

# AD 220

Engine : Doosan  
 Alternator : Mecc Alte  
 Control System : P 732 control system



## ISO8528

This generator set has been designed to meet ISO 8528 regulation.

## SZUTEST

This generator set is manufactured in facilities certified to ISO 9001.



This generator set is available with CE certification.

## 2000/14/EC

Enclosed product is tested according to EU noise legislation 2000/14/EC

### 3 Phase Ratings, 50 Hz, PF 0,8

Voltage	Standby Rating (ESP)		Prime Rating (PRP)		
	kVA	kW	kVA	kW	Amp
400/230	220,00	176,00	200,00	160,00	288,00

**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. 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. 10 % overload capability is available for a period of 1 hour within 12-hour period of operation, in accordance with ISO 3046.

### STANDARD SPECIFICATIONS

- Water cooled, Diesel engine
- Radiator with mechanical fan
- Protective grille for rotating and hot parts
- Electric starter and charge alternator
- Starting battery (with lead acid) including rack and cables
- Engine coolant heater
- Base frame design incorporates an integral fuel tank and anti-vibration isolators
- Flexible fuel connection hoses
- Single bearing, class H alternator
- Industrial exhaust silencer and steel bellows supplied separately
- Static battery charger
- Manual for application and installation

### OPTIONAL EQUIPMENTS

#### ENGINE

- Fuel-Water Separator Filter
- Oil heater

#### ALTERNATOR

- Anti-Condensation Heater
- Over sized alternator
- PMG excitation + AVR
- Main line circuit breaker

#### CONTROL SYSTEM

- Automatic synchronising and power control system ( multi gen-set Parallel )
- Transition synchronization with mains
- Remote annunciator panel
- Remote relay output
- Alarm output relays
- Remote communication with modem
- Earth fault, single set
- Charge Ammeter

#### OTHER ACCESSORIES

- Automatic or manual fuel filling system
- Manual oil drain pump
- Low and high fuel level alarm
- Residential silencer
- Enclosure: weather protective or sound attenuated
- Duct adapter ( on radiator)
- Inlet and outlet motorised louvers
- Inlet and outlet acoustic baffles
- Trailer
- Tool kit for maintenance
- 1500/3000 hours maintenance kit
- Double wall chassis
- Main Fuel Tank

#### TRANSFER SWITCH

- Three Pole Contactor
- Four Pole Contactor
- Motor Switch

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## ● DIESEL ENGINE SPECIFICATIONS

Manufacturer		Doosan		
Model		P086TI		
No. of Cylinders and Build		6 Cylinder, In Line		
Aspiration and Cooling		Turbo Charged and After Cooled		
Maximum Standby Power		1500 rpm		
		199,00 kW [267,00HP]		
Total Displacement	L	8,070		
Bore and Stroke	mm	111X139		
Compression Ratio		16,4:1		
Rated Speed (rpm)	rpm	1500		
Governor		Electronic		
Oil Capacity	L	15,50		
Coolant Capacity	L	48,50		
Intake Air Flow	m <sup>3</sup> /min.	12,10		
Radiator Cooling Air	m <sup>3</sup> /min.	250,00		
Exhaust Gas Flow	m <sup>3</sup> /min.	34,00		
Exhaust Gas Temperature	° C	580,00		
Start System		24 V d.c.		
Fuel Consumption	Load	%100	%75	%50
	L/h	43,10	31,70	21,10

## ● ALTERNATOR SPECIFICATIONS

Make		Mecc Alte
Model		ECO 38 2SN/4
Frequency	Hz	50
Power	kVA	200,00
Design		Brushless, 4 poles
Cos Phi		0,80
Phase		3
Voltage	V	400/230
Current	A	288,00
Insulation Class		H
Temperature		H
Stator		2 / 3 steps
Rotor		Single Bearing System, Flexible Disc
Excitation System		Electronic ( AVR )

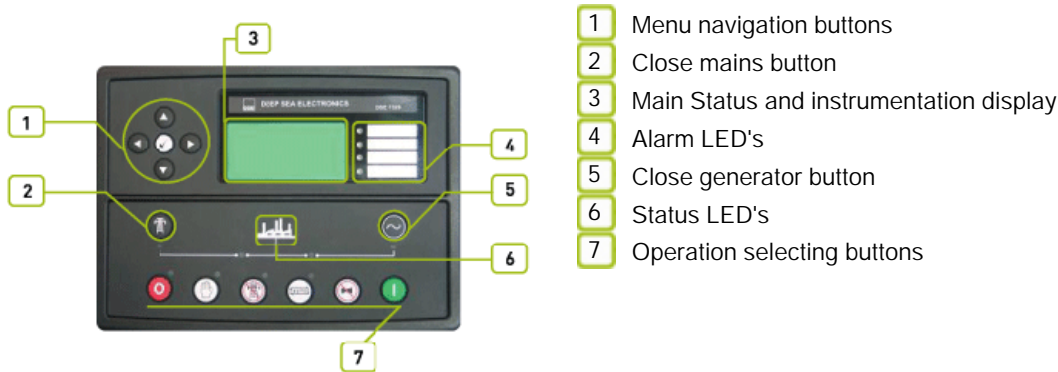
## ● DIEMENSIONS AND WEIGHT

Open Type	Dry Weight	Lenght	Width	Height	Tank Capacity
	kg.	mm.	mm.	mm.	L
AD 220	1800,00	2688,00	1150,00	1624,00	380,00
Canopy	Dry Weight	Lenght	Width	Height	Tank Capacity
	kg.	mm.	mm.	mm.	L
AK 50	2175	3402	1160	1866	380

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## 1 P 732 control system - Control System



### 2 Devices

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

### 3 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

### 4 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.

## 5 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 and gas 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 DSE 7320 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 and SMS messaging
- 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.

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## 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

## Protection Circuits

- 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

- Electrical 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

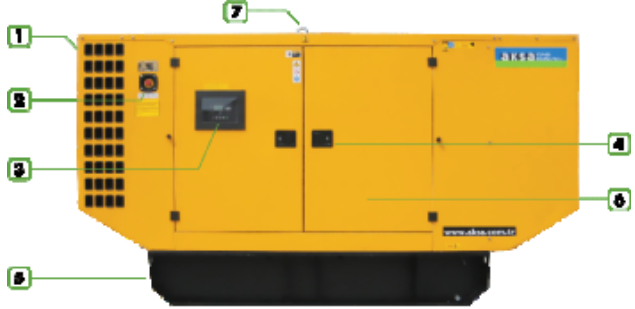
## Static Battery Charger

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## AK 50 - Canopy



- 1 Steel structures
- 2 Emergency stop push button
- 3 Control panel is right side of the set.
- 4 Corrosion-resistant locks and hinges
- 5 Sump drains valves
- 6 Sound proof foam material
- 7 Lifting Points

## Introduction

Sound-attenuated and Weather-protective Enclosures 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.

## Standard Specifications

- Compact footprint, low profile design.
- Enclosure, generator set, exhaust system and fuel tank are pre-ssembled, pre-integrated and shipped as one package
- Body made from steel components treated with polyester powder coating
- Fire retardant foam insulation
- Easy access to all service points
- Exhaust system inside canopy
- Large doors on each side
- Control panel viewing window in a lockable access door
- Emergency stop push button mounted on enclosure exterior
- Cooling fan and battery charging alternator fully guarded
- Fuel fill and battery can only be reached via lockable access doors.
- Lifting points on the top of canopy and base frame
- Customer options available to meet your applications needs.
- Aksa makes its generating sets' noise level tests in accordance with directive 2000/14/EC validation of the noise level test has been approved by the notified body Szutest

Width	mm.	1160
Lenght	mm.	3402
Height	mm.	1866
Fuel Tank Capacity	L	380