AVP165

DIESEL GENERATING SET  400/230 V - 50 Hz - 3 Phase

<table>
<thead>
<tr>
<th>MODEL</th>
<th>kVA</th>
<th>kW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standby</td>
<td>165</td>
<td>132</td>
</tr>
<tr>
<td>Prime</td>
<td>150</td>
<td>120</td>
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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>VOLVO PENTA TAD731GE</th>
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<tbody>
<tr>
<td><strong>Model</strong></td>
</tr>
<tr>
<td></td>
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<tr>
<td><strong>Aspiration and Cooling</strong></td>
</tr>
<tr>
<td></td>
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- Heavy duty Volvo Penta, diesel engine
- Four stroke, water cooled, turbocharged
- Direct injection fuel system
- Mechanical 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>Design</th>
<th>Brushless single bearing, revolving field</th>
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<tbody>
<tr>
<td><strong>Stator</strong></td>
<td>Single bearing, flexible disc</td>
</tr>
<tr>
<td><strong>Rotor</strong></td>
<td>Class H</td>
</tr>
<tr>
<td><strong>Insulation System</strong></td>
<td>2/3 pitch</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>
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</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
     - Automatic control of main and generator contactors
     - Monitors engine performance and AC power output LED
     - 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)
     - Engine oil pressure (PSI-Bar)
     - 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 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.
- Forklift pockets within base frame (up to 500kVA).

**DIMENSIONS**

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<thead>
<tr>
<th></th>
<th>OPEN TYPE</th>
<th>CANOPY TYPE</th>
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<tbody>
<tr>
<td><strong>DIMENSIONS (LxWxH)</strong></td>
<td>mm 2750x1300x1710</td>
<td>mm 3960x1360x2100</td>
</tr>
<tr>
<td><strong>DRY WEIGHT</strong></td>
<td>kg 2320</td>
<td>kg 2850</td>
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**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.