APG 500

INTRODUCTION

Aksa power generation system, providing optimum performance, and reliability, for stationary standby, prime power, and continuous duty applications. All generator sets are factory build, and production tested.

Power (kVA)

400V, 3Phase, 50Hz, PF 0.8

VOLTAGE	STANDBY RATING (ESP)		PRIME RATING (PRP)		Standby Current (A)
	kWe	kVA	kWe	kVA	
400/231	400	500	-	-	721,7

STANDBY RATING (ESP) Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. ESP is in accordance with ISO 8528-1. Overload is not allowed.

PRIME RATING (PRP) Applicable for supplying power to varying electrical load for unlimited hours. PRP is in accordance with ISO 8528-1. 10 % overload capability is available for a period of 1 hour within 12-hour perod of operation.

General Characteristics

Model Name	APG 500
Frequency (Hz)	50
Fuel Type	Natural Gas (Pipeline)
Engine Made and Model	PSI21.9L
Alternator	Mecc Alte
Control Panel Model	DSE 7320
Canopy	TBD
Genset Gas Inlet Pressure	300mbar

ENGINE SPECIFICATIONS

Engine	PSI
Engine Model	21.9L
Number of Cylinder	V12
Bore (mm)	128
Stroke (mm)	142
Displacement (L)	21,9
Aspiration	Turbo Charged Air Cooled
Compression Ratio	10,5:1
Engine Speed (rpm)	1500
Oil Capacity (Total With Filter) (L)	40
Standby Power (kWm / HP) [1,2,3,4] Per ISO 3046	445 / 597
Prime Power (kWm / HP) [1,2,3,4] Per ISO 3046	-

Maximum Operating pressure to EPR, mbar	27
Block Heater QTY	1
Fuel Type	Natural Gas (Pipeline)
Injection Type and System	Spark-Ignited
Governor System	ECU
Operating Voltage (Vdc)	24
Cooling Method	Water Cooled
Cooling Fan Air Flow (m3/min) [5]	971
Coolant Capacity (engine only / with radiator) (L)	44 / 190
Air Filter	Dry Type
Fuel Cons. Stanby With %100 Load (kg/hr / m3/hr) [3,4,6]	91 / 126,9
Fuel Cons. Prime With %100 Load (kg/hr / m3/hr) [3,4,6]	TBD
Fuel Cons. Prime With %75 Load (kg/hr / m3/hr) [3,4,6]	TBD

ALTERNATOR CHARACTERISTICS

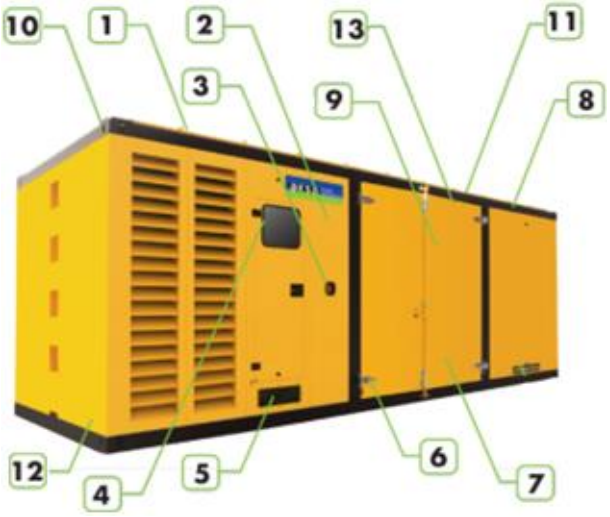
Manufacturer	Mecc Alte
Alternator Made and Model	ECO 40 3S/4C
Frequency (Hz)	50
Power (kVA)	500
Voltage (V)	400
Phase	3
A.V.R.	DER
Voltage Regulation	(+/-)0,5%
Insulation System	H
Protection	IP23
Rated Power Factor	0,8
Weight Comp. Generator (kg)	1206
Cooling Air (m³/min)	54

Gen.Set Canopy Dimensions

Length (mm)	TBD
Width (mm)	TBD
Height (mm)	TBD

1 Max load and overload ratings based on ISO 3046 gross flywheel power.
2 Technical data based on ISO 3046-1 standards of 77°F(25°C), 14.5Psia (100kPa) and 30% relative humidity.
3 Production tolerances in engines and installed components can account for power variations of ± 5%. Altitude, temperature and excessive exhaust and intake restrictions should be applied to power calculations.
4 All fuel and thermal calculations unless otherwise noted are done at ISO 3046 rated load using LHV for NG of 48.17 MJ/kg.
5 At 0.5 in-H2O of Package Restriction at STP
6.Volume calculated using density of 0.717 kg/m3 for NG, 0.51 kg/L for LPG

APG 500



1.Steel structure made from steel sheet and steel profiles.
2. Canopy and panels made from powder coated sheet steel.
3. Emergency stop push button.
4. Control panel is mounted on the baseframe . Located at the back of the generator set
5.Cables out locations are under or back of the canopy
6.Corrosion-resistant locks and hinges.
7. Oil could be drained via valve and a hose
8. Exhaust system in the canopy.
9. Special large access doors for easy maintanance
10. Lifting points similar to ISO container, located on each top corner of the canopy.
11. The cap on the canopy provides easy accsess to radiator cap.
12. Sound proofing materials
13. Integrated ladder built in to side of the canopy allows access to the top of the canopy.

INTRODUCTION

Sound-attenuated and weather protective enclosures for generating sets from Aksa, meet event the sound requirements and provide optimum protection from inclement weather and development by our specialist acoustic engineers. Our modular designed sound insulated canopies provide ease of access for servicing and general maintenance and interchangeable components permitting on-site repair. Enclosures are designed to optimize genset cooling performance, providing you with confidence that genset ratings and ambient capability.

Control Panel

Control Module	DSE
Control Module Model	DSE 7320
Communication Ports	MODBUS

1. Menu navigation buttons
2. Close mains button
3. Main Status and instrumentation display
4. Alarm LED's
5. Close generator button
6. Status LED's
7. Operation selecting buttons

Devices

DSE, model 7320 Auto Mains Failure control module Static battery charger Emergency stop push button and fuses for control circuits

CONSTRUCTION and FINISH

Comonents installed in sheet steel enclosure.

Phosphate chemical, pre-coating of steel provides corrosion resistant surface

Polyester composite powder topcoat forms high gloss and extremely durable finish

Lockable hinged panel door provides for easy component access

INSTALLATION

Control panel is mounted generating set baseframe on robust steel stand or power module. Located at side of generating set with properly panel visibility.

GENERATING SET CONTROL UNIT

The DSE 7320 conrol module is a standard addition to our generator sets from 220 kVA upwards and it has been designed to start and stop diesel andgas generating sets that include electronic and non electronic engines.

The DSE 7320 includes the additional capability of being able to monitor a mains (utility) supply and is therefore suitable for controlling a standby generating set in conjunction with an automatic transfer switch.

The DSE7320 also indicates operational status and fault conditions, automatically shutting down the generating set and indicating faults by means of its LCD display on the front panel.

STANDARD SPECIFICATIONS

Microprocessor controlled

- 132 x 64 pixel LCD display makes information easy to read
- Front panel programming and also via PC software
- Soft touch membrane keypad and five key menu navigation
- Remote communications via RS232, RS485 and ethernet.
- Event logging (50) showing date and time
- Multiple date and time engine exercise mode and maintenance scheduler
- Engine block heater control.
- Controls; stop, manuel, auto, test, start, mute lamb test/transfer to generator, transfer to mains, menu navigation.

Instruments

ENGINE

Engine speed

Oil pressure

Coolant temperature

Run time Battery volts

Engine maintenance due

GENERATOR

Voltage (L-L, L-N)

Current (L1-L2-L3)

Frequency

Earth current

kW

Pf

kVAr

kWh, kVAh, kVArh

Phase sequence

MAINS

Voltage (L-L, L-N)

Frequency

WARNING

Charge failure

Battery under voltage

Fail to stop

Low fuel level (opt.)

kW over load

Negative phase sequence

Loss of speed signal

PRE-ALARMS

Low oil pressure

High engine temperature

Low engine temperature

Over /Under speed

Under/over generator frequency

Under/over generator voltage

ECU warning

SHUT DOWNS

Fail to start

Emergency stop

Low oil pressure

High engine temperature

Low coolant level

Over /Under speed

Under/over generator frequency

Under/over generator voltage

Oil pressure sensor open

Phase rotation

ELECTRICAL TRIP

Earth fault

kW over load

Generator over current

Negative phase sequence

Options

High oil temperature shut down

Low fuel level shut down

Low fuel level alarm

High fuel level alarm

EXPANSION MODULES

Editional LED module (2548)

Expension relay module (2157)

Expansion input module (2130)

Standards

Elecrical Safety / EMC compatibility

BS EN 60950 Electrical business equipment

BS EN 61000-6-2 EMC immunity standard

BS EN 61000-6-4 EMC emission standard

STATIC BATTERY CHARGER

Battery charger is manufactured with switching-mode and SMD technology and it has high efficincy.

Battery charger models' output V-I characteristic is very close to square

2405 has fully output shot circuit protection and ıt can be used as a current source.

2405 charger has high efficiency, long life, low failure rate, light weight and low heat radiated in accordance with linear alternatives.

The charger is fitted with a protection diode across the output.

Charge fail output is available.

Connect charge fail relay coil between positive output and CF output.

Input: 196-264V.

Output: 27,6V 5A or 13,8V 5A.

STANDARD SPECIFICATIONS

- Heavy duty, water cooled naturalgas engine
- Radiator with mechanical fan
- Protective grille for fan and rotating parts
- Electric starter and charge alternator
- Starting battery (with lead acid) including rack and cables
- Engine jacket cooling heater
- Static battery charger
- Flexible gas connection hoses
- Single bearing, class H alternator
- Industrial exhaust silencer and steel belows supplied separately
- Manual for use and installation

OPTIONAL EQUIPMENTS

ALTERNATOR
Anti-Condensation heater
Over sized alternator
Main line circuit breaker
CONTROL SYSTEM
Remote annunciator panel
Remote alarm panel
Alarm output relays
Erath fault, single set
Charging ammeter
TRANSFER SWITCH
Three Pole Contactor
Four Pole Contactor
VISE ACCESSORIES
Manuel oil drain pump
Electrical oil drain pump
Enclosure: weathe protective or sound attenuated
Duct adapter (on radiator)
Inlet and outlet motorised louvers
Tool kit for maintenance
Supplied with oil and coolant- 30 °C

AKSA CERTIFICATES

- CE
- 2000/14/EC