# APD344C-6



POWER YOUR FUTURE

344 kVA / 275.2 kW POWERED by CUMMINS

# DIESEL GENERATING SET 480/277V,380/220V,220/127V- 60 Hz

|                  | MODEL   |     | APD344C-6 |
|------------------|---------|-----|-----------|
| Power<br>Pf. 0.8 | Standby | kVA | 344       |
|                  |         | kW  | 275.2     |
|                  | Prime   | kVA | 312.5     |
|                  |         | kW  | 250       |

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

| CUMMINS                       |        |                                  |  |  |  |
|-------------------------------|--------|----------------------------------|--|--|--|
| Model                         |        | 6LTAA9.5-G1                      |  |  |  |
| Engine Power Output           | kWm    | 310                              |  |  |  |
| at rated rpm                  | HP     | 416                              |  |  |  |
| Aspiration and Cooling        |        | Turbocharged & charge air cooled |  |  |  |
| Total Displacement            | Litre  | 9.5                              |  |  |  |
| No. of Cylinders and Build    |        | 6- Inline                        |  |  |  |
| Engine Speed                  | rpm    | 1800                             |  |  |  |
| Bore and Stroke               | mmxmm  | 116.5x148                        |  |  |  |
| Compression Ratio             |        | 16.6:1                           |  |  |  |
| Governor                      |        | Electronic                       |  |  |  |
| Fuel Consumption at full load | L/hr   | 68                               |  |  |  |
| Fuel Tank Capacity            | Litre  | 470                              |  |  |  |
| Oil Capacity                  | Litre  | 32.4                             |  |  |  |
| Coolant Capacity              | Litre  | 65.1                             |  |  |  |
| Radiator Cooling Air          | m³/min | 550                              |  |  |  |
| Air Intake – Engine           | m³/min | 20.7                             |  |  |  |
| Exhaust Gas Flow              | m³/min | 21.66                            |  |  |  |

✓ Heavy duty Cummins diesel engine

✓ Four stroke, water cooled, turbocharged & charge air cooled

✓ 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

Starter battery (with lead acid) including Rack and Cables  $\checkmark$ 

Flexible fuel connection hoses and manual oil sump drain valve  $\checkmark$ 

- $\checkmark$ 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.)

- Impregnation with tropicalised epoxy varnish
  Solid state Automatic Voltage Regulator

✓ Self-exciting and self-regulating

✓ Stator winding with 2/3 pitch for improved harmonics

## **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
- $\checkmark\,$  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 Genset Base Frame

## **OPTIONAL EQUIPMENTS**

#### **Diesel Engine**

✓ Oil heater

#### Alternator

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

#### Panel

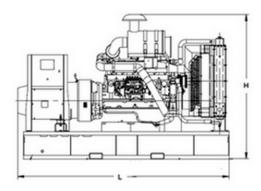
- ✓ Charge ammeter
- ✓ Transfer Switch 3 Pole
- ✓ Transfer Switch 4 Pole
- ✓ Earth Fault ,single set

#### 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

# POWER YOUR FUTURE

# CHASSIS

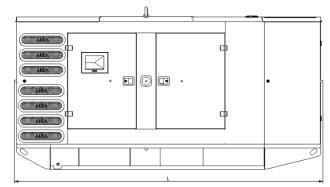


- $\checkmark\,$  The complete gen-set is mounted as whole on a heavy-duty fabricated, steel base frame
- $\checkmark$  Anti-vibration pads are fixed between the engine/ alternator feet and the base frame
- ✓ Base frame design incorporates an integral fuel tank (Up to 1000 kVA)
- ✓ The generating set can be lifted or carefully pushed / pulled by the base frame
- $\checkmark\,$  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      | 2840x1300x1845 |  |  |  |  |  |
| DRY WEIGHT            | kg      | 2660           |  |  |  |  |  |
| SOUND ATTENUATED TYPE |         |                |  |  |  |  |  |
|                       | DATIENU |                |  |  |  |  |  |
| DIMENSIONS (LxWxH)    | mm      | 3963x1356x2171 |  |  |  |  |  |

## 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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