DIESEL GENERATING SET 220V- 60 Hz-1 Phase

<table>
<thead>
<tr>
<th>MODEL</th>
<th>APD125MC-6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Pf. 1.0</td>
<td></td>
</tr>
<tr>
<td>Standby</td>
<td>kVA: 107.5</td>
</tr>
<tr>
<td></td>
<td>kW: 107.5</td>
</tr>
<tr>
<td>Prime</td>
<td>kVA: 97.8</td>
</tr>
<tr>
<td></td>
<td>kW: 97.8</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

<table>
<thead>
<tr>
<th><strong>Model</strong></th>
<th><strong>6BT5.9G2</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Engine Power Output</strong></td>
<td><strong>kWm</strong> 127</td>
</tr>
<tr>
<td>at rated rpm</td>
<td><strong>HP</strong> 170</td>
</tr>
<tr>
<td><strong>Total Displacement</strong></td>
<td><strong>Litre</strong> 5.9</td>
</tr>
<tr>
<td><strong>No. of Cylinders and Build</strong></td>
<td><strong>6-Inline</strong></td>
</tr>
<tr>
<td><strong>Engine Speed</strong></td>
<td><strong>rpm</strong> 1800</td>
</tr>
<tr>
<td><strong>Bore and Stroke</strong></td>
<td><strong>mmxmm</strong> 102x120</td>
</tr>
<tr>
<td><strong>Compression Ratio</strong></td>
<td><strong>17:3:1</strong></td>
</tr>
<tr>
<td><strong>Governor</strong></td>
<td><strong>Electronic</strong></td>
</tr>
<tr>
<td><strong>Fuel Consumption at full load</strong></td>
<td><strong>L/hr</strong> 29.7</td>
</tr>
<tr>
<td><strong>Fuel Tank Capacity</strong></td>
<td><strong>Litre</strong> Open: 195/Canopy: 195</td>
</tr>
<tr>
<td><strong>Oil Capacity</strong></td>
<td><strong>Litre</strong> 16.4</td>
</tr>
<tr>
<td><strong>Coolant Capacity</strong></td>
<td><strong>Litre</strong> 36</td>
</tr>
<tr>
<td><strong>Radiator Cooling Air</strong></td>
<td><strong>m³/min</strong> 200</td>
</tr>
<tr>
<td><strong>Air Intake – Engine</strong></td>
<td><strong>m³/min</strong> 8.22</td>
</tr>
<tr>
<td><strong>Exhaust Gas Flow</strong></td>
<td><strong>m³/min</strong> 23.7</td>
</tr>
</tbody>
</table>

- Heavy duty Cummins diesel engine
- Four stroke, water cooled, turbocharged
- 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><strong>Brushless single bearing, revolving field</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stator</strong></td>
<td><strong>2/3 pitch</strong></td>
</tr>
<tr>
<td><strong>Rotor</strong></td>
<td><strong>Single bearing, flexible disc</strong></td>
</tr>
<tr>
<td><strong>Insulation System</strong></td>
<td><strong>Class H</strong></td>
</tr>
<tr>
<td><strong>Standard Temperature Rise</strong></td>
<td><strong>125 - 163 °C Continuous</strong></td>
</tr>
<tr>
<td><strong>Exciter Type</strong></td>
<td><strong>Self Excited</strong></td>
</tr>
<tr>
<td><strong>Phase Rotation</strong></td>
<td><strong>B (V), C (W)</strong></td>
</tr>
<tr>
<td><strong>Alternator Cooling</strong></td>
<td><strong>Direct drive centrifugal blower fan</strong></td>
</tr>
<tr>
<td><strong>AC Waveform Total Harmonic Distortion</strong></td>
<td><strong>No load &lt; 1.5%. Non distorting balanced linear load &lt; 5%</strong></td>
</tr>
<tr>
<td><strong>Telephone Influence Factor (TIF)</strong></td>
<td><strong>&lt;50 per NEMA MG1-22.43</strong></td>
</tr>
<tr>
<td><strong>Telephone Harmonic Factor (THF)</strong></td>
<td><strong>&lt;2%</strong></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 DSE6020 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, 6 configurable digital inputs
   ✓ 4 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
  ✓ 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</td>
<td>mm</td>
</tr>
<tr>
<td>DRY WEIGHT</td>
<td>kg</td>
<td>kg</td>
</tr>
<tr>
<td>2150<em>1000</em>1469</td>
<td>1280</td>
<td>3116<em>1063</em>1715</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