AP22

POWER YOUR FUTURE

22kVA / 17.6 kW
POWERED by PERKINS

DIESEL GENERATING SET  400/230 V - 50 Hz

<table>
<thead>
<tr>
<th>MODEL</th>
<th>Standby</th>
<th>Prime</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>kVA</td>
<td>kVA</td>
</tr>
<tr>
<td>Power Pf. 0.8</td>
<td>22</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>kW</td>
<td>kW</td>
</tr>
<tr>
<td></td>
<td>17.6</td>
<td>16</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.

www.aksapowergen.com
### ENGINE

**PERKINS**

<table>
<thead>
<tr>
<th>Model</th>
<th>404A-22G1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine Power Output at rated rpm</td>
<td>kWm 20.6</td>
</tr>
<tr>
<td></td>
<td>HP 28</td>
</tr>
<tr>
<td>Aspiration and Cooling</td>
<td>Naturally</td>
</tr>
<tr>
<td>Total Displacement</td>
<td>Litre 2.216</td>
</tr>
<tr>
<td>No. of Cylinders and Build</td>
<td>4; Vertical in-line</td>
</tr>
<tr>
<td>Engine Speed</td>
<td>rpm 1500</td>
</tr>
<tr>
<td>Bore and Stroke</td>
<td>mmxmm 84 x 100</td>
</tr>
<tr>
<td>Compression Ratio</td>
<td>23.3:1</td>
</tr>
<tr>
<td>Governor</td>
<td>Mechanical</td>
</tr>
<tr>
<td>Fuel Consumption at full load</td>
<td>L/hr 5.4</td>
</tr>
<tr>
<td>Fuel Tank Capacity</td>
<td>Litre 38</td>
</tr>
<tr>
<td>Oil Capacity</td>
<td>Litre 10.6</td>
</tr>
<tr>
<td>Coolant Capacity</td>
<td>Litre 7</td>
</tr>
<tr>
<td>Radiator Cooling Air</td>
<td>m³/min 40.2</td>
</tr>
<tr>
<td>Air Intake – Engine</td>
<td>m³/min 1.45</td>
</tr>
<tr>
<td>Exhaust Gas Flow</td>
<td>m³/min 3.94</td>
</tr>
</tbody>
</table>

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

2. **Generating set control module DSE 6020 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
   - CAN and magnetic pick-up versions (specify on ordering)
   - 4 digital inputs/3 analogue inputs
   - 6 outputs (4 configurable on Magnetic Pick-up, 6 configurable on CANbus version)
   - Easy push button control
   - STOP/RESET - MANUAL - AUTO - TEST – START

3. **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

4. **LED indications:**
   - Mains available
   - Generator available
   - Mains on load
   - Generator on load

**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

#### OPEN TYPE

<table>
<thead>
<tr>
<th>DIMENSIONS (LxWxH)</th>
<th>mm</th>
<th>1360<em>850</em>1040</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRY WEIGHT</td>
<td>kg</td>
<td>500</td>
</tr>
</tbody>
</table>

#### SOUND ATTENUATED TYPE

<table>
<thead>
<tr>
<th>DIMENSIONS (LxWxH)</th>
<th>mm</th>
<th>1960<em>910</em>1170</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRY WEIGHT</td>
<td>kg</td>
<td>625</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