

## Model: DE220D5

Powered by DEUTZ

### Output Rating

MODEL		Power rating		Voltage available
		PRIME(1)	STANDBY(2)	
DE220D5	400V/50HZ	160KW	176KW	380/220V 400/230V 415/240V
	PF:0.8	200KVA	220KVA	

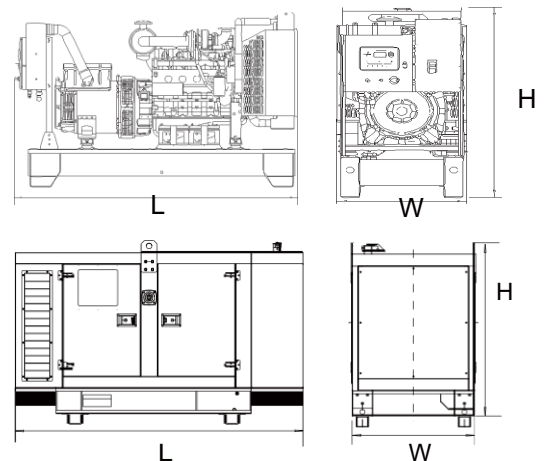
### General Information

Model	DE220D5	
Engine	BF6M1013FCG3	
Speed Control Type	Electrical	
Phase	3	
Control System	Digital	
System Voltage	12/24V	
Frequency	50HZ	
Engine Speed (RPM)	1500	
Fuel Consumption (L/H)	100% Prime Power	51.3
	75% Prime Power	37.7
	50% Prime Power	25.3
	25% Prime Power	13.1



### Dimension and Weight

Dimension	Open	Silent
Length (L)	2440mm	3560mm
Width (W)	980mm	1220mm
Height (H)	1710mm	1930mm
Net Weight	2055KG	2750KG



AGG POWER gensets are compliant with EC mark 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) Prime Power (PRP):

According to ISO 8528-1:2005, Prime power is 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 operation conditions with the maintenance intervals and procedures being carried out as prescribed by the manufacturer. The permissible average power output (Ppp) over 24h of operation shall not exceed 70% of the PRP.

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

According to ISO 8528-1:2005, standby power is the maximum power available during a variable electrical power sequence, under the stated operation 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 200h of operation per year with the maintenance intervals and procedures being carried out as prescribed by the manufacturers. The permissible average power output over 24h of operation shall not exceed 70% of the ESP.



## Engine Specification

### General

Aspiration		turbo, CAC
No of cylinders		6
Configuration		in-line
Injection system		single injection pumps
Displacement	[l]	7.15
Bore	[mm]	108
Stroke	[mm]	130
Compression ratio		18,1
Mean effective pressure	[bar]	11,9
Rotation (looking at flywheel)		CCW
No of teeth on flywheel ring gear		129
Engine without flywheel	[kg m <sup>2</sup> ]	0.47
Flywheel (standard genset spec.)	[kg m <sup>2</sup> ]	2.6
Weight		
Engine dry, w/o cooling system	[kg]	708
Engine with cooling system	[kg]	770
Lubrication system		
Oil specification		TR0199-99-3002/6
Oil consumption (as % of fuel consumption)		0.3
Oil capacity (sump)	[l]	20
Min. oil pressure (warning)	[bar]	2.7
Min. oil pressure (shut down)	[bar]	2

### Cooling System

Max. perm. coolant outlet temperature	[°C]	105
Max. perm. flow resistance (cool. syst. and piping)	[bar]	0,25
Max. temperature of coolant (warning)	[°C]	108
Max. temperature of coolant (shutdown)	[°C]	110
Temperature at which thermostat starts to open	[°C]	83
Temperature at which thermostat is fully open	[°C]	98
Delivery of coolant pump	[m <sup>3</sup> /h]	10.9
Min. pressure before coolant pump	[bar]	0,3
Temperature at CAC outlet at standard conditions	[°C]	40
DEUTZ cooling system		
Coolant capacity (engine)	[l]	9.8
Coolant capacity (incl. cooling unit)	[l]	27.3
Air to boil (max. permissible cool. air temp. at fan)	[°C]	50
Fan power consumption <sup>4</sup>	[kW]	7.2
Cooling air flow	[m <sup>3</sup> /h]	11520
Air pressure loss, external	[ mbar ]	1,5
Heat Balance		
Heat dissipation (engine radiator) <sup>6</sup>	[kW]	96,1
Heat dissipation (CAC) <sup>6</sup>	[kW]	42
Heat dissipation (convection)	[kW]	20,0

### Inlet / Exhaust Data

Max. intake depression (Switch setting)	[mbar]	25
Combustion air volume	[m <sup>3</sup> /h]	745.6
Max. exhaust back pressure	[mbar]	30
Max. exhaust gas temperature	[°C]	530
Exhaust gas flow (at above temp)	[m <sup>3</sup> /h]	2122

### Electrical System

Voltage	[V]	12
Starter	[kW]	3
Alternator output	[A]	55
Batteries (minimum capacity, cold start limit -5°C)	[Ah]	143



## ▪ Alternator

Alternator		
Poles	Num	4
Winding Connections (standard)		Star-serie
Insulation	Class	H class
Enclosure (according IEC-34-5)		IP23
Exciter System		Brushless
Voltage Regulator		A.V.R. (Electronic)
Bearing		Single bearing
Coupling		Flexible disc
Coating type		Standard (Vacuum impregnation)

## ▪ Options

Engine	Alternator	Generator Sets	Fuel System	Canopy
<ul style="list-style-type: none"> <li>•Water Jacket Preheater</li> <li>•Oil Preheater</li> </ul>	<ul style="list-style-type: none"> <li>•Winding Temperature measuring Instrument</li> <li>•Alternator Preheater</li> <li>•PMG</li> <li>•Anti-damp and anti-corrosion treatment</li> <li>•Anti-condensation heater</li> </ul>	<ul style="list-style-type: none"> <li>•Tools with the machine</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>	<ul style="list-style-type: none"> <li>•Rental Type Canopy</li> <li>•Trailer</li> </ul>
Lubricating System	Exhaust System	Cooling System	Control Panel	Voltages
<ul style="list-style-type: none"> <li>•Oil with the machine</li> </ul>	<ul style="list-style-type: none"> <li>•Protection board from hotness</li> </ul>	<ul style="list-style-type: none"> <li>• Front heat protection</li> <li>• Coolant (-30°C)</li> </ul>	<ul style="list-style-type: none"> <li>•Remote control panel</li> <li>• ATS</li> <li>• Remote controller</li> <li>• Synchronizing controller</li> </ul>	<ul style="list-style-type: none"> <li>• 415/240V</li> <li>• 380/220V</li> <li>• 220/127V</li> <li>• 220/127V</li> <li>• 200-115V</li> </ul>



## Control Panel



## Product description

- Single gen-set controller for Stand-by and Prime-power applications
- Direct communication with EFI engines
- Total remote monitoring and control

## Key features

- Easy to install, configure and use
- Wide range of communication capabilities including:
  - connection via RS232, RS485, CAN and on board USB
  - internet access using Ethernet or GPRS
  - support for Modbus and SNMP protocols
- Cloud-based monitoring and control
- Active SMS and emails in different languages
- 2x 5 A binary outputs for cranking and fuel solenoid
- Option for up to 16 additional binary inputs/outputs
- Flexible event based history with up to 350 events
- Load shedding, dummy load capability
- Automatic temperature based cooling/heating
- Comprehensive gen-set protections
- Multipurpose flexible timers
- True RMS measurement

## Available extension modules

Product	Description	Order code
CM-Ethernet	Ethernet interface	CM2ETHERXBX
CM-GPRS	GSM modem / wireless internet	CM2GPRSXXBX
CM-RS232-485	Dual port interface	CM223248XBX
EM-BIO8-EFCP	8 additional binary inputs/outputs	EM2BIO8EXBX

## Functions and protections

Description	ANSI code	Description	ANSI code
Over voltage	59	Load shedding	32P
Under voltage	27	Overload	32
Voltage asymmetry and Phase rotation**	47	Power factor	55
Over frequency	81H	Temperature	49T
Under frequency	81L	Gas (fuel) level	71
Over current*	50 + 51	Earth fault current	50N + 64
Current unbalance	46		

\* Short current only

\*\* Fixed setting

