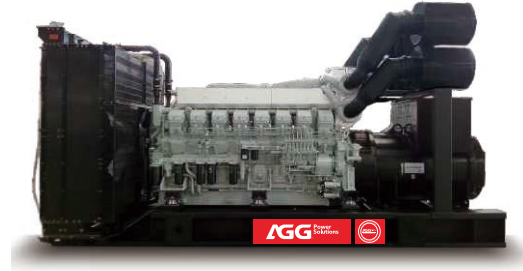


## Model: MT 1 1 0 0 D 5

Powered by MITSUBISHI



### Generator Specification

| Service                        | PRP <sup>(1)</sup> | ESP <sup>(2)</sup> |
|--------------------------------|--------------------|--------------------|
| Power (kVA)                    | 1000               | 1100               |
| Power (kW)                     | 800                | 880                |
| Rated speed (r.p.m)            | 1500               |                    |
| Standard voltage (V)           | 400/230V           |                    |
| Rated at power factor(cos phi) | 0.8                |                    |



AGG Power gensets are compliant with ISO 9001 and CE standard, which include the following directives:

- 2006/42/EC Machinery safety.
- 2006/95/EC Low voltage
- EN 60204-1: 2006+A1: 2009, EN ISO 12100: 2010, EN ISO 13849-1: 2008, EN 12601 : 2010

#### (1) PRP (Prime Power):

According to ISO8528-1, prime power is the maximum power available during a variable power sequence, which may be run for an unlimited number of hours per year, between stated maintenance intervals. The permissible average power output during at 24 hours period shall not exceed 80% of the prime power. 10% overload available for governing purposes only.

#### (2) ESP (Standby Power):

According to ISO 8528-1, 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 hours of operation per year (of which no more than 300 hours for continuative use) with the maintenance intervals and procedures being carried out as prescribed by the manufacturers. No overload capability is available.

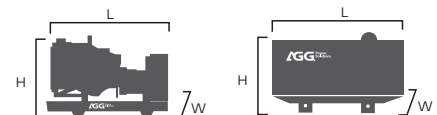
| Powers Voltage (V) | ESP  |     | PRP  |     | Standby Amps |
|--------------------|------|-----|------|-----|--------------|
|                    | KVA  | KW  | KVA  | KW  |              |
| 415/240            | 1100 | 880 | 1000 | 800 | 1530.4       |
| 400/230            | 1100 | 880 | 1000 | 800 | 1587.8       |
| 380/220            | 1100 | 880 | 1000 | 800 | 1671.3       |

### Performance Data

|                        |                    |     |
|------------------------|--------------------|-----|
| Model                  | MT1100D5           |     |
| Engine brand           | Mitsubishi         |     |
| Engine model           | S12H-PTA           |     |
| Speed control type     | Electronic         |     |
| Phase                  | 3                  |     |
| Control system         | Digital            |     |
| Starter motor voltage  | 24V                |     |
| Frequency              | 50HZ               |     |
| Engine speed (RPM)     | 1500               |     |
| Fuel Consumption (L/H) | 100% standby power | -   |
|                        | 100% prime power   | 216 |
|                        | 75% prime power    | -   |
|                        | 50% prime power    | -   |

#### Standard reference Conditions

Note: Standard reference condition 25°C(77°F) air inlet temp, 1000m(328ft) A.S.L 30% relative humidity. Fuel consumption dat with diesel fuel with specific gravity of 0.85 and conforming to BS 2869: 1998, Class A2



### Dimension and Weight

| Dimension     | Open   | Silent  |
|---------------|--------|---------|
| Length (L)    | 4255mm | 5812mm  |
| Width (W)     | 1940mm | 2040mm  |
| Height (H)    | 2375mm | 2520mm  |
| Net Weight    | 8400KG | 11716KG |
| Fuel Tank (L) | Option | Option  |

## ■ Engine Specification: S12H-PTA

| Basic technical data      |                       |
|---------------------------|-----------------------|
| No. of cylinders          | 12                    |
| Cylinder arrangement      | 60°V                  |
| Type                      | 4-Cycle, Water Cooled |
| Induction system          | TBD                   |
| Compression ratio         | 14.0:1                |
| Bore                      | 150mm                 |
| Stroke                    | 175mm                 |
| Displacement              | 37.11L                |
| Firing order              | TBD                   |
| Approximate engine weight | 4300kg                |

| Cooling system  |                      |
|---|----------------------|
| Coolant Capacity (Engine only)                            | 100liter             |
| Maximum External Friction Head<br>at Engine Outlet        | 0.35kgf/cm           |
| Maximum Static Head of Coolant<br>above Crankshaft Center | 10m                  |
| Maximum Outlet Pressure of<br>Engine Water Pump           | 2kgf/cm <sup>2</sup> |
| Standard Thermostat<br>(modulating) Range                 | 71-85°C              |
| Maximum Coolant Temperature<br>at Engine Outlet           | 98°C                 |

| Fuel system  |                               |
|--|-------------------------------|
| Fuel Injector  | Mitsubishi Unit injector × 12 |
| Maximum Suction Head of<br>Feed Pump - mm Hg (in. Hg)  | 75 (3.0)                      |
| Maximum Static Head of<br>Return Pipe - mm Hg (in. Hg) | 220 (8.7)                     |

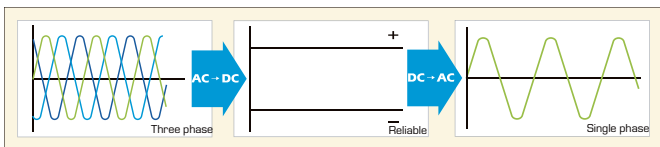
| Lubrication system                             |                        |
|--|------------------------|
| Oil Pressure                                   |                        |
| -at Idle                                       | 2-3kgf/cm <sup>2</sup> |
| -at Rate Speed                                 | 5-6kgf/cm <sup>2</sup> |
| Maximum Oil Temperature                        | 110°C                  |
| Oil Capacity of Standard Pan                   |                        |
| -High  | 180liter               |
| -Low   | 150liter               |
| Total System Capacity<br>(Includes Oil Filter) | 200liter               |
| Maximum Angle of Installation                  |                        |
| -Front Down                                    | 9.5 °                  |
| -Front Up                                      | 11 °                   |
| -Side to Side                                  | 22.5 °                 |

| Starting system                                     |             |
|---|-------------|
| Battery Charging Alternator                         | 24V-30Ah    |
| Starting Motor Capacity                             | 24V-7.5*2kW |
| Maximum Allowable Resistance<br>of Cranking Circuit | 1.5mΩ       |
| Recommended Minimum Battery Capacity                |             |
| -At 5°C (41° F) and above-Ah                        | 300         |
| -Below 5°C (41° F) through-5°C (23° F)              | 600         |

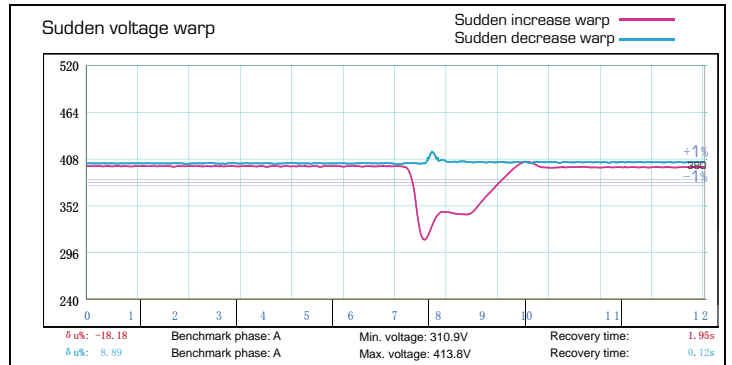
| Engine Rating                 |                         |
|-------------------------------|-------------------------|
| Brake Horse power without Fan | 930kW                   |
| Mean Piston Speed             | 8.8m/s                  |
| Exhaust Gas Flow              | 201 m <sup>3</sup> /min |
| Coolant Flow                  | 670 l/s                 |
| Radiated Heat to Ambient      | 57237kcal/hr            |
| Heat Rejection to Coolant     | 476978kcal/hr           |
| Heat Rejection to Exhaust     | 573827kcal/hr           |

## ■ Alternator Specification

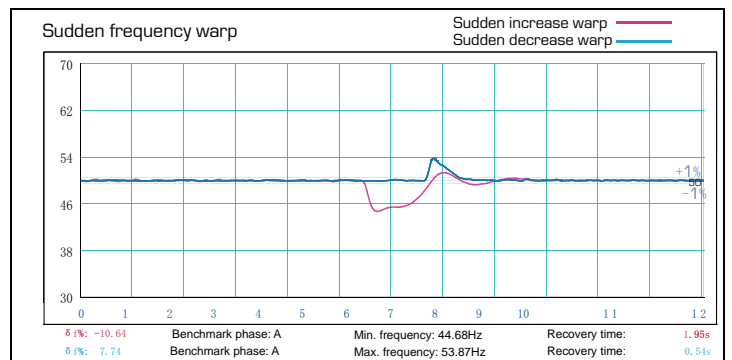
| Alternator                     |                     |
|--------------------------------|---------------------|
| Number of phase                | 3                   |
| Power factor (Cos Phi)         | 0.8                 |
| Poles                          | 4                   |
| Winding Connections (standard) | Star-serie          |
| Terminals                      | 12                  |
| Insulation type                | H class             |
| Winding Pitch                  | 2/3                 |
| IP rating                      | IP23                |
| Excitation system              | Self-excited        |
| Bearing                        | Single bearing      |
| Coating                        | Vacuum impregnation |
| Voltage regulator              | A.V.R               |
| Couping                        | Flexible disc       |



Emergency voltage curve



Emergency frequency curve



## ■ Options

| Engine   | Alternator   | Generator Sets   | Fuel System   |
|--|--|--|---|
| <ul style="list-style-type: none"> <li>Water Jacket Pre-heater</li> <li>Fuel heater</li> </ul> | <ul style="list-style-type: none"> <li>Winding Temp measuring Instrument</li> <li>Alternator Pre-heater</li> <li>PMG</li> <li>Anti-damp and anti-corrosion treatment</li> <li>Anti-condensation heater</li> <li>Winding and bearing RTD</li> </ul> | <ul style="list-style-type: none"> <li>Tools with the machine</li> <li>Extended range fuel tank</li> <li>Bunded fuel tank</li> </ul> | <ul style="list-style-type: none"> <li>Low fuel level alarm</li> <li>Automatic fuel feeding system</li> <li>Fuel T-valves</li> </ul>                          |
| Canopy   | Lub oil system   | Cooling System   | Control Panel   |
| <ul style="list-style-type: none"> <li>Rental type Canopy</li> <li>Trailer</li> </ul>          | <ul style="list-style-type: none"> <li>Oil Pre-heater</li> <li>Oil temp sensor</li> </ul>  | <ul style="list-style-type: none"> <li>Front heat protection</li> </ul>  | <ul style="list-style-type: none"> <li>Remote control panel</li> <li>ATS</li> <li>Synchronizing controller</li> <li>Adjustable earth leakage relay</li> </ul> |

## ■ Control Panel

### Configuration

- Emergency stop button
- Protection MCB
- Battery charger
- Integrated aviation plug
- ATS connection
- Digital control module

### Features

- 3 phase generator set monitoring
- Support of engines equipped with electronic control unit
- Comprehensive diagnostic message
- Automatic or manual start/stop of the gensets
- Push buttons for simple control, lamp test
- Graphic back-lit LCD display
- Parameters adjustable via keyboard or PC
- Mains measurements ( 50HZ/60HZ)
- Generator measurements ( 50HZ/60HZ)
- Comprehensive shutdown or warning on fault condition
- 3 phase Generator protections
  - Over-/under voltage
  - Over-/under frequency
  - Current/voltage asymmetry
  - Over current/overload
- 3 phase AMF function
  - Over-/under frequency
  - Over-/under voltage
  - Voltage asymmetry
- Configurable analog inputs
- Battery voltage, engine speed (pick-up) measurement
- Configurable programmable binary inputs and outputs
- Warm-up and cooling functions
- Generator C.B. and Mains C.B. control with feedback and return timer
- RS232 interface
- Modem communication support
- Hours counter
- Sealed to Ip65
- Event log

### Benefits

- Less wiring and components
- Integrated solution
- Less engineering and programming
- User friendly set-up and button layout
- Module can be configured to suit individual applications
- PC software for simplified configuration
- Wide range of communication capabilities

### Operation conditions

- Operation temp: -20 °C to + 70 °C
- Storage temp: -30 °C to + 80 °C
- Operating humidity: 95% w/o condensation
- Vibration : 5-25Hz, ±1.6 mm  
5-100Hz, a=4g
- Shocks: a= 500m/s<sup>2</sup>

### Options

- Ethernet interface (Remote monitoring and control)
- GSM modem/wireless internet (Remote monitoring and control)
- RS232-RS485 Dual port interface
- Synchronizing control panel
- Distribution board with sockets kit and power busbar
- Battery trickle charge ammeter
- Earth leakage protection
- Earth fault protection
- Low fuel level alarm
- Low fuel level shutdown
- High fuel level alarm
- Fuel transfer system control
- Low coolant level shutdown
- High lube oil temp shutdown
- Overload via alarm switch on breaker
- Engine coolant heater controls
- Control panel heater
- Speed adjust switch
- Oil temp displayed on LCD screen
- Additional 8 inputs and outputs