Model: AF22D5

Powered by AGG

Generator Specification

Service	PRP(1)	ESP(2)
Power (kVA)	20	22
Power (kW)	16	18
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):

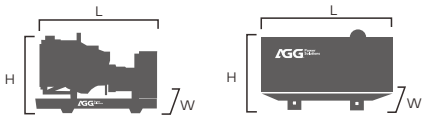
According to ISO 8528-1, It is defined as the maximum power available, under the agreed operating conditions, for which the generating set is capable of delivering for up to 500 hours of operation per year (of which no more than 300 hours for continuative use) with the maintenance intervals and procedures being carried out as prescribed by the manufacturers. No overload capability is available.

Powers	ESP		PRP		Standby
Voltage (V)	KVA	KW	KVA	KW	Amps
415/240	22	18	20	16	30.6
400/230	22	18	20	16	31.8
380/220	22	18	20	16	33.4

Performance Data		
Model		AF22D5
Engine brand		AGG
Engine model		AF2540
Speed control type		Electronic
Phase		3
Control system		Digital
Starter motor voltage		12V
Frequency		50HZ
Engine speed (RPM)		1500
Fuel Consumption (L/H)	100% standby power	5.5
	100% prime power	5
	75% prime power	3.7
	50% prime power	2.6

Standard reference Conditions

Note: Standard reference condition 25℃ (77℉) air inlet temp, 100m(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)	1725mm	2070mm
Width (W)	625mm	800mm
Height (H)	1195mm	1136mm
Net Weight	522 KG	760 KG
Fuel Tank (L)	90L	80L

Note: This parameters allows for some acceptable deviations.

Engine Specification :AF2540

Basic technical data	
No. of cyl / Arrangement	4L
Injection system	Direct
Governor Method	Electronic
Induction System	Naturally Aspirated
Bore x stroke mm	90*100 mm
Displacement	2.545 L
Compression ratio	18 : 1
Engine speed	1500rpm
Flywheel rotation	Counter-clockwise viewed on flywheel
Housing flywheel	SAE 4
Flywheel	7.5"/10"
Engine dry weight	220
Heat rejection of exhaust	20.2 kW
Heat rejection from engine	1.6 kW
Heat rejection of coolant	16.1 kW
Dimensions	750*555*680 mm

Performances	
Prime Power (gross)	21 kWm
Stand-By Power (gross)	23 kWm
Fan consumption	1 kWm
Performance conditions	
-temperature	25°C
-pressure	100 mbar
-humidity	30%

Lubrication system	
Oil system capacity including filters	8 L
Oil pressure at rated speed	>=3.5 kPA
Oil temperature max	110 °C
Oil specification	15W40 CF4
Oil consumption	0.05%

Intake system	
Air consumption at 100% of load	1.9 m^3/min
Air intake restriction clean filter	⩽ 2.5
Air filter type	Dry

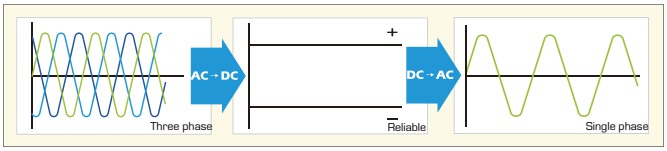
Exhaust system	
Gas flow at stand by power	5.5 m^3/min
Max temperature	550 °C
Max allowable back pressure	6.7 kPa

Electric system	
starter motor power	3.5 kW
rated voltage	12 V
Starting batteries recommended capacity	100 Ah
Alternator rated voltage	14 V
power	750 kW

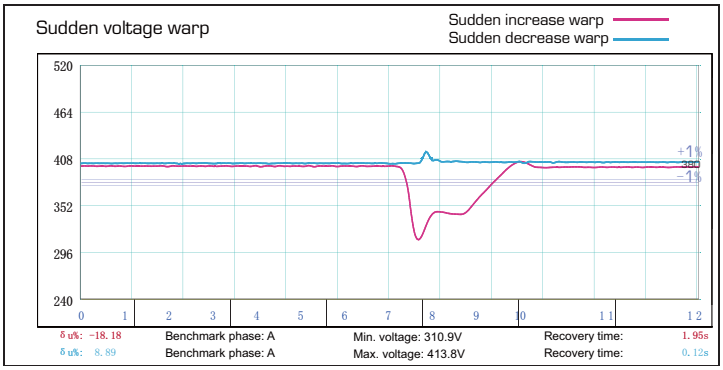
Cooling package	
Type	Liquid
Recommanded coolant	Water + Ethylene Glycol(50:50)
Coolant capacity	8
Shutdown switch setting	100 ± 3°C
Fan	
-diameter	400 mm
-number of pale	7
-drive ratio	170/113

Alternator Specification KI 184E

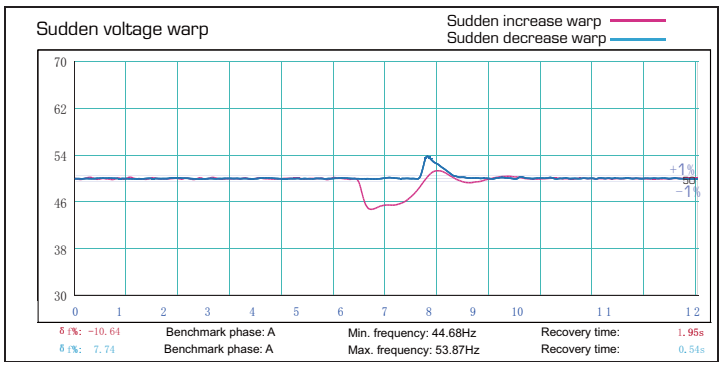
Alternator	
Number of phase	3
Power factor (Cos Phi)	0.8
Poles	4
Winding Connections (standard)	Star-serie
Terminals	12
Insulation type	H class
Winding Pitch	2/3
IP rating	IP23
Excitation system	Self-excited
Bearing	Single bearing
Coating	Vacuum impregnation
Voltage regulator	A.V.R
Couping	Flexible disc



Emergency voltage curve



Emergency frequency curve



Options

Engine	Alternator	Generator Sets	Fuel System
• Water Jacket Pre-heater • Fuel heater	• Winding Temp measuring Instrument • Alternator Pre-heater • PMG • Anti-damp and anti-corrosion treatment • Anti-condensation heater • Winding and bearing RTD	• Tools with the machine • Extended range fuel tank • Bunded fuel tank	• Low fuel level alarm • Automatic fuel feeding system • Fuel T-valves
Canopy	**Lub oil system**	**Cooling System**	**Control Panel**
• Rental type Canopy • Trailer	• Oil Pre-heater • Oil temp sensor	• Front heat protection	• Remote control panel • ATS • Synchronizing controller • Adjustable earth leakage relay

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 ℃ to + 70 ℃
- Storage temp: -30 ℃ to + 80 ℃
- Operating humidity: 95% w/o condensation
- Vibration : 5-25Hz, ±1.6 mm
  5-100Hz, a=4g
- Shocks: a= 500m/s²

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

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