APD200C

POWER YOUR FUTURE

200 kVA / 160 kW
POWERED by CUMMINS

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

<table>
<thead>
<tr>
<th>MODEL</th>
<th>kVA</th>
<th>APD200C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standby</td>
<td>kW</td>
<td>200</td>
</tr>
<tr>
<td>Prime</td>
<td>kW</td>
<td>160</td>
</tr>
<tr>
<td>Prime</td>
<td>kVA</td>
<td>180</td>
</tr>
<tr>
<td>Prime</td>
<td>kW</td>
<td>144</td>
</tr>
</tbody>
</table>

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**        | 6CTA8.3G2        |
| **Engine Power Output** | kWm/kW | 180 |
| at rated rpm     | HP/HP          | 241 |
| **Aspiration and Cooling** |            | Turbocharged & Aftercooled |
| **Total Displacement** | Litre/Litre | 8.3 |
| **No. of Cylinders and Build** | rpm/rpm | 6- Inline |
| **Engine Speed** | rpm/rpm       | 1500 |
| **Bore and Stroke** | mm/mm/mm | 114x135 |
| **Compression Ratio** |            | 17.3:1 |
| **Governor**     |              | Electronic |
| **Fuel Consumption at full load** | L/hr/Litre | 42 |
| **Fuel Tank Capacity** | Litre/Litre | Open: 350/Canopy: 350 |
| **Oil Capacity** | Litre | 27.6 |
| **Coolant Capacity** | Litre | 41.3 |
| **Radiator Cooling Air** | m³/min | 186 |
| **Air Intake – Engine** | m³/min | 12.36 |
| **Exhaust Gas Flow** | m³/min | 34.68 |

- 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
- 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**

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

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

c) Alarms:
   ✓ Over and Under Speed
   ✓ Low and High BatteryVolt.
   ✓ 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 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
- 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

<table>
<thead>
<tr>
<th>OPEN TYPE</th>
<th></th>
</tr>
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<tbody>
<tr>
<td>DIMENSIONS (LxWxH)</td>
<td>mm</td>
</tr>
<tr>
<td>DRY WEIGHT</td>
<td>kg</td>
</tr>
<tr>
<td>2336<em>1100</em>1652</td>
<td>1780</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SOUND ATTENUATED TYPE</th>
<th></th>
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<tbody>
<tr>
<td>DIMENSIONS (LxWxH)</td>
<td>mm</td>
</tr>
<tr>
<td>DRY WEIGHT</td>
<td>kg</td>
</tr>
<tr>
<td>3265<em>1163</em>1858</td>
<td>2280</td>
</tr>
</tbody>
</table>

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