

**APD440C-6**



**60 Hz.  
1800 RPM.**

**POWER YOUR  
FUTURE!**



**DIESEL GENERATING SET 480/277V, 440/254V, 380/220V, 220/127V- 60 Hz**

MODEL		APD440C-6	
Power Pf. 0.8	Standby	kVA	440
		kW	352
	Prime	kVA	400
		kW	320

**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 and checking and providing of all control and safety shut down functions testing
- ✓ Full engineered with a wide range of options and accessories: Canopy, sound proof canopy and on road trailer





**ENGINE**

**CUMMINS**

<b>Model</b>	<b>NTA855G3</b>	
<b>Engine Power Output at rated rpm</b>	<b>kWm</b>	<b>399</b>
	<b>HP</b>	<b>535</b>
<b>Aspiration and Cooling</b>	<b>Turbocharged &amp; AC</b>	
<b>Total Displacement</b>	<b>Litre</b>	<b>14</b>
<b>No. of Cylinders and Build</b>	<b>6- Inline</b>	
<b>Engine Speed</b>	<b>rpm</b>	<b>1800</b>
<b>Bore and Stroke</b>	<b>mmxmm</b>	<b>140x152</b>
<b>Compression Ratio</b>	<b>14:1</b>	
<b>Governor</b>	<b>Electronic</b>	
<b>Fuel Consumption at full load</b>	<b>L/hr</b>	<b>87</b>
<b>Fuel Tank Capacity</b>	<b>Litre</b>	<b>Open: 526/Canopy: 526</b>
<b>Oil Capacity</b>	<b>Litre</b>	<b>38.6</b>
<b>Coolant Capacity</b>	<b>Litre</b>	<b>60.6</b>
<b>Radiator Cooling Air</b>	<b>m<sup>3</sup>/min</b>	<b>-</b>
<b>Air Intake – Engine</b>	<b>m<sup>3</sup>/min</b>	<b>28.62</b>
<b>Exhaust Gas Flow</b>	<b>m<sup>3</sup>/min</b>	<b>78.9</b>

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|---|---|
| <ul style="list-style-type: none"> <li>✓ Heavy duty Cummins diesel engine</li> <li>✓ Four stroke, water cooled, turbocharged&amp;aftercooled</li> <li>✓ Direct injection fuel system</li> <li>✓ Electronic Governor system</li> <li>✓ 12/24 V D.C. starter and charge alternator</li> <li>✓ Replaceable fuel filter, oil filter and dry element air filter</li> </ul> | <ul style="list-style-type: none"> <li>✓ Cooling radiator and fan</li> <li>✓ Starter battery (with lead acid) including Rack and Cables</li> <li>✓ Flexible fuel connection hoses and manual oil sump drain valve</li> <li>✓ Industrial capacity exhaust silencer and steel bellows</li> <li>✓ Jacket water heater(at automatic models)</li> <li>✓ Operation manuals and circuit diagram documents</li> </ul> |
|---|---|

**ALTERNATOR**

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

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|--|---|
| <ul style="list-style-type: none"> <li>✓ Brushless, single bearing system, flexible disc, 4 poles</li> <li>✓ Insulation class H</li> <li>✓ Standard degree of protection IP21 (*IP22/IP23 is availab.)</li> <li>✓ Self-exciting and self-regulating</li> </ul> | <ul style="list-style-type: none"> <li>✓ Impregnation with tropicalised epoxy varnish</li> <li>✓ Solid state Automatic Voltage Regulator</li> <li>✓ Stator winding with 2/3 pitch for improved harmonics</li> </ul> |
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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

### a) Generating set control module DSE 7320 features:

- ✓ The module is used to monitor a mains supply and starts and stops a standby generating set
- ✓ Micro-processor based design
- ✓ Automatic control of mains and generator contactors
- ✓ Monitors engine performance and AC power output
- ✓ LED alarm indication
- ✓ Front panel configuration of timers and alarm trip points
- ✓ Easy push button control  
STOP/RESET - MANUAL - TEST - AUTO - MUTE ALARM - 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, kWh
- ✓ Generator kW as % of rated kW setting
- ✓ Generator Cos ( $\sigma$ )



DSE 7320

### 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
- ✓ kW overload
- ✓ Unbalanced load
- ✓ Independent earth fault trip

### d) LED Indications

Four configurable LED's like:

- ✓ 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

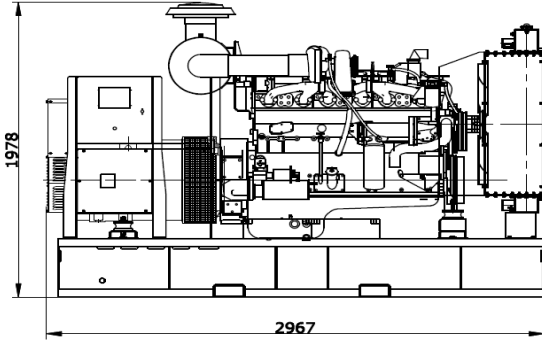
### Panel

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

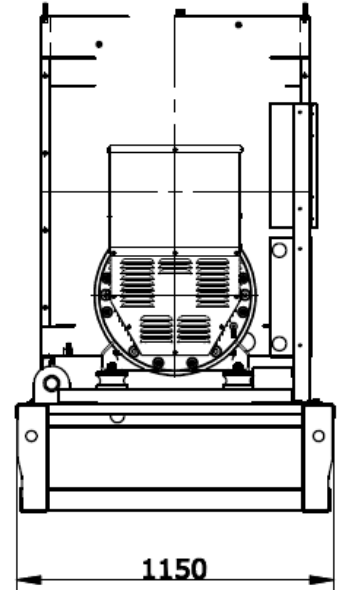
### Accessories

- ✓ 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
- ✓ Antivibration 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

### OPEN TYPE

DIMENSIONS (LxWxH) mm 3400x1680x2055

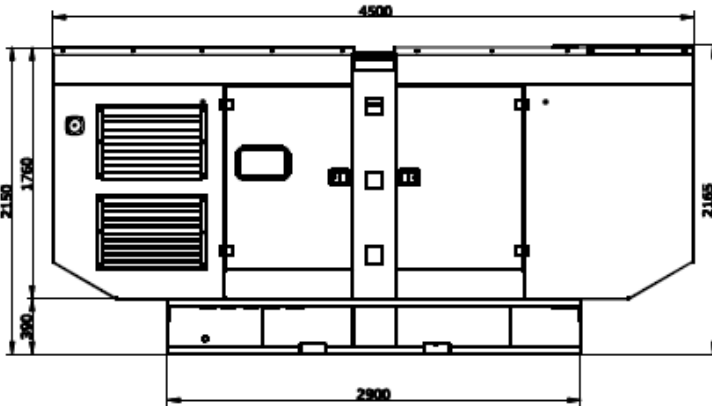
DRY WEIGHT kg 3250

### SOUND ATTENUATED TYPE

DIMENSIONS (LxWxH) mm TBD

DRY WEIGHT kg TBD

## 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

### Aksa Power Generation

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