

# 60 HZ DIESEL GENERATOR

FOR INDUSTRIAL PURPOSES

80KW



## OUTPUT POWER

Standby Power (ESP)	kVA	100
	kW	80
Rated Power (NG)	kVA	90
	kW	72

## SIZE

SIZE	W x L x H (mm)	Weight (kg)	Fuel Tank (kg)	Fuel Consumption 100% load
Silent Type	1060X2450X1330	1425	170	19.5(lt/h)
Open Type	780X1850X1330	925	170	19.5(lt/h)

## OUTPUT POWER

The maximum power which a generating set is capable of delivering continuously whilst supplying a constant electrical load. Average load can be 100%. The generator must not be overloaded.

## STANDBY POWER

The max power available during a variable electrical power sequence, under the stated operating conditions, for which a generating set is capable of delivering in the event of a utility power outage or under test conditions for up to 200 hrs of operation per year under average of 70% load. Overloading isn't permissible.

## PRIME POWER

The maximum power which a generating set is capable of delivering continuously whilst supplying a variable electrical load. Average load should be 70%. The generator can be overloaded 10% for 1 hour per 12 hrs.



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### ENGINE

Manufacturer		CUMMINS
Model		4BTA3.9-G11
Cylinder Configuration		Inline
No of Cylinders		4
Engine Power-Standby	kW	90
Engine Power-Prime	kW	80
Engine Speed	rpm	1800
Structural Form		Four Stroke
Speed / Frequency 60Hz	rpm	1800rpm/60Hz
Displacement	lt	3.9
Bore	mm	102
Stroke	mm	120
Compression Ratio		17.5:1
Governor Type		Electronic
Aspiration		TurboCharged
Combustion System		Direct Injection
Cooling System		Water Cooled
Lubrication Oil Capacity	lt	10.9
Coolant Capacity	lt	27
Fuel Tank Capacity	lt	170
Fuel Consumption %100 60Hz	lt/h	19.5
Fuel Consumption %75 60Hz	lt/h	14.62
Fuel Consumption %50 60Hz	lt/h	9.75

### ALTERNATOR 224E

No of Phases		Three
Power Factor		0.8
No of Bearings		Single
No of Poles		4
Wiring Method		Three-Phase,4-Wires
Insulation Class		H
Degree of Protection		IP23
Excitation System		AVR(AutomaticVoltageRegulator), Brushless



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### STANDARD EQUIPMENTS

#### Engine

In plus power generator sets, leading engine brands that have state of the art technology and have compliance with ISO 8528, ISO 3046, BS 5514, DIN 6271 standards, are being used. These engines with low fuel consumption, provide accurate speed setting and order.mount to the fuel pump, also have mechanic or electronic type governors.

#### Alternator

In products Plus Power produced, leading alternator brands of the world that have state of the art technology, high quality, productivity and durability, are being used. All alternators, which pass necessary test process and found appropriate according to EC 60034-1; CEI EN 60034-1;BS 4999-5000; VDE 0530,NF 51-100,111;OVE M-10, NEMA MG 1.22. standards, have bearing system that does not need maintenance, with electronic type voltage regulator providing voltage setting.

#### Control Panel

Standard control panel, that is used in Plus Power generator sets, ensures comfortable and safe usage. All measured and statistical parameters, operating modes, notice and alarms and condition of generator, are monitored easily from the control panel. On the front of the panel's metal body has electronic control module and the emergency stop button and the panel's metal body is made of steel sheet and is painted with electrostatic powder paint. Plus Power offers panel design and solutions that comply with special requirements of customers as well as quality standard panels.

#### Chassis and Fuel Tank

Chassis is manufactured from steel that has features and durability for carrying burden of generator set. Thanks to its rigid structural design and anti-vibration mounts, it reduces vibration level to minimum. All chassis contain lifting lugs. Apart from chassis is that are produce by Plus Power, special solutions that design in accordance with customer desires make transportation and positioning easier.

In less than 1600 kVA power generator sets, fuel tank is produced integratedly to the chassis. In more than 1600 KVA power generator sets, rectangular type fuel tank is provided with generator set separately. In all types of fuel tank have its level and indicator.

#### Cooling System

System, that consists of quality industrial -type radiator,expansion tank and cooler fan, keeps the temperature of generator set's equipments constant at a proper level.

### CANOPY FEATURES

**PLUS POWER** Standard Canopies' default features are as follows;

- Compatible with 2000/14/EC directives, certified noise emission level,
- 2 or 4 points transport possibility according to cabin size.
- Hidden exhaust inside the canopy,
- Emergency stop button located on the canopy,
- Improved air suction channel to ensure homogeneous cooling in the canopy,
- Radiator air outlet and exhaust with designed towards above,
- Lid on cab that provides to be filled up water and antifreeze easily to the radiator,
- Amplified paint system against corrosion and rust,
- Improved performance in terms of sound insulation,
- Demounted parts that make transportation and maintenance easier,

As well as the standard range of canopies, Plus Power can also design tailor made canopies with specific sound level or size upon customer requests.

### OPTIONAL EQUIPMENTS

Some Optional Equipments that Plus Power provides with Generator Sets;

- Medium voltage alternator,
- Remote radiator applications,
- Automatic fuel filling system,
- Fuel tank, oil pan,dashboard, alternator, coil heaters,
- Alternator with double AVR and PMG
- Synchronization systems,
- The generator output breaker,
- Grid-generator transfer switches,
- Accordance with the specific volume of demand-insulated cabins,
- Seismic solutions,
- Trailer,
- Remote monitoring,
- External Fuel Tank in Compliance with TS8991 Standard



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### CONTROL PANEL FEATURES-HGM6120

#### Control Panel Features-HGM6120

- 4-Line back-lit LCD text display
- Front panel editing with PIIN protection
- Customisable status screens
- Power save mode
- Support for up to three remote display units
- Flexible sender inputs
- Configurable timers and alarms
- Fuel usage monitor and low fuel alarms
- Charge alternator failure alarm
- Manual speed control
- Manual fuel pump control
- Engine exerciser
- "Protections disabled" feature
- kW & kV Ar protection
- Reverse power (kW & kV Ar) LED and LCD alarm indication
- Power monitoring (kw h, kV Ar, kV A h, kV Ar h)
- Load switching (load shedding and dummy load outputs)
- Automatic load transfer(HGM6120)
- Unbalanced load protection
- USB connectivity
- Backed up real time clock
- Configurable display languages
- Configurable Gencomm pages
- Start & stop capability via SMS messaging
- Additional display screens to help with modem diagnostics
- Idle control for starting & stopping.



- AMF unit
- Engine controller
- Remote display & control unit
- Working Voltage DC8.0V to DC35.0V, continuous power supply
- C.T. Secondary Current 5A (rated)

### COMMUNICATIONS

- Rotate speed sensor Voltage 1.0V to 24V (RMS)
- Rotate speed sensor Frequency 10,000 Hz (max.)
- Fuel Relay Output 16 A DC28V at supply voltage
- USB Device

### CONNECTION TOPOLOGIES

- 3P4W 15V AC-360 V AC (ph-N)
- 3P3W 30V AC 620 V AC (ph-ph)
- 1P2W 15V AC - 360 V AC (ph-N)
- 2P3W 15V AC - 360 V AC (ph-N)
- ENTHERNET

RJ45 10/100Mbps self-adapt network interface Cloud monitoring protocol and TCPAP Modbus protocol

- Technical information and values are according to ISO8528, ISO3046,NEMA MG-1.22, IEC 600341, BS 4999-5000, VDE 0530 standards.
- Producing with ISO9001, ISO14001, OHSAS 18001, TSE, CE standards.
- All information given in this leaflet is intended for general purposes only.
- Due to a policy continuous improvement Plus Power reserves the right to amend details and specifications without notice and all information given is subject to the Plus Power's current condition of sales.

- These dimensions and weights may change depending upon the characteristics of the project.



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