Cat® G3520C
Coal Seam Gas Generator Sets

Standard Features

Cat® Engine
- Robust high-speed block design provides prolonged life and lower owning and operating costs
- Designed for maximum performance on low pressure gaseous fuel supply
- High percentage of component commonality with diesel engines
- Conservative power density for reliability and long operational life span

Generator Set Package
- Reliability verified through torsional vibration, fuel consumption, oil consumption, transient performance, and endurance testing

Generators
- High-efficiency design
- Superior motor starting capability minimizes need for oversizing generator
- Designed to match performance and output characteristics of Cat diesel engines

Applications
- Caterpillar generator sets are capable of maximizing power production opportunities in an extensive range of industries

EMCP 4 Control Panels
- User-friendly interface and navigation
- Scalable system to meet a wide range of installation requirements
- Expansion modules and site-specific programming for specific customer requirements

Warranty
- 12 months/unlimited hour warranty for continuous ratings
- Extended service protection is available to provide extended coverage options

Worldwide Product Support
- Cat dealers have over 1,800 dealer branch stores operating in 200 countries
- Your local Cat dealer provides extensive post-sale support, including maintenance and repair agreements

Financing
- Caterpillar offers an array of financial products to help you succeed through financial service excellence
- Options include loans, finance lease, operating lease, working capital, and revolving line of credit
- Contact your local Cat dealer for availability in your region

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<table>
<thead>
<tr>
<th>Fuel Type</th>
<th>ekW (kVA)</th>
<th>Compression Ratio</th>
<th>Engine Speed – rpm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuous 50 Hz</td>
<td>Coal Seam</td>
<td>1972 (2466)</td>
<td>11.3:1</td>
</tr>
</tbody>
</table>

| Bore – mm (in) | 170 (6.7) |
| Stroke – mm (in) | 190 (7.5) |
| Displacement – L (in³) | 86.0 (5266) |
| Aspiration | Turbocharged |
| Fuel System | Electronic Fuel Control Valve |
| Governor | ADEM™ A3 |
## Optional Equipment

### Engine
- **Air Cleaner**
  - Regular duty - shipped loose
  - Heavy duty - shipped loose

### Cooling System
- JW & SCAC engine driven pumps
- RH JW outlet flange
- ASNI / DIN flanges

### Exhaust System
- Elbows
- Expanders
- Flanges
- Flexible fittings

### Fuel System
- Fuel filter
- Gas regulator

### General
- Barring group

### Lubrication
- Lubricating oil (NGEO)
- Oil level regulator
- Positive crankcase ventilation
- Electric prelude

### Mufflers
- Industrial Grade (15dB)
- Residential Grade (18dB)
- Critical Grade (25dB)
- Spark Arresting

### Protection System
- Explosion relief valves

### Starting/Charging
- Charging alternator - 60A
- Battery charger - 20A
- Oversized batteries
- Battery cables / racks
- Air starters
- Jacket water heater

### Generators
- **Output voltage**
  - 380V
  - 400V
  - 415V
  - 4300V
  - 6600V
  - 6900V
  - 10000V
  - 10500V
  - 11000V

- **Temperature Rise (over 40°C ambient)**
  - 105°C
  - 80°C

### Control System
- **Controller**
  - EMCP 4.3
  - EMCP 4.4

### Attachments
- Discrete I/O module
- Load share module
- Local annunciator module
- Remote annunciator module
- Remote monitoring software

### Vibration Isolators
- Rubber
- Spring
- Seismic rated

### Certifications
- 2006/42/EC & 2006/95/EC Declaration of Incorporation
- Grid Code Compliance (Germany)
- Eurasian Conformity (EAC)
- Turkish Ministry Compliance

### Enclosure
- Weather protective
- Sound attenuated

### Attachments
- Cold weather bundle
- DC lighting package
- AC lighting package
- Motorized louvers

### Ancillary Equipment
- Automatic transfer switch (ATS)
- Uninterruptible power supply (UPS)
- Paralleling switchgear
- Paralleling controls

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**Note:** Some options may not be available on all models. Certifications may not be available with all model configurations. Consult factory for availability.
### 50 Hz Standard Package Performance – AC and JW Pumps

<table>
<thead>
<tr>
<th>Performance</th>
<th>Continuous 50 Hz</th>
<th>Continuous 50 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>50 Hz</td>
<td>50 Hz</td>
</tr>
<tr>
<td>Genset power rating @ 0.8 power factor – ekW (kVA)</td>
<td>1972 (2466)</td>
<td>1972 (2466)</td>
</tr>
<tr>
<td>Engine speed – rpm</td>
<td>1500</td>
<td>1500</td>
</tr>
<tr>
<td>Emissions – mg/Nm³ (g/bhp-hr) NOx</td>
<td>250 (0.53)</td>
<td>500 (1.06)</td>
</tr>
<tr>
<td>Performance number</td>
<td>EM0118-04</td>
<td>EM0117-04</td>
</tr>
<tr>
<td><strong>Fuel Consumption</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100% load with fan – MJ/ekW-hr (Btu/ekW-hr)</td>
<td>9.25 (8769)</td>
<td>9.05 (8583)</td>
</tr>
<tr>
<td>75% load with fan – MJ/ekW-hr (Btu/ekW-hr)</td>
<td>9.54 (9043)</td>
<td>9.34 (8851)</td>
</tr>
<tr>
<td>50% load with fan – MJ/ekW-hr (Btu/ekW-hr)</td>
<td>10.10 (9576)</td>
<td>9.89 (9373)</td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auxiliary circuit temperature (maximum inlet) – °C (°F)</td>
<td>54 (130)</td>
<td>54 (130)</td>
</tr>
<tr>
<td>Jacket water temperature (maximum outlet) – °C (°F)</td>
<td>99 (210)</td>
<td>99 (210)</td>
</tr>
<tr>
<td><strong>Inlet Air</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Combustion air inlet flow rate (0°C, 101.3 kPa)/(77°F, 14.7 psia) – Nm³/bkW-hr (ft³/min)</td>
<td>4.13 (5440)</td>
<td>4.01 (5278)</td>
</tr>
<tr>
<td><strong>Altitude Capability</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At 25°C (77°F) ambient, above sea level – m (ft)</td>
<td>950 (3117)</td>
<td>1454 (4770)</td>
</tr>
<tr>
<td><strong>Exhaust System</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exhaust temperature – engine outlet – °C (°F)</td>
<td>471 (880)</td>
<td>472 (881)</td>
</tr>
<tr>
<td>Exhaust gas flow (0°C, 101.3 kPa)/(77°F, 14.7 psia) – Nm³/bkW-hr (ft³/min)</td>
<td>4.60 (15316)</td>
<td>4.46 (14888)</td>
</tr>
<tr>
<td>Exhaust gas mass flow – kg/bkW-hr (lb/hr)</td>
<td>5.78 (26145)</td>
<td>5.62 (25386)</td>
</tr>
<tr>
<td><strong>Heat Rejection</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heat rejection to jacket water – kW (Btu/min)</td>
<td>631 (35881)</td>
<td>619 (35198)</td>
</tr>
<tr>
<td>Heat rejection to exhaust (LHV to 120°C/248°F) – kW (Btu/min)</td>
<td>1236 (70290)</td>
<td>1199 (68158)</td>
</tr>
<tr>
<td>Heat rejection to auxiliary circuit – kW (Btu/min)</td>
<td>154 (8765)</td>
<td>147 (8383)</td>
</tr>
<tr>
<td>Heat rejection to atmosphere from engine and generator – kW (Btu/min)</td>
<td>217 (12322)</td>
<td>217 (12322)</td>
</tr>
<tr>
<td>Heat rejection to jacket water circuit (JW+OC+AC1) – kW (Btu/min)</td>
<td>1101 (62598)</td>
<td>1058 (60154)</td>
</tr>
</tbody>
</table>
G3520C Continuous Coal Seam Gas Generator Sets Electric Power

Weights and Dimensions

<table>
<thead>
<tr>
<th>Dim “A” mm (in)</th>
<th>Dim “B” mm (in)</th>
<th>Dim “C” mm (in)</th>
<th>Dry Weight kg (lb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6950.5 (273.6)</td>
<td>1830.3 (72.1)</td>
<td>2659.6 (104.7)</td>
<td>17826 (39306)</td>
</tr>
</tbody>
</table>

Note: For reference only. Do not use for installation design. Contact your local Cat dealer for precise weights and dimensions.

Ratings Definitions

Continuous Power Rating
Output available with non-varying load for an unlimited time. Average power output is 70-100% of the continuous power rating. Typical peak demand is 100% of continuous rated kW for 100% of operating hours.

Applicable Codes and Standards

Note: Codes may not be available in all model configurations. Please consult your local Cat dealer for availability.

Fuel Rates
1. For transient response, ambient, and altitude capabilities consult your local Cat dealer.
2. Fuel pressure range specified is to the engine fuel control valve. Additional fuel train components may be required and should be considered in pressure and flow calculations.
3. For a complete reference of definitions and conditions see the following data sheets
   a. 50 Hz 1972kW Continuous / Standard (W/ Pumps) EM0117-04 (500mg/Nm³ NOx) - SCAC IN/OUT: 130/210°F EM0118-04 (250mg/Nm³ NOx) - SCAC IN/OUT: 130/210°F

http://www.cat.com/powergeneration

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