


**ISO8528**

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

**SZUTEST**

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

**CE**

This generator set is available with CE certification.

**2000/14/EC**

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

 3 Phase Ratings, 60 Hz, PF 1,0

Voltage	Standby Rating (ESP)		Prime Rating (PRP)		
	kVA	kW	kVA	kW	Amp
480/277		592,00		538,00	809,00
380/220		590,00		537,00	1020,00
208/120		592,00		538,00	1867,00

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

- Heavy duty, water cooled diesel engine
- 46/50 °C ambient rated 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
- 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 bel lows supplied separately
- Static battery charger
- Manual for use and installation

## OPTIONAL EQUIPMENTS

### ENGINE

- Fuel-Water Seperator 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 )
- Parallel system with mains.
- 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
- Electrical 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
- Supplied with oil and coolant - 30 °C
- Main Fuel Tank
- Automatic transfer switch

### TRANSFER SWITCH

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- Four Pole Contactor
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## ❶ DIESEL ENGINE SPECIFICATIONS

Manufacturer		Doosan	تولید کننده		
Model		P2221E	مدل		
No. of Cylinders and Build		12-cylinder, V - Type	تعداد سیلندرها و نوع آرایش آنها		
Aspiration and Cooling		Turbo Charged and After Cooled	سیستم تنفس و خنک کاری		
Total Displacement	L	21,93	جابه جایی کل		
Bore and Stroke	mm	128x142	قطر سیلندر و کورس پیستون		
Compression Ratio		15:1	نسبت تراکم		
Rated Speed (rpm)	rpm	1800	سرعت مجاز		
Governor		Electronic	گاورنر		
Oil Capacity	L	40,00	ظرفیت روغن		
Coolant Capacity	L	113,00	ظرفیت خنک کننده		
Intake Air Flow	m³ /min.	46,70	جریان هوای مصرفی		
Exhaust Gas Flow	m³ /min.	137,00	جریان گاز خروجی از اگزوز		
Exhaust Gas Temperatures	° C	606	دماي گاز خروجی از اگزوز		
Start System		24 V d.c.	استارتر		
Fuel Consumption	Load	%100	%75	%50	صرف سوخت
	L/h	147,00	112,00	75,90	

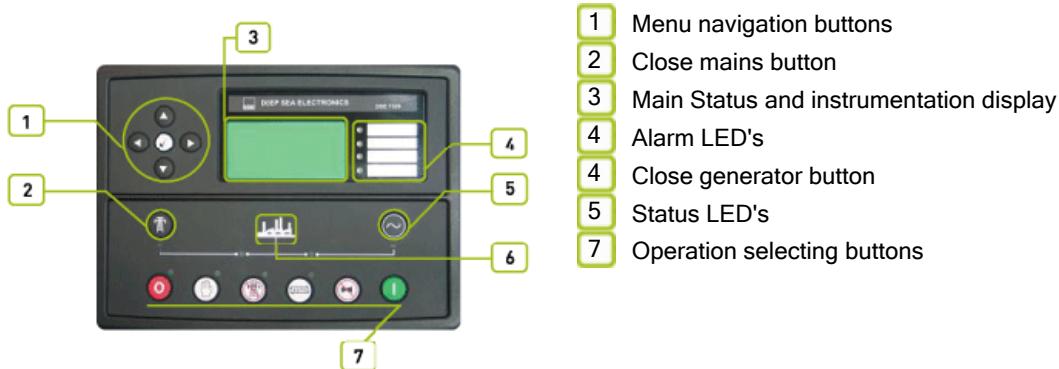
## ❷ ALTERNATOR SPECIFICATIONS

Make		Stamford	تولید کننده
Model		HCI544F	مدل
Frequency	Hz	60	فرکانس
Power	kVA	660	توان
Design		Brushless, 4 poles	طراحی
Cos Phi		0,80	کسینوس فی
Phase		3	فاز
Voltage	V	480/277	ولتاز
Current	A	992	جریان
Insulation Class		H	کلاس عایق بندی
Temperatur		H	دما
Stator		2 / 3 steps	استاتور
Rotor		Single Bearing System, Flexible Disc	روتور
Excitation System		Electronic ( AVR )	سیستم تحریک

## ❸ DIEMENSIONS AND WEIGHT

Open Type	Dry Weight	Lenght	Width	Height	Tank Capacity
	kg.	mm.	mm.	mm.	L
AD 592-6	4400	3700	1400	2120	730
Sound Attenuated Type	Dry Weight	Lenght	Width	Height	Tank Capacity
	kg.	mm.	mm.	mm.	L
AK 85	6060	5800	1620	2550	1150

## • P 732 control system - Control System



## • Devices

DSE, model 7320 Auto Mains Failure control module  
Static battery charger 5A, 220/240 volt  
Emergency stop push button and fuses for control circuits

## • Construction and Finish

Components 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 control module is a standard addition to our generator sets from 250kVA 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

## • 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  
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  
Editorial LED module (2548)  
Expansion relay module (2157)  
Expansion input module (2130)

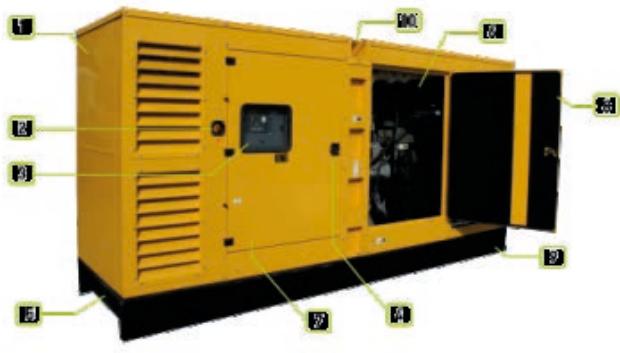
## • Standards

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

Battery charger is manufactured with switching-mode and SMD technology and it has high efficiency.  
Battery charger models' output V-I characteristic is very close to square and output is 5 amper, 24 volt DC. Input 198 - 260 volt AC. 2405 has fully output short circuit protection and it 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.

## AK 85 - Canopy



- 1 Steel structures
- 2 Emergency stop push button
- 3 Control panel is right side of the set.
- 4 Corrosion-resistant locks and hinges
- 4 Sump drains valves
- 5 Exhaust system in the canopy
- 7 Lockable, large doors o each side
- 8 Sound proof foam metarial
- 9 Base frame -tank
- 10 Lifting Points

## Introduction

Sound-attenuated and Weather-protective Enclosures Sound-attenuated and weather protective enclosures for generating sets from Abyaran, 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 (300 - 1100kVA) 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.
- Abyaran makes its generating sets' noise level tests in accordance with directive 2000/14/EC validation of the noise level test has been aproved by the notified body Szutest

Width	mm.	1620
Lenght	mm.	5800
Height	mm.	2550
Fuel Tank Capacity		1150