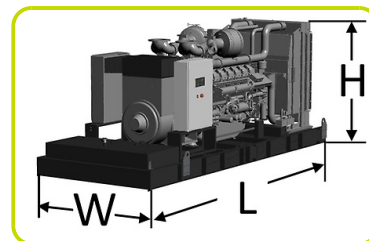
### Genset Equipment - Basic Configurations Available:

BAT – LEAD-ACID STARTING BATTERIES KIT			:
Battery	n	2	
Battery Capacity	Ah	-	
MBS - Manual Battery Switch			•
EXHAUST SILENCER - VERSIONS AVAILABLE			:
IES - Industrial silencer	dB(A)	-15	
RES - Residential silencer	dB(A)	-35/38	
FEC - Flexible Exhaust Compensator Bellow and flanges			•
Hot parts protection			•
INTEGRATED FUEL TANK - VERSIONS AVAILABLE			:
IFT1 - Integrated Fuel Tank (steel)	l	500	
IFT2 - Integrated Fuel Tank (steel)	l	1000	
FBD - Fully bundled base frame			•
LDS - Leakage detection sensor (only with FBD)			•
FCV - Fuel Cut Off Valve			•
AFP - Automatic Fuel Pump			•
DFP - Double Automatic Fuel Pump			•
PHS - Coolant Pre-Heating System - available for models:			•
ALS - Automatic Lube Oil Top Up System with lube oil tank 100L			•
• : Supplement available			.
Other Configurations and-or special versions available on requests			.



#### Dimensional data preliminary

Length	(L) mm	4820
Width	(W) mm	2170
Height	(H) mm	2350
Dry weight	Kg	9278



#### Installation data

Exhaust gas flow @ PRP	m <sup>3</sup> /min	-
Exhaust gas temperature @ LTP	°C	-

#### Data Current

Battery capacity	Ah	-
MAX current	A	-
Circuit breaker	A	2000

#### Control panel availability

AUTOMATIC CONTROL PANEL	ACP
MODULAR PARALLEL PANEL	MPP

## MPP - Modular parallel panel

Mounted on the genset, complete with digital control unit Intelivision5 for monitoring, control, protection and load sharing for both single and multiple gen-sets operating in standby or parallel modes (up to 32 gen-sets in island).

### DIGITAL INSTRUMENTATION (Graphical display 320x240 pixels)

- Mains: voltage, Intensity, Frequency.
- Mains kW - kVAr -Power factor Cos f.
- Generating set voltage (3 phases).
- Generating set frequency.
- Generating set current (3 phases).
- Generating set Power (kVA - kW - kVAr - Cos f).
- Generating set kWh and kVAh.
- Battery voltage.
- Hours-counter.
- Engine speed r.p.m.
- Fuel level (%).
- Engine temperature - Oil pressure

### COMMAND AND OTHERS

- Operation modes: OFF - AMF function - Single Parallel to mains Island application - Single Parallel to Mains AMF application - Multiple parallel genset Island application.
- Pushbutton for forcing Mains Breaker/contactors or Genset Breaker/contactors.
- Push-buttons: start/stop, fault reset, up/down/page/enter selection.
- Multiple parallel and Power Management operation with digital load AVR sharing.
- Automatic synchronizing and power control (via speed governor or ECU)
- Baseload Import/Export and Peak shaving
- Voltage and PF control (AVR).
- Configurable digital I/O (12/12) and analogue inputs (3).
- Integrate PLC programmable functions.
- Event-based history (up to 500records).
- Selectable measurement range 120/277V and 0-1/0-5A.
- Remote starting and Blocking signal availability.
- DC system disconnection switch.
- Acoustic alarm.
- Automatic battery charger.
- 2xRS232/RS485/USB Comunication ports.
- Multi-pin connector (in and out) for parallel with other generators

### PROTECTION

- Engine protections: low fuel level, low oil pressure, high engine temperature.
- Genset protections: under/over voltage, overload, under/over frequency, starting failure, under/over battery voltage
- Others: overcurrent, shortcircuit, reverse power, Earth fault
- Emergency stop button.



### MPP - Basic Configurations Available:

POWER PANEL - BREAKERS AVAILABLE: :

GMB1 - Genset Circuit Breaker 3-pole motorized	A	2000
GMB2 - Genset Circuit Breaker 4-pole motorized	A	2000
ETB - External Terminal Board (with GMB)		Standard
RCG - Various Supplement fof Remote Control		•
TLP - Various supplements for remote signals		•
CAH - Control Panel Anti-Condensation Heater (MPP)		•
• : Supplement available		.

Other Configurations and-or special versions available on requests .

