MODEL APD145C

Power
Pf. 0.8

Standby
kVA 145
kW 116

Prime
kVA 132
kW 105.6

POWERED by CUMMINS

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

<table>
<thead>
<tr>
<th><strong>CUMMINS</strong></th>
<th><strong>Model</strong></th>
<th>6BTAA5.9G2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Engine Power Output at rated rpm</strong></td>
<td>kW/m</td>
<td>130</td>
</tr>
<tr>
<td><strong>Aspiration and Cooling</strong></td>
<td></td>
<td>Turbocharged and Charge Air Cooled</td>
</tr>
<tr>
<td><strong>Total Displacement</strong></td>
<td>Litre</td>
<td>5.9</td>
</tr>
<tr>
<td><strong>No. of Cylinders and Build</strong></td>
<td></td>
<td>6 - Inline</td>
</tr>
<tr>
<td><strong>Engine Speed</strong></td>
<td>rpm</td>
<td>1500</td>
</tr>
<tr>
<td><strong>Bore and Stroke</strong></td>
<td>mm x mm</td>
<td>102x120</td>
</tr>
<tr>
<td><strong>Compression Ratio</strong></td>
<td></td>
<td>17.3:1</td>
</tr>
<tr>
<td><strong>Governor</strong></td>
<td></td>
<td>Electronic</td>
</tr>
<tr>
<td><strong>Fuel Consumption at full load</strong></td>
<td>L/hr</td>
<td>30</td>
</tr>
<tr>
<td><strong>Fuel Tank Capacity</strong></td>
<td>Litre</td>
<td>340</td>
</tr>
<tr>
<td><strong>Oil Capacity</strong></td>
<td>Litre</td>
<td>16.4</td>
</tr>
<tr>
<td><strong>Coolant Capacity</strong></td>
<td>Litre</td>
<td>54</td>
</tr>
<tr>
<td><strong>Radiator Cooling Air</strong></td>
<td>m³/min</td>
<td>148</td>
</tr>
<tr>
<td><strong>Air Intake - Engine</strong></td>
<td>m³/min</td>
<td>7.2</td>
</tr>
<tr>
<td><strong>Exhaust Gas Flow</strong></td>
<td>m³/min</td>
<td>19.68</td>
</tr>
</tbody>
</table>

- Heavy duty Cummins diesel engine
- Four stroke, water cooled, turbocharged & intercooled
- 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>Design</strong></th>
<th>Brushless single bearing, revolving field</th>
</tr>
</thead>
<tbody>
<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 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 DSE6120 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
     ✓ 4 configurable analogue/digital inputs, 8 configurable digital inputs
     ✓ 6 configurable DC outputs
     ✓ Easy push button control
     STOP/RESET - MANUAL - AUTO - TEST – START
   
b) Metering via LCD 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 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 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></th>
<th>OPEN TYPE</th>
<th>SOUND ATTENUATED TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIMENSIONS (LxWxH)</td>
<td>mm 2350x1080x1645</td>
<td>mm 3417x1136x2022</td>
</tr>
<tr>
<td>DRY WEIGHT</td>
<td>kg 1360</td>
<td>kg 1780</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.

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