

# THE GENERATOR

SALES & SERVICING CO. LTD



POWER  
YOUR  
FUTURE

20 kVA / 20 kW  
POWERED by AKSA

## DIESEL GENERATING SET 230 V - 50 Hz Single Phase

MODEL			APD25MA
Power Pf. 1.0	Standby	kVA	20
		kW	20
	Prime	kVA	18.5
		kW	18.5

**Standby:** Continuous running at variable load for duration of an emergency. No overload is permitted on these ratings. In accordance with ISO 3046.

**Prime:** Continuous running at variable load for unlimited periods with 10% overload available for 1 hour in any 12 hour period. In accordance with ISO 8528, ISO 3046.

- ✓ High quality, reliable and complete power unit
- ✓ Compact design
- ✓ Easy start and maintenance possibility
- ✓ Every generating set is subject to a comprehensive test program which includes full load testing, checking and provision of all control and safety shut down functions testing
- ✓ Fully engineered with a wide range of options and accessories: Canopy, sound proof canopy and on-road trailer



## ENGINE

AKSA		
Model		A4CRX25
Engine Power Output at rated rpm	kWm	24.2
	HP	32
Aspiration and Cooling		Nature
Total Displacement	Litre	2.543
No. of Cylinders and Build		4-Inline
Engine Speed	rpm	1500
Bore and Stroke	mmxmm	90x100
Compression Ratio		18:1
Governor		Mechanical
Fuel Consumption at full load	L/hr	5.5
Fuel Tank Capacity	Litre	Open: 95/Canopy: 95
Oil Capacity	Litre	8.5
Coolant Capacity	Litre	20
Radiator Cooling Air	m <sup>3</sup> /min	113
Air Intake – Engine	m <sup>3</sup> /min	1.8
Exhaust Gas Flow	m <sup>3</sup> /min	4.44

- ✓ Heavy duty Aksa diesel engine
- ✓ Four stroke, water cooled, aftercooled
- ✓ Direct injection fuel system
- ✓ Mechanical Governor system
- ✓ 12/24 V D.C. starter and charge alternator
- ✓ Replaceable fuel filter, oil filter and dry element air filter
- ✓ Cooling radiator and fan
- ✓ Starter battery (with lead acid) including Rack and Cables
- ✓ Flexible fuel connection hoses and manual oil sump drain valve
- ✓ Industrial capacity exhaust silencer and steel bellows
- ✓ Jacket water heater(at automatic models)
- ✓ Operation manuals and circuit diagram documents

## ALTERNATOR

Design	Brushless single bearing, revolving field
Stator	2/3 pitch
Rotor	Single bearing, flexible disc
Insulation System	Class H
Standard Temperature Rise	125 - 163°C Continuous
Exciter Type	Self Excited
Phase Rotation	A (U), B (V), C (W)
Alternator Cooling	Direct drive centrifugal blower fan
AC Waveform Total Harmonic Distortion	No load < 1.5%. Non distorting balanced linear load < 5%
Telephone Influence Factor (TIF)	<50 per NEMA MG1-22.43
Telephone Harmonic Factor (THF)	<2%

- ✓ Brushless, single bearing system, flexible disc, 4 poles
- ✓ Insulation class H
- ✓ Standard degree of protection IP21 (\*IP22/IP23 is available.)
- ✓ Self-exciting and self-regulating
- ✓ Impregnation with tropicalised epoxy varnish
- ✓ Solid state Automatic Voltage Regulator
- ✓ Stator winding with 2/3 pitch for improved harmonics

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## CONTROL SYSTEM

Control supervision and protection panel is mounted on the genset base frame. The control panel is equipped as follows:

### 1. Auto Mains Failure Control Panel

Panel equipments:

- ✓ Control with AMF module
- ✓ Static battery charger
- ✓ Emergency stop push button



DSE 6020

### a) Generating set control module DSE 6020 features:

- ✓ The module is used to monitor main supply and starts and stops of a standby generating set
- ✓ Micro-processor based design
- ✓ Automatic control of main and generator contactors
- ✓ Monitors engine performance and AC power output LED alarm indication
- ✓ Front panel configuration of timers and alarm trip points
- ✓ CAN and magnetic pick-up versions (specify on ordering)
- ✓ 4 digital inputs/3 analogue inputs
- ✓ 6 outputs (4 configurable on Magnetic Pick-up, 6 configurable on CANbus version)
- ✓ Easy push button control  
STOP/RESET - MANUAL - AUTO - TEST - START

### b) Metering via LED display:

- ✓ Generator Volts (L-L / L-N)
  - ✓ Engine oil pressure (PSI-Bar)
  - ✓ Generator Ampere (L1,L2,L3)
  - ✓ Engine temperature (° C & ° F)
  - ✓ Generator Frequency (Hz)
  - ✓ Plant battery volts
  - ✓ Engine hours run
  - ✓ Mains Volts (Ph-Ph/Ph-N)
- Generator kVA  
Generator kW  
Generator Cos (σ)

### c) Alarms:

- ✓ Over and Under Speed
- ✓ Low and High Battery Volt.
- ✓ Start and Stop Failure
- ✓ Charge fail
- ✓ Over Current
- ✓ Under / Over Generator Voltage
- ✓ Low Oil Pressure
- ✓ Emergency stop
- ✓ High engine temperature

### d) LED indications

- ✓ Mains available
- ✓ Generator available
- ✓ Mains on load
- ✓ Generator on load

## 2. Power Outlet Terminal Board Mounted on the Gen-set Base Frame

## OPTIONAL EQUIPMENTS

### Diesel Engine

- ✓ Oil heater

### Alternator

- ✓ 3/4 Pole Output Circuit Breaker
- ✓ Anti-condensation Heater

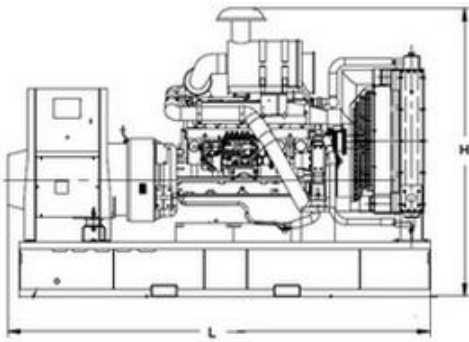
### Panel

- ✓ Charge ammeter
- ✓ Transfer Switch 3 Pole
- ✓ Transfer Switch 4 Pole
- ✓ Earth Fault, single set

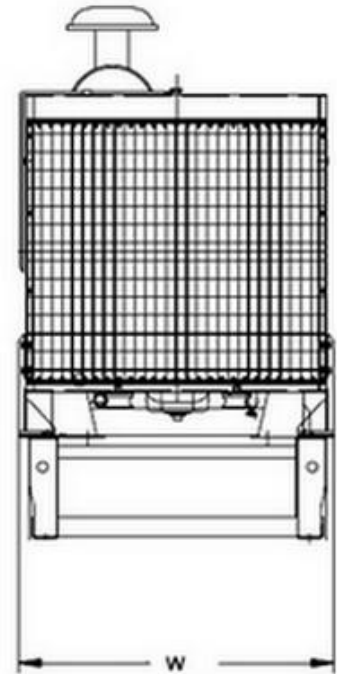
### Accessories

- ✓ Bulk fuel tank
- ✓ Automatic filling system
- ✓ Fuel-water separator filter
- ✓ Low fuel level alarm
- ✓ Residential silencer
- ✓ Enclosure or sound proof canopy
- ✓ Trailer
- ✓ Manual oil drain pump
- ✓ Tool kit for maintenance

## CHASSIS



- ✓ The complete gen-set is mounted as whole on a heavy-duty fabricated, steel base frame
- ✓ Anti-vibration pads are fixed between the engine/ alternator feet and the base frame
- ✓ Base frame design incorporates an integral fuel tank (Up to 750 kVA)
- ✓ The generating set can be lifted or carefully pushed / pulled by the base frame
- ✓ Dial type fuel gauge and drain plug on the fuel tank
- ✓ Forklift pockets within base frame (up to 500kVA)

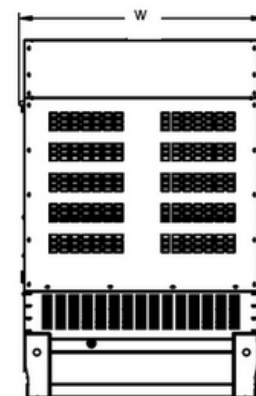
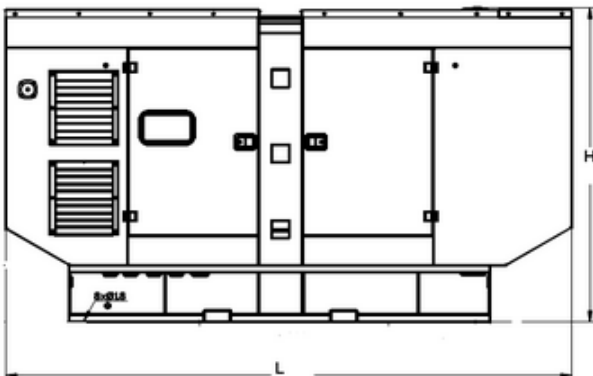


## DIMENSIONS

### SOUND ATTENUATED TYPE

DIMENSIONS (LxWxH)	mm	1938*968*1245
DRY WEIGHT	kg	790

## CANOPY



- ✓ All canopy parts are designed with modular principles
- ✓ Without welding assembly
- ✓ Doors on each side
- ✓ All metal canopy parts are painted by electrostatic polyester powder paint
- ✓ Exhaust silencer is protected against environment influences
- ✓ Thermally insulated engine exhaust system
- ✓ Emergency stop push button is installed outside of the canopy
- ✓ Easy lifting and moving
- ✓ Easy maintenance and operation

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