AVP454-6

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

DIESEL GENERATING SET 480/277V, 440/254V, 380/220V, 220/127V- 60 Hz-3 Phase

<table>
<thead>
<tr>
<th>MODEL</th>
<th>kVA</th>
<th>kW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standby</td>
<td>454</td>
<td>363.2</td>
</tr>
<tr>
<td>Prime</td>
<td>413</td>
<td>330.4</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 ISO8528.
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.

Manufacturer reserves the right to make changes in model, technical specifications, color, equipment and accessories without prior notice. Pictures for reference only.
**ENGINE**

<table>
<thead>
<tr>
<th><strong>VOLVO PENTA</strong></th>
<th><strong>TAD1343GE</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Engine Power Output at rated rpm</strong></td>
<td>kWm</td>
</tr>
<tr>
<td><strong>Aspiration and Cooling</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Total Displacement</strong></td>
<td>Litre</td>
</tr>
<tr>
<td><strong>No. of Cylinders and Build</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Engine Speed</strong></td>
<td>rpm</td>
</tr>
<tr>
<td><strong>Bore and Stroke</strong></td>
<td>mmxmm</td>
</tr>
<tr>
<td><strong>Compression Ratio</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Governor</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Fuel Consumption at 100% load</strong></td>
<td>L/hr</td>
</tr>
<tr>
<td><strong>Fuel Tank Capacity</strong></td>
<td>Litre</td>
</tr>
<tr>
<td><strong>Oil Capacity</strong></td>
<td>Litre</td>
</tr>
<tr>
<td><strong>Coolant Capacity</strong></td>
<td>Litre</td>
</tr>
<tr>
<td><strong>Radiator Cooling Air</strong></td>
<td>m³/min</td>
</tr>
<tr>
<td><strong>Exhaust Gas Flow</strong></td>
<td>m³/min</td>
</tr>
<tr>
<td><strong>Radiator Cool Air</strong></td>
<td>m³/min</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 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 - 183°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
- All wound components are impregnated with materials and processes designed specifically
- 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>OPEN TYPE</th>
<th>CANOPY TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIMENSIONS (LxWxH) mm</td>
<td>DIMENSIONS (LxWxH) mm</td>
</tr>
<tr>
<td></td>
<td>mm</td>
</tr>
<tr>
<td></td>
<td>3138x1550x1855</td>
</tr>
<tr>
<td>DRY WEIGHT kg</td>
<td>DRY WEIGHT kg</td>
</tr>
<tr>
<td></td>
<td>kg</td>
</tr>
<tr>
<td></td>
<td>3470</td>
</tr>
<tr>
<td></td>
<td>4463x1606x2488</td>
</tr>
<tr>
<td></td>
<td>4340</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