



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

**MDSS450-2(P158LE-S)**  
**Generating set Technical Data Sheet**



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**ISO9001:2000**  
MPMC GENERATING SETS



## STANDARD SPECIFICATION

### General features:

- Composed of Doosan(Korea) diesel engine and Stamford or MPMC alternator
- 24V 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 generating 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, 60Hz@1800RPM, 480/277V** (Also Can Be Made According To Customers' Special Requirements)

Genset Model	Genset Specification					Engine Specification				Alternator Model
	kW		Cons. 100% (L/H)	dB(A) @7m	Tank (L)	Model	Cyl.	Gov.	Asp.	
	ESP	PRP								
MDSS450-2	450	400	111.5	N/A	1000	P158LE-S	8	E	TCA	HCI 444F
MDSS450S-2	450	400	111.5	80	1000	P158LE-S	8	E	TCA	HCI 444F
MDSM450-2	450	400	111.5	N/A	1000	P158LE-S	8	E	TCA	MPA 314EC
MDSM450S-2	450	400	111.5	80	1000	P158LE-S	8	E	TCA	MPA 314EC

- 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 water-cooled;  
TCA= Turbocharged air-air cooled
- 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)  
3197×1387×1840

**Weight: 3500kg**



### Silent Type

Overall size (L\*W\*H)  
4400x1600x2100

**Weight: 4800kg**

## ENGINE SPECIFICATION

### Doosan (Korea) Diesel Engine

#### Technical Data

Engine Model	P158LE-S
Number of Cylinders	8
Cylinder arrangement	Vertical in-line
Cycle	Four stroke
Aspiration	Turbocharged air-air cooled
Bore×Stroke (mm×mm)	128 x 142
Displacement (Liter)	14.618
Compression Ratio	14.6:1
Prime Power/Speed (kW/rpm)	441/1800
Standby Power/Speed (kW/rpm)	481 /1800
Speed Governor	Electrical
Cooling System	Water-cooled
Speed Stability (%)	≤5%
Total lubrication system capacity (L)	28
Coolant capacity (engine only) (L)	20
Fuel Consumption at 100% Load (L/hr)	111.5(at 1800rpm)
Starter Motor	24 V×7.0kW
Alternator	24 V×45A

## Alternator SPECIFICATION

### Stamford Alternator (Standard)

### MPMC Alternator (Option)

#### Technical Data

Alternator Model	HCI XXXX (Stamford) MPA XXXX(MPMC) 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)