Model:P500D5

Powered by PERKINS

Output Rating

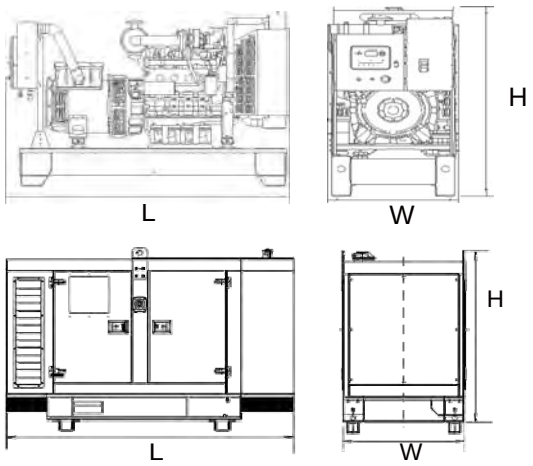
MODEL		Power rating		Voltage available
		PRIME(1)	STANDBY(2)	
P500D5	400V/50HZ	360KW	400KW	380/220V 400/230V 415/240V
	PF:0.8	450KVA	500KVA	

General Information

Model		P500D5
Engine		2506A-E15TAG1
Speed control type		Electronic
Phase		3
Control System		Digital
System voltage		24V
Frequency		50HZ
Engine Speed(RPM)		1500
Fuel Consumption (L/H)	Standby power(2)	104
	Prime Power(1)	95
	75% prime power	72
	50% prime power	50

Dimension and Weight

Dimension	Open	Silent
Length (L)	3830mm	4570mm
Width (W)	1190mm	1420mm
Height (H)	2020mm	2200mm
Net Weight	3583KG	5320KG



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 caried out as prescribed by the manufacturers. The permissible average power output over 24h of operation shall not exceed 70% of the ESP.

Engine Specification

Basic technical data

Number of cylinders 6
Cylinder arrangement ... ... Vertical, In-line
Cycle ... ... 4 stroke
Induction system ... ... turbocharged, air to air charge cooling
Combustion system ... ... direct injection
Compression ratio 16:1
Bore ... ... 137 mm
Stroke ... ... 171 mm
Cubic capacity ... ... 15,2 litres
Direction of rotation ... ... anti-clockwise viewed on flywheel
Firing order (cylinder 1 furthest from flywheel) 1, 5, 3, 6, 2, 4

Lubrication system

The recommended SAE viscosity is a multigrade oil (15W40) which adequately meets the specifications of API CI4
Total system capacity ... ... 62,0 litres
Maximum sump capacity ... ... 53,0 litres
Minimum sump capacity ... ... 45,0 litres

Fuel system

Type of injection ... ... MEUI
Injector type ... ... MEUI
Injector pressure ... ... 200 MPa

Electrical system

Type ... ... 12V negative earth
Alternator
-type 22SI
-voltage ... ... 24 volts

Exhaust system

Maximum back pressure ... ... 6,8 kPa
Exhaust outlet size (internal) ... ... 127 mm

Cooling system

Recommended coolant:
50% inhibited ethylene glycol or 50% inhibited propylene glycol and 50% clean fresh water. Where there is no likelihood of ambient temperatures below 10 °C, clean ‘soft’ water may be used, treated with 1% by volume of Perkins inhibitor in the cooling system. The inhibitor is available from all Perkins Distributors.
Total system coolant capacity ... ... 58,0 litres
Maximum pressure:
-in crankcase water jacket ... ... 276 kPa
Maximum top tank temperature ... ... 107 °C
Maximum static pressure on pump ... ... 170 kPa
Maximum permissible restriction:
-to coolant pump flow ... ... 30 kPa
Temperature rise across engine with inhibited coolant:
-standby power @ 1500 and 1800 rev/min ... ... 10 °C
-prime power @ 1500 and 1800 rev/min ... ... 9 °C
Thermostat operation range ... ... 88 to 98 °C

Radiator

-face area ... ... 1·238 m²
-weight (dry) ... ... 132 kg
-rows and materials ... ... 2 rows, Aluminium
-matrix density and material ... ... 12 fins per inch, Aluminium
-width of matrix ... ... 1048 mm
-height of matrix ... ... 1100 mm
-pressure cap setting (minimum) ... ... 69 kPa

Charge cooler with integral radiator

-face area ... ... 1·006 m²
-number of rows and material ... ... 1 row, Aluminium
-matrix density and material ... ... 12,5 fins per inch, Aluminium
-width of matrix ... ... 915 mm
-height of matrix ... ... 1100 mm

Gernal Installation

Designation	Units	Type of operation and application			
		Prime	Standby	Prime	Standby
		50 Hz @ 1500 rev/min		60 Hz @ 1800 rev/min	
Gross engine power	kWb	412	451	458	514
Fan power	kWm	8,8		15,5	
Restriction losses	kWm	7,2	7,8	8,0	8,8
ElectropaK nett engine power	kWm	396	434	435	490
Gross brake mean effective pressure	kPa	2235	2447	2036	2284
Combustion air flow	m³/min	25,8	30,5	34,3	38,0
Exhaust gas temperature (max)	°C	N/A	550	N/A	550
Exhaust gas flow	m³/min	71,4	81	96,0	105,3
Boost pressure ratio	-	2,94	2,97	3,00	3,25
Overall thermal efficiency (nett)	%	44	44	44	43,0
Friction and pumping power losses	kWm	45		51	
Mean piston speed	m/s	8		10	
Engine coolant flow	l/min	6,1		7,2	
Cooling fan air flow (zero duct allowance)	m³/min	722		866	
Typical Gen Set electrical output (0.8 pf)	kWe	364	400	400	450
	kVA	455	500	500	563
Assumed alternator efficiency	%	92		92	

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
●Water Jacket Preheater ●Oil Preheater	●Winding Temperature measuring Instrument ●Alternator Preheater ●PMG ●Anti-damp and anti-corrosion treatment ●Anti-condensation heater	●Tools with the machine	● Low fuel level alarm ●Automatic fuel feeding system ●Fuel T-valves	●Rental Type Canopy ●Trailer
Lubricating System	**Exhaust System**	**Cooling System**	**Control Panel**	**Voltages**
●Oil with the machine	●Protection board from hotness	● Front heat protection ● Coolant (-30°C)	●Remote control panel ● ATS ● Remote controller ● Synchronizing controller	● 415/240V ● 380/220V ● 220/127V ● 220/127V ● 200-115V

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	Descritption	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