



**Millennium Power Manufacturing Corp.**  
<http://www.mpmc-china.com>

# **MLS45-1 (1004G)**

## **Generating set Technical Data Sheet**



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**ISO9001:2000**  
MPMC GENERATING SETS



## STANDARD SPECIFICATION

### General features:

- Composed of LOVOL diesel engine and Stamford or MPMC alternator
- 12V DC start motor and storage battery
- Brushless, Self-excited, IP23, insulation class H alternator
- Engine cooling system: water-cooled
- Key start panel control system as standard, digital auto-start panel is optional
- 8-hour operation base tank
- Optional open type or silent type
- All generator sets are gone through rigorous testing before being released to the market place, including 50% load, 75% load, 100% load , 110% load and all protection function (overspeed stop, high water temperature, low oil pressure, battery charging fail, emergency stop)



### Genset Main Technical Data

**3-PH, 50Hz@1500RPM, 400/230V** (Also Can Be Made According To Customers' Special Requirements)

| Genset Model | Genset Specification |     |                  |           |          | Engine Specification |      |      |      | Alternator Model |
|--------------|----------------------|-----|------------------|-----------|----------|----------------------|------|------|------|------------------|
|              | kVA                  |     | Cons. 100% (L/H) | dB(A) @7m | Tank (L) | Model                | Cyl. | Gov. | Asp. |                  |
|              | ESP                  | PRP |                  |           |          |                      |      |      |      |                  |
| MLS45-1      | 49.5                 | 45  | 11.2             | N/A       | 200      | 1004G                | 4    | M    | NA   | UCI 224C         |
| MLS45S-1     | 49.5                 | 45  | 11.2             | 70        | 220      | 1004G                | 4    | M    | NA   | UCI 224C         |
| MLM45-1      | 49.5                 | 45  | 11.2             | N/A       | 200      | 1004G                | 4    | M    | NA   | MPA 184JC        |
| MLM45S-1     | 49.5                 | 45  | 11.2             | 70        | 220      | 1004G                | 4    | M    | NA   | MPA 184JC        |

- 1) Available in various voltages
- 2) To show MPMC Generating Sets Model  
For example: MCM38-1A, it is the open generation set.  
MCM38S-1A, it is the silent generating set.
- 3) ESP=Standby power standby duty, operation under variable load, without overload  
PRP=Prime power continuous duty operation, under variable load, 10% overload permissible 1/12hr
- 4) E=Electronic speed governor;  
M=Mechanical speed governor
- 5) Asp=Aspiration;  
NA=Naturally Asp;  
TC=Turbocharged;  
TW=Turbocharged after water-cooled;  
TCA= Turbocharged air intercooler
- 6) Technical data is subject to work test conditions

## Reliable Performance

### Voltage regulation

Voltage regulation maintained within  $\pm 0.5\%$  as follow:

- Power factor Between 0.8~1.0 lag
- From no load to full load, any steady load
- Speed droop variation under 4.5%

### Frequency/Speed undulation

- Change load from 0-100%, Frequency/Speed Droop Ratio within 5%
- Load from 25-100%, any steady load Frequency/Speed undulation within 0.25%

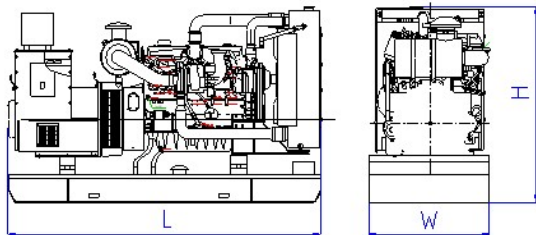
### Effect factor of telecom

- TIF( MA MG1-22) better than 50
- THF( BS EN60034) better than 2%

## Criterion

- ISO8528, GB/T2820
- EN12601:2001, EN60034-22:1997, EN60204-1:2006
- ISO9001:2000 Quality Control System

## Dimension and Weight

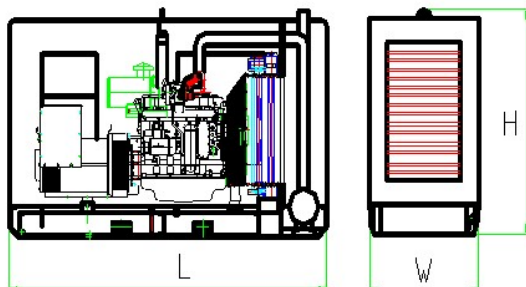


### Open Type

Overall size (L\*W\*H)

1800×750×1200

**Weight: 940kg**



### Silent Type

Overall size (L\*W\*H)

2600×1000×1600

**Weight: 1430kg**

## ENGINE SPECIFICATION

### LOVOL Diesel Engine

#### Technical Data

|   |                    |
|---|--------------------|
| Engine Model                            | 1004G              |
| Number of Cylinders                     | 4                  |
| Cylinder arrangement                    | Vertical in-line   |
| Cycle                                   | Four stroke        |
| Aspiration                              | Natural Aspiration |
| Bore×Stroke (mm×mm)                     | 100 x 127          |
| Displacement (Liter)                    | 3.99               |
| Compression Ratio                       | 16.5:1             |
| Prime Power/Speed (kW/rpm)              | 40/1500            |
| Standby Power/Speed (kW/rpm)            | 44/1500            |
| Speed Governor                          | Mechanical         |
| Cooling System                          | Water-cooled       |
| Speed Stability (%)                     | ≤5%                |
| Total lubrication system capacity (L)   | 8.1                |
| Coolant capacity (without radiator) (L) | 11.2               |
| Fuel Consumption at 100% Load (L/h)     | 11.2 (at 1500RPM)  |
| Starter Motor                           | 4.2kW, DC12V,      |
| Alternator                              | AC12V              |

## Alternator SPECIFICATION

### Stamford Alternator (Standard)

### MPMC Alternator (Option)

#### Technical Data

|                          |  |
|--------------------------|--|
| Alternator Model         | BCI XXXX (Stamford)<br>MPA XXXX(MPMC)<br>Please Refer To The “ Genset Main Technical Data” |
| Exciter type             | Brushless, Self-excited  |
| Power factor             | 0.8  |
| Voltage Adjust range     | ≥5%  |
| Voltage Regulation NL-FL | ≤±0.5%   |
| Insulation Grade         | H  |
| Protection Grade         | IP23   |

## Control System

### 1. Standard: MP170HC Key Start

Providing the standard functions as follows:

(Also can be made according to the customers' special requirements)

- \* Start/Stop controller
- \* Ampere meter
- \* Voltmeter and selector switch
- \* Frequency meter/ Water temperature gauge/ Oil pressure gauge/  
Hour counter/ Battery voltage meter
- \* Emergency stop pushbutton
- \* Alarm System: Over speed、High Engine Temperature  
Low Oil Pressure、Charge Fail
- \* Protection System: Over speed、High Engine Temperature、Low Oil  
Pressure、Emergency Stop. And the other protection function  
pre-setting

### 2. Option: Smartgen HGM6110 Digital Auto Start

### 3. Option: Smartgen HGM6120 Digital Auto Start (Option assembled with the ATS)

### 4. Option: Deep Sea DSE5210 Digital Auto Start

### 5. Option: Deep Sea DSE5220 Digital Auto Start (Option assembled with the ATS)

Digital Auto-start Generator controller integrating digital, intelligent and network techniques is used for automatic control system of diesel generator. It can carry out functions including automatic start/stop, data measure and alarming. Optionally assembled with the ATS, it can carry out auto-switching between the outer power and generating set power. (AMF)

#### Functions:

- \* Automatic Start/Stop
- \* 3 start attempts failure and Automatic Crank Disconnect
- \* Parameters display (V/A/Hz/Hour)
- \* Engine monitoring and protection
- \* Charge alternator exciting and Charge alternator fail alarm
- \* Running hour counting
- \* Settings can be adjustable via key buttons on front panel

### 6. option: BGC-L

(Main used in Multiple gen-sets, load sharing)



(1)



(2)



(3)



(4)



(5)



(6)