## MODEL APD700V

**Standby**
- **kVA**: 700
- **kW**: 560

**Prime**
- **kVA**: 636
- **kW**: 509.1

### Features
- 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 off-road trailer

### Technical Specifications

<table>
<thead>
<tr>
<th>MODEL</th>
<th>APD700V</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standby</strong></td>
<td></td>
</tr>
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</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.
### ENGINE

**VOLVO PENTA**

<table>
<thead>
<tr>
<th>Model</th>
<th>TWD1643GE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine Power Output at rated rpm</td>
<td>kWm: 613, HP: 834</td>
</tr>
<tr>
<td>Aspiration and Cooling</td>
<td>Turbocharged-Change Air Cooled</td>
</tr>
<tr>
<td>Total Displacement</td>
<td>Litre: 16.12</td>
</tr>
<tr>
<td>No. of Cylinders and Build</td>
<td>6 Cylinder, In-Line</td>
</tr>
<tr>
<td>Engine Speed</td>
<td>rpm: 1500</td>
</tr>
<tr>
<td>Bore and Stroke</td>
<td>mmxmm: 144 × 165</td>
</tr>
<tr>
<td>Compression Ratio</td>
<td>16.5:1</td>
</tr>
<tr>
<td>Governor</td>
<td>Electronic control (Volvo / EMS 2)</td>
</tr>
<tr>
<td>Fuel Consumption at 100% load</td>
<td>L/hr: 129.5</td>
</tr>
<tr>
<td>Fuel Tank Capacity</td>
<td>Litre: Open:1000/Canopy:1000</td>
</tr>
<tr>
<td>Oil Capacity</td>
<td>Litre: 48</td>
</tr>
<tr>
<td>Coolant Capacity</td>
<td>Litre: 95</td>
</tr>
<tr>
<td>Radiator Cooling Air</td>
<td>m³/min: 603</td>
</tr>
<tr>
<td>Air Intake – Engine</td>
<td>m³/min: 46.96</td>
</tr>
<tr>
<td>Exhaust Gas Flow</td>
<td>m³/min: 111.8</td>
</tr>
</tbody>
</table>

- Heavy duty Volvo Penta diesel engine
- Four stroke, water cooled, turbocharged
- Direct injection fuel system
- Electronic Governor system
- 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 type exhaust silencer and steel bellows
- Operation manuals and circuit diagram documents

### ALTERNATOR

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

- Brushless, single bearing system, flexible disc, 4 poles
- Insulation class H
- Standard degree of protection IP23
- All wound components are impregnated with materials and processes designed specifically
- Self-exciting and self-regulating
- 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 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 (σ)

   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
**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.

**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></td>
<td>3470<em>1550</em>2247</td>
<td>5313<em>1606</em>2658</td>
</tr>
<tr>
<td></td>
<td>4217</td>
<td>5300</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.