



#### 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	150,00	120,00	135,00	108,00	195,00

#### 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 (for open sets)
- Static battery charger
- Manual for application and installation



#### OPTIONAL EQUIPMENTS

##### ENGINE

- Fuel-Water Separator Filter
- Low water level alarm
- Oil heater

##### ALTERNATOR

- Anti-Condensation Heater
- Over sized alternator
- Main line circuit breaker

##### CONTROL SYSTEM

- 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
- 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
- Supplied with oil and coolant - 30 °C
- Battery isolating switch
- Main Fuel Tank
- Automatic transfer switch

##### TRANSFER SWITCH

- Three Pole Contactor
- Four Pole Contactor
- Motor Switch

## ➤ DIESEL ENGINE SPECIFICATIONS

Manufacturer		Cummins	تولید کننده
Model		6BTAA5,9G6	مدل
No. of Cylinders and Build		6 Cylinder, In Line	تعداد سیلندرها و نوع آرایش آنها
Aspiration and Cooling		Turbo Charged and After Cooled	سیستم تنفس و خنک کاری
Maximum Standby Power		1500 rpm 145,00 kw [195,00HP]	توان Standby
Total Displacement	L	5,900	جابه جایی کل
Bore and Stroke	mm	102x120	قطر سیلندر و کورس پیستون
Compression Ratio		16,5:1	نسبت تراکم
Rated Speed (rpm)	rpm	1500	سرعت مجاز
Governor		Electronic	گاورنر
Oil Capacity	L	16,40	ظرفیت روغن
Coolant Capacity	L	21,40	ظرفیت خنک کننده
Intake Air Flow	m <sup>3</sup> /min.	8,50	جریان هوای مصرفی
Radiator Cooling Air	m <sup>3</sup> /min.	162,00	میزان هوای خنک کننده رادیاتور
Exhaust Gas Flow	m <sup>3</sup> /min.	31,20	جریان گاز خروجی از اگزوز
Exhaust Gas Temperature	° C	50020,00	دمای گاز خروجی از اگزوز
Start System		12 V d.c.	استارتر
Fuel Consumption	Load	%100 %75 %50	مصرف سوخت
	L/h	35,00 27,00 18,00	

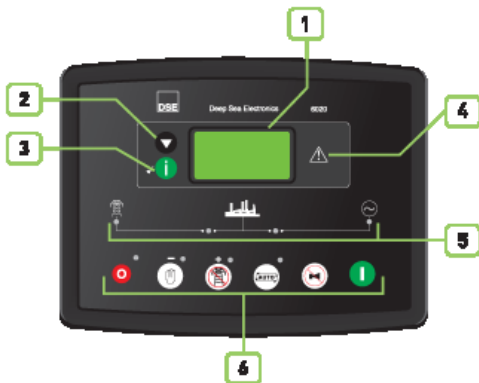
## ➤ ALTERNATOR SPECIFICATIONS

Make		Mecc Alte	تولید کننده
Model		ECP34 1L/4	مدل
Frequency	Hz	50	فرکانس
Power	kVA	135,00	توان
Design		Brushless, 4 poles	طراحی
Cos Phi		0,80	کسینوس فی
Phase		3	فاز
Voltage	V	400/230	ولتاژ
Current	A	194,90	جریان
Insulation Class		H	کلاس عایق بندی
Temperature		H	دما
Stator		2 / 3 steps	استاتور
Rotor		Single Bearing System, Flexible Disc	روتور
Excitation System		Electronic ( AVR )	سیستم تحریک

## ➤ DIEMENSIONS AND WEIGHT

Open Type	Dry Weight	Lenght	Width	Height	Tank Capacity
	kg.	mm.	mm.	mm.	L
AC 150		2750,00	1300,00	1751,00	470,00
Canopy	Dry Weight	Lenght	Width	Height	Tank Capacity
	kg.	mm.	mm.	mm.	L
MS 60	2240	3960	1356	2097	470

## 1 P 602 - Control System



- 1 A U]b'gUhi g'X]gd'Um'
- 2 8]gd'Um]gVfc''Vi h'cb"
- 3 DU[ Yf]bZcfa UhcbE'Vi h'cb"
- 4 7 ca a cb U'Ufa ']bX]W]h'f"
- 5 GHUhi g'@98fj"
- 6 C dYfU]h'cb'gY'YV]b[ 'Vi h'cbg"

## 2 Devices

8G9ža cXY''\*\$\$'5i h'A U]bg: U]i fY V'ebfc''a cXi Y"  
6UHYfmVUf[ Yf]bdi h%, !&\* ( 'j c'h'ci hdi h''&+Z'J ' ) '5'f&( 'J E'cf% ž 'J c'h) 5'f&J E  
9a Yf[ YbVh'gd di g\ 'Vi h'cb'UbX ž gYg Z'fV'ebfc''V]fV]jg"

## 3 Construction and Finish

7 ca dcbYb]g]b]gU'YX'j]b'g'YYh'Y'YbW'cg' fY''D\c]gd\UHY'W'Ya ]W]ždfY!V'Uh]b[ 'cZghY'f'f'c] ]XYg V'f'f'cg]cb  
fYg]g]h'bhgi fZ]W''Dc'mYgYfV'a d'cg]Y' d'ck XYf h'cdV'UhZ'fa g\]] [ 'cgg'UbX'Yi h'Ya Y'mXi fUV'Y ž]b]g\''@cW]UV'Y  
UbX\]b[ YX'dUbY'Xccf'f'c] ]XYg YUgmUW]gg'h'V'a dcbYb]g"

## 4 Installation

7cbh'c'dUbY'j]g'a ci bHYX'cb VUgYZ'Ua Y'k ]h' ghY'g'g'UbX''@cW]HYX'Uh'Y'f[ \hig]XY'cZ'Y'Y' [ YbYfU'h'f'gYh'fK \Yb'nci  
'cc\_ 'Uh'Y'; Yb"G'Yh'Z'ca '5'Yf'f'U'h'f'f'

## 5 Generating Set Control Unit

H\Y''8G9''\*\$\$'j]g'U'g'UbXUfX V'ebfc''a cXi Y'Z'f'ci f[ YbYfU'h'f'gYh'g'i d'h'&\$\$\_J 5'UbX'ih\Ug'VYYb'XYg][ bYX'h'  
ghUfhUbX'gh'cd'X]YgY'UbX'[ Ug[ YbYfU'h'f'gYh'g''H\Y'8G9''\*\$\$'a cXi Y'\Ug'VYYb'XYg][ bYX'h'c'a cb]h'f[ YbYfU'h'f'  
Z'Yei YbW'žj c'h'W'fYb'h'Yb[ ]bY'c]'dfYggi fYžV'c'Ubh'Y'a dYfUhi fY'fi bb]b[ \ci fg'UbX'VUHYfmj c'h'g''A cXi Y'  
a cb]h'f'g'h'Y'a U]bg'gi dd'mUbX'gk ]W]c] Yf'h'Y'Y' [ YbYfU'h'f'k \Yb'h'Y'a U]bg'd'ck Yf'Z]g''H\Y'8G9''\*\$\$'U'gc  
]bX]W]HYg'cdYfU]h'cbU'ghUhi g'UbX'Z]i 'hV'ebX]h'cbgž5i h'ca U]h'W'm'g'vi h]b[ 'X'ck b'h'Y'; Yb"G'Yh'UbX'[ ]j ]b[ 'h'f'Y'ž'f'ghi d  
Z]i 'hV'ebX]h'cb'cZ; Yb"G'Yh'Z]i fY''H\Y'@7 8'X]gd'Um]bX]W]HYg'h'Y'Z]i 'h'

### Standard Specifications

A ]W'cd'f'cW'gg'cf'V'ebfc''YX"  
@7 8'X]gd'Uma U\_Yg]bZcfa Uh'cb'YUgm'h'f'YUX"  
(!']bYž\*( '1'% &d]Y'X]gd'Um'  
5i h'ca U]h'W'm'f'UbgZ'f'g'VYh'YYb'a U]bg'fi h]h'c'UbX'[ YbYfU'h'f'c'ck Yf"  
A Ubi U'd'f'c[ fUa a ]b[ 'cb'Z'cbhdUbY''  
I gYf]Z]YbX'm'gYh'i d'UbX'Vi h'cb''U'h'c' h'  
F Ya c'h'ghUfh'  
9j Ybh'c[ [ ]b[ 'f] h'g\ck ]b[ 'XUHY'UbX'h'a Y"  
7cbh'c'g'G'h'cd#F YgYh'Z'A Ubi U'ž5i h'cZ'HYg'h'GHUfh'Vi h'cbg''5b'UXX]h'cbU'di g\ 'Vi h'cb'bYi h'c'h'Y'@7 8'X]gd'Um]g  
i gYX'h'c'g'W'c''h'f'ci [ \h'Y'a cXi Y'g'f'a Y'h'f]b[ 'X]gd'Um'g"

## 1 Instruments

9B: 49  
 9b[ ]bY'gdYYX"  
 C]'dfYggi fY"  
 7cc'UbhY'a dYfUhi fY"  
 F i b'hja Y"  
 6UHYfmj c'hg"  
 7cbZ[ i fUV'Y'hja ]b[ "  
 ; 9B 9F 5HC F  
 J c'fU[ Y'f@ @B E"  
 7i ffYbhf@ @ @ E"  
 : fYei YbVW"  
 A 5-BG  
 J c'fU[ Y'f@ @B E"  
 : fYei YbVW"  
 A U]bg fYUXn"  
 A U]bg YbUV'YX"  
 ; Yb"GYhfYUXn"  
 ; Yb"GYhfYbUV'YX"

## 1 Protection Circuits

K 5F B-B;  
 7\Uf[Y Z]i fY"  
 6UHYfm@ck #][ \j c'fU[ Y"  
 : U]'hc'ghcd"  
 @ck #][ \j [ YbYfUhc'fj c'fU[ Y"  
 I bXYf#j Yf[ YbYfUhc'fj fYei YbVW"  
 Cj Yf# bXYf'gdYYX"  
 @ck c]'dfYggi fY"  
 <][ \ V@c'UbhY'a dYfUhi fY"  
 G<I H8CK BG  
 : U]'hc'ghUf"  
 9a Yf[ YbVW'ghcd"  
 @ck c]'dfYggi fY"  
 <][ \ V@c'UbhY'a dYfUhi fY"  
 Cj Yf# bXYf'gdYYX"  
 I bXYf#j Yf[ YbYfUhc'fj fYei YbVW"  
 I bXYf#j Yf[ YbYfUhc'fj c'fU[ Y"  
 C]'dfYggi fY'gYbgcf'cdYb"  
 7cc'UbhY'a dYfUhi fY'gYbgcf'cdYb"  
 9@97 HF → 5@HF →  
 ; YbYfUhc'fj YfW ffYbH

## 1 Options

: 'YI J'Y'gYbgcf'WUb VY V@c'UbhY'a dYfUhi fYz  
 dfYggi fYz dYfW'bfU[ Y'fU'bf]b[ #g\i fXck b#Y'VW'f]dE  
 @cWU'gYH]b[ 'dUfUa YHfg'UbX'a cb]hc'f]b[ 'Zca 'D7 hc  
 V@c'UbhY'a cXi 'Y'k ]h' I G6 V@c'UbhY'a cb'fU' UI '\* 'a H"

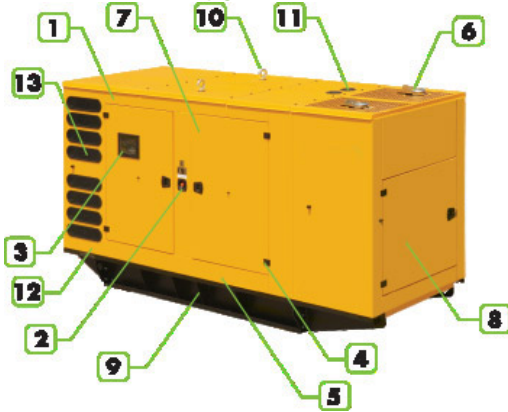
## 1 Standards

9'YVW'WU'GUZYhm#9A 7 'V@c'UbhY'a dYfUhi fYz  
 9'YVW'WU'Vi g]bYggi'Yei ]da YbH  
 6G'9B '\*%\$!\*&'9A 7 'ja a i b]mighUbXUfX"  
 6G'9B '\*%\$!\*&'9A 7 'Ya jgg]cb'ghUbXUfX

## 1 Static Battery Charger

'6UHYfmVUf[ Yf]g'a Ubi ZUV' fYX'k ]h'gk ]hV]b[ !a cXY'UbX'GA 8 'fVW'bc'c[ mUbX'ih\Ug\][ \ YZV'YbVW' 6UHYfmVUf[ Yf  
 a cXY'gfci hdi hJ !=VUfUW'f]gh]W]g'j YfmVW'gY'hc'gei UfY'UbX'ci hdi h]g' 'Ua dYfz% ž 'J 'Zcf%&j c'hUbX'&+ž' 'J 'Zcf'&'( 'J '  
 #di h% , 'I'&'( 'j c'h57 "'Dfc]bY'&(\$) '\Ug'Z 'mici hdi hg\chVW'f]hdfchVW'f]cb'UbX'ihVW'VY'i gYX'Ug'U'VW'ffYbhgci fVW"  
 Dfc]bY'&(\$) #&(\$) 'VUf[ Yf'\Ug\][ \ YZV'YbVW'f]cb[ 'Z'Z'ck ZU]i fY'fUfYz' ][ \hk Y][ \hUbX'ck \YUhfUX]UfYX' ]b  
 UVW'fXUbW'k ]h' ]bYUf'U'fYbU]j Yg' H\Y VUf[ Yf]g'Z'fYX'k ]h' U'dfchVW'f]cb X]cXY'UVW'cg'fY'ci hdi H'7 cbbYVW'f]cb Y'ZU]  
 fY'UmV@c] 'VYfY'YYb'dcg]h]j Y'ci hdi hUbX'7: 'ci hdi H'fY'fYmUfY'Yei jddYX'k ]h' F: =Z'fYf'hc'fYXi VV'Y'VW'f]cb'bc]gY'fUX]UfYX  
 Zca 'hY'XYj jV'"; Uj Ub]W'm]gc'UfYX' ]bdi hUbX'ci hdi h]md]W'm( \_J 'Zcf\][ \ 'fY' ]UV] ]h"

## MS 60 - Canopy



- 1 Steel structures.
- 2 Emergency stop push button.
- 3 Control panel is mounted on the baseframe . Located at the right side of the generator set.
- 4 Corrosion-resistant locks and hinges.
- 5 oil could be drained via valve and a hose
- 6 Exhaust system in the canopy.
- 7 special large access doors for easy maintenance
- 8 in front and back side special large access doors for easy maintenance
- 9 Base frame -fuel tank.
- 10 Lifting points similar to ISO container , located on each top corner of the canopy
- 11 the cap of the canopy provides easy access to radiator cap.
- 12 sound proofing materials
- 13 Plastic air intake pockets.

## Introduction

Sound-attenuated and weather protective enclosures for generating sets from Abyaran, meet even 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-assembled, 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 approved by the notified body Szutest

Width	mm.	1356
Length	mm.	3960
Height	mm.	2097
Fuel Tank Capacity	L	470