AVP450

MODEL

<table>
<thead>
<tr>
<th>Power Pf. 0.8</th>
<th>AVP450</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standby kVA</td>
<td>450</td>
</tr>
<tr>
<td>Standby kW</td>
<td>360</td>
</tr>
<tr>
<td>Prime kVA</td>
<td>410</td>
</tr>
<tr>
<td>Prime kW</td>
<td>328</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 off-road trailer

POWERED by VOLVO

450kVA / 360kW

www.aksapowergen.com

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>Model</th>
<th>TAD1344GE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine Power Output at rated rpm</td>
<td>kWm: 399, HP: 543</td>
</tr>
<tr>
<td>Aspiration and Cooling</td>
<td>Turbocharged-Aftercooled</td>
</tr>
<tr>
<td>Total Displacement</td>
<td>Litre: 12.78</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: 131x158</td>
</tr>
<tr>
<td>Compression Ratio</td>
<td>18.1:1</td>
</tr>
<tr>
<td>Governor</td>
<td>Electronic control (Volvo / EMS 2.2)</td>
</tr>
<tr>
<td>Fuel Consumption at 100% load</td>
<td>L/hr: 83.1</td>
</tr>
<tr>
<td>Fuel Consumption at 75% load</td>
<td>L/hr: 63.3</td>
</tr>
<tr>
<td>Fuel Consumption at 50% load</td>
<td>L/hr: 42.8</td>
</tr>
<tr>
<td>Fuel Tank Capacity</td>
<td>Litre: Open:700/Canopy:700</td>
</tr>
<tr>
<td>Oil Capacity</td>
<td>Litre: 36</td>
</tr>
<tr>
<td>Coolant Capacity</td>
<td>Litre: 44</td>
</tr>
<tr>
<td>Radiator Cooling Air</td>
<td>m³/min: 343.5</td>
</tr>
<tr>
<td>Air Intake – Engine</td>
<td>m³/min: 28</td>
</tr>
<tr>
<td>Exhaust Gas Flow</td>
<td>m³/min: 67.5</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
- 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
- Self-excitation and self-regulation
- 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>DIMENSIONS (LxWxH)</th>
<th>mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPEN TYPE</td>
<td>3213x1550x1885</td>
</tr>
<tr>
<td>DRY WEIGHT</td>
<td>kg</td>
</tr>
<tr>
<td>CANOPY TYPE</td>
<td>4463x1606x2488</td>
</tr>
<tr>
<td>DRY WEIGHT</td>
<td>kg</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