AGG Power Solutions

Your Professional Power Assistant

Model: S500D5

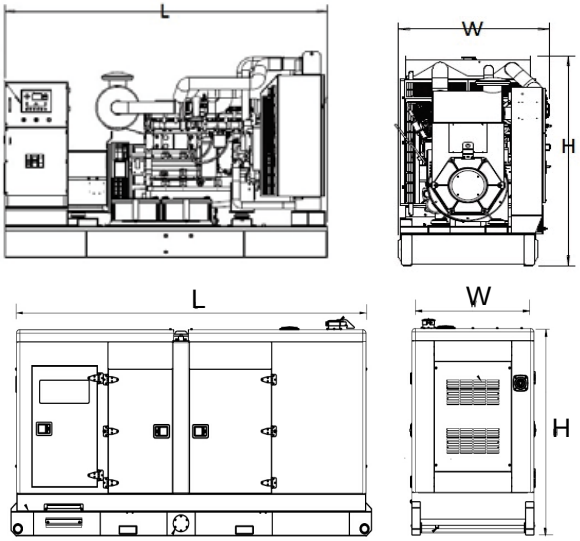
Powered by SCANIA

Output Rating

MODEL		Power rating		Voltage available
		PRIME(1)	STANDBY(2)	
S500D5	50Hz	360KW	400KW	380/220V 400/230V 415/240V
	PF:0.8	450KVA	500KVA	

General Information

Model		S500D5
Engine		DC13 072A 02-13
Speed control type		ECU
Phase		3
Control System		Digital
System voltage		24V
Frequency		50HZ
Engine Speed(RPM)		1500
Fuel Consumption (L/H)	Standby power(2)	112
	Prime Power(1)	100
	75% prime power	72
	50% prime power	48



Dimension and Weight

Dimension	Open	Silent
Length (L)	3807mm	4612mm
Width (W)	1148mm	1900mm
Height (H)	2058mm	2532mm
Net Weight	5000kg	5800kg

AGG POWER genset 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.

ISO 9001

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Engine Specification

Basic data

General

Configuration and number of cylinders	6 in-line	
Working principle	4-stroke	
Bore x stroke	130 x 160	mm
Displacement	12.7	dm^3
Compression ratio	16.3:1 (DC13 072A, DC13 073A) 17.3:1 (DC13 071A)	
Firing order	1 - 5 - 3 - 6 - 2 - 4	
Piston speed		
at 1500 rpm	8.0	m/s
at 1800 rpm	9.6	m/s
Pistons	Steel pistons	
Camshaft	High position alloy steel	
Connection rods	I-section press forgings of alloy steel	
Crankshaft	Alloy steel with hardened and polished bearing surfaces	
Rotation, seen from flywheel end	Counter clockwise	
Total moment of inertia with flywheel		
SAE 14	3.11	kgm^2
Number of teeth on flywheel ring gear	158	
Weight approx. (excl. oil and coolant)	1050	kg

Lubrication system

Oil capacity (deep front oil sump without ladder frame)		
min	30	dm^3
max	36	dm^3
Oil consumption	<0.3	g/kWh
Oil change intervals	500	h
Oil grade		
engines run on low-sulphur fuel	ACEA E3, E4, E5 or E7	
engines not run on low-sulphur fuel	Total Base Number (TBN) at least 12 (ASTM 2896)	
Oil pressure		
normal	3-6	bar
minimum permitted at idle speed	0.7	bar
Oil temperature		
normal	90-110	°C
Oil cleaner	Centrifugal	
filtration	5-7	Micron
Oil filter	Paper/Full flow	
Oil cooler	Water cooled/Full flow	

Injection system

Type	Unit injectors, PDE
Governor	Scania Engine Management System, EMS
Fuel filter	Paper filter element, 6 micro
Fuel pre-filter with water separator	Paper filter element, 10 micro

Engine Specification

Cooling system

Coolant volume excl. radiator
- DC13 072/073A ..... 16 dm^3
- DC13 071A ..... 17 dm^3

Coolant volume incl. 1.1 m^2 radiator
- DC13 072/073A ..... 38 dm^3
- DC13 071A ..... 39 dm^3

Coolant volume incl. 1.3 m^2 radiator ..... approx. 45 dm^3
Coolant temperature ..... 90-95 °C
Number of thermostats 1
Opening temperature ..... 80/87 °C

Intake system

Permissible pressure drop in intake system
- with cleaned or new filter ..... 30 mbar
- with blocked (dirty) filter ..... 65 mbar

Electrical system, optional equipment

Type ..... 1-pole, 24V, DC
Starter, standard equipment ..... 1-pole, 24V, 6,0 kW
Alternator, standard equipment 1-pole, 28V, 100A

	1500 rpm (50 Hz)		1800 rpm (60 Hz)		Unit
	PRP	ESP	PRP	ESP	
Gross power	403	438	445	487	kW
	456	503	503	553	kVA
Gross torque	2566	2788	2361	2584	Nm
Spec. fuel consumption					
full load	186	192	195	199	g/kWh
3/4 load	183	183	187	188	g/kWh
1/2 load	185	184	190	187	g/kWh
Heat rejection					
to coolant	119	134	142	166	kW
to exhaust gas	271	309	320	358	kW
to charge air	75	89	96	112	kW
to surrounding air	31	35	36	41	kW
Air consumption	30	32	35	36	kg/min
Air temperature					
before charge air cooler	192	211	213	231	°C
after charge air cooler	48	50	50	50	°C
Pressure in intake manifold	2.2	2.4	2.1	2.2	Bar
Fall of pressure, charge air cooler	0.10	0.10	0.15	0.15	Bar
Exhaust flow	32	34	36	38	kg/min
Exhaust temperature	509	536	521	557	°C
Step load performance					
(According to class G2. See section 2 for more information.)	63	57	72	66	%
	257	257	328	328	kW

Alternator

Alternator		
Poles	Num	4
Winding Connections (standard)		Star-serie
Insulation	Class	H class
Enclosure (according IEC-34-5)		IP23
Exciter System		self-excited, 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

Engine Specification

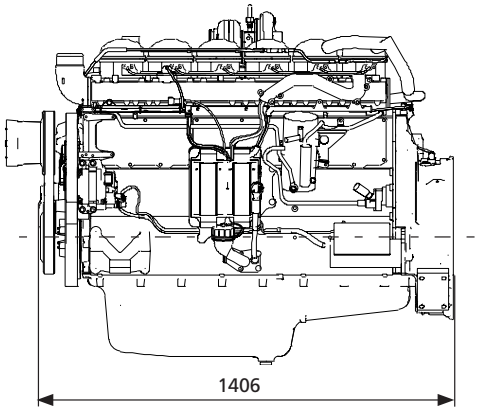
DC13 072A. 438-487 kW (503-553 kVA)

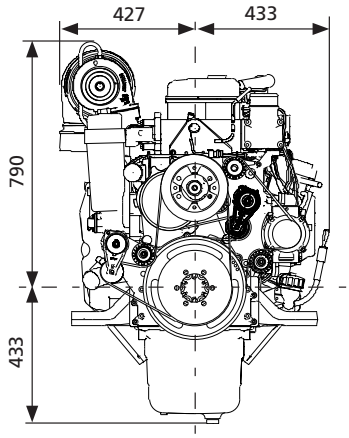
Fuel optimized

The engines for power generation from Scania are based on a robust design with a strength optimised cylinder block containing wet cylinder liners that can easily be exchanged. Individual cylinder heads with 4 valves per cylinder promotes repairability and fuel economy.

The engine is equipped with a Scania developed Engine Management System, EMS, in order to ensure the control of all aspects related to engine performance.
The injection system is based on electronically controlled unit injectors that gives low exhaust emissions with good fuel economy and a high torque. The engine can be fitted with many accessories such as air cleaners, radiators and PTOs in order to suit a variety of installations.

	Engine speed (rpm)			
	1500 rpm (50 Hz)		1800 rpm (60 Hz)	
	PRP	ESP	PRP	ESP
Gross power (kW)	438	480	445	487
Gross power (kVA)	503	553	503	553
Spec fuel consumption. Full load (g/kWh)	192	196	195	199
Spec fuel consumption. 3/4 load (g/kWh)	183	183	187	188
Spec fuel consumption. 1/2 load (g/kWh)	184	183	190	187
Heat rejection to cooling water (kW)	134	158	142	166





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Firing order	1 - 5 - 3 - 6 - 2 - 4
Displacement	12.7 litres
Bore x stroke	130 x 160 mm
Compression ratio	16.3:1
Weight	1050 kg (excl oil and coolant)
Piston speed at 1500 rpm	8.0 m/s
Piston speed at 1800 rpm	9.6 m/s
Camshaft	High position alloy steel
Pistons	Steel pistons
Connection rods	I-section press forgings of alloy steel
Crankshaft	Alloy steel with hardened and polished bearing surfaces
Oil capacity	30-36 dm^3 (standard oil sump)
Electrical system	1-pole 24V

Alternator

Alternator		
Poles	Num	4
Winding Connections (standard)		Star-serie
Insulation	Class	H class
Enclosure (according IEC-34-5)		IP23
Exciter System		self-excited, brushless
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