# APD500C



#### Your Dealer:

Chainaris Phuket Engineering Co., Ltd. 63/13 Moo.2, T.Vichit, A.Muang Phuket 83000 Tel. 076-513100-3 Fax. 076-513105





500kVA / 400 kW POWERED by CUMMINS

# DIESEL GENERATING SET 400/230 V - 50 Hz - 3 Phase

	MODEL		APD500C
Power Pf. 0.8	Standby	kVA	500
		kW	400
	Prime	kVA	455
		kW	364

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



Manufacturer reserves the right to make changes in model, technical specifications, color, equipment and accessories without prior notice.

# ENGINE

CUMMINS					
Model		KTA19G3			
Engine Power Output	kWm	448			
at rated rpm	HP	600			
Aspiration and Cooling		Turbocharged & Aftercooled			
Total Displacement	Litre	18.9			
No. of Cylinders and Build		6 - Inline			
Engine Speed	rpm	1500			
Bore and Stroke	mmxmm	159x159			
Compression Ratio		13.9:1			
Governor		Electronic			
Fuel Consumption at full load	L/hr	97			
Fuel Tank Capacity	Litre	Open: 600/Canopy: 893			
Oil Capacity	Litre	50			
Coolant Capacity	Litre	99			
Radiator Cooling Air	m³/min	1057.9			
Air Intake – Engine	m³/min	31.98			
Exhaust Gas Flow	m³/min	89.34			

✓ Heavy duty Cummins diesel engine

✓ Four stroke, water cooled, turbocharged & aftercooled

✓ Direct injection fuel system

✓ Electronic 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  $\checkmark$
- Starter battery (with lead acid) including Rack and Cables  $\checkmark$
- Flexible fuel connection hoses and manual oil sump drain valve
   Industrial capacity exhaust silencer and steel bellows
- Jacket water heater(at automatic models)  $\checkmark$
- ✓ 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
- $\checkmark$ Solid state Automatic Voltage Regulator

✓ Stator winding with 2/3 pitch for improved harmonics

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 ( $\sigma$ )



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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 Genset Base Frame

# **OPTIONAL EQUIPMENTS**

#### **Diesel Engine**

✓ Oil heater

#### Alternator

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

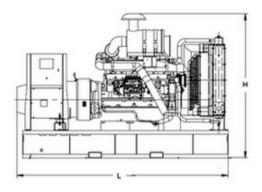
### Panel

- ✓ Charge ammeter
- Transfer Switch 3 Pole  $\checkmark$
- 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

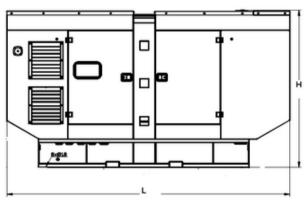


- $\checkmark$  The complete gen-set is mounted as whole on a heavy-duty fabricated, steel base frame
- $\checkmark\,$  Anti-vibration pads are fixed between the engine/ alternator feet and the base frame
- ✓ Base frame design incorporates an integral fuel tank (Up to 750 kVA)
- ✓ The generating set 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

OPEN TYPE					
DIMENSIONS (LxWxH)	mm	3400x1680x2055			
DRY WEIGHT	kg	4050			
SOUND ATTENUATED TYPE					
SOUN	D ATTENU	ATED TYPE			
SOUN DIMENSIONS (LxWxH)	D ATTENU	ATED TYPE 5022*1652*2475			

## 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

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- ✓ 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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