FEATURES AND BENEFITS

Engine Design
- Industry-leading power with ambient-based rating capability
- ADEM A4 engine control system provides complete engine control, monitoring, and protection while maintaining emissions.
- Widest fuel tolerance in the industry for application flexibility
- Proven reliability and durability with the lowest owning and operating costs
- Factory-installed thermostats

Emissions
Meets U.S. EPA Spark Ignited Stationary NSPS Emissions for 2010 with the use of an oxidation catalyst

Lean Burn Engine Technology
Lean-burn engines operate with large amounts of excess air. The excess air absorbs heat during combustion reducing the combustion temperature and pressure, greatly reducing levels of NOx. Lean-burn design also provides longer component life and excellent fuel consumption.

Ease of Operation
Side covers on block allow for inspection of internal components

Advanced Digital Engine Management
ADEM A4 engine management system integrates speed control, air/fuel ratio control, and ignition/detonation controls into a complete engine management system. ADEM A4 has improved: user interface, display system, shutdown controls, and system diagnostics.

Full Range of Attachments
Large variety of factory-installed attachments reduces packaging time.

Testing
Every engine is full-load tested to ensure proper engine performance.

Gas Engine Rating Pro (GERP)
GERP is a PC-based program designed to provide site performance capabilities for Cat natural gas engines for the gas compression industry. GERP provides engine data for your site’s altitude, ambient temperature, fuel, engine coolant heat rejection, performance data, installation drawings, spec sheets, and pump curves.

Product Support Offered Through Global Cat Dealer Network
- More than 2,200 dealer outlets
- Cat factory-trained dealer technicians service every aspect of your Oil & Gas Engine
- Caterpillar parts and labor warranty
- Preventive maintenance agreements available for repair-before-failure options
- $O$ program matches your oil and coolant samples against Caterpillar set standards to determine:
  - Internal engine component condition
  - Presence of unwanted fluids
  - Presence of combustion by-products
  - Site-specific oil change interval

Over 80 Years of Engine Manufacturing Experience
Over 60 years of natural gas engine production. Ownership of these manufacturing processes enables Caterpillar to produce high quality, dependable products.
- Cast engine blocks, heads, cylinder liners, and flywheel housings
- Machine critical components
- Assemble complete engine

Web Site
For all your Oil & Gas power requirements, visit www.cat.com
STANDARD EQUIPMENT

G3608 with ADEM A4 Gas Engine

**Air Inlet System**
- Air cleaner — standard duty
- Inlet air adapter

**Control System**
- ADEM A4 control system — provides electronic governing integrated with air/fuel ratio control and individual cylinder ignition timing control
- Electrical system and instrumentation certified for Class I, Division 2, Group D hazardous location. Includes entire ADEM A4 system and optional control panel

**Cooling System**
- Compressor oil cooler connections
- Jacket water pump
- Aftercooler/oil cooler pump
- Jacket water thermostats and housing
- Aftercooler/oil cooler thermostats and housing
- Two-stage aftercooler
- Jacket water heater connections
- Standard ANSI connections

**Exhaust System**
- Dry exhaust manifolds
- Single vertical outlet adapter
- Form fitted soft wrap insulation

**Flywheels & Flywheel Housings**
- SAE standard rotation

**Fuel System**
- Gas admission valves — electronically controlled fuel supply pressure

**Ignition System**
- A4 control system — senses individual cylinder detonation and controls individual cylinder timing

**Lube System**
- Crankcase breather — top mounted
- Oil cooler
- Oil filter
- Oil pan drain valve - front and rear

**Mounting System**
- Engine mounting feet (four total)

**Protection System**
- Electronic shutoff system with purge cycle
- Crankcase explosion relief valves
- Gas shutoff valve

**Starting System**
- Air starting system

**General**
- Paint, Caterpillar yellow
- Single vibration damper with guard

OPTIONAL EQUIPMENT

**Air Inlet System**
- Heavy-duty air cleaner with precleaners

**Charging System**
- 35 Amp & 65 Amp charging alternators - CSA Approved

**Exhaust System**
- Flexible bellows adapters
- Exhaust expander
- Weld flanges

**Fuel System**
- Fuel filter
- Gas pressure regulator
- Flexible connection

**Instrumentation**
- LCD display panel
- Color HMI display
- Remote data monitoring and speed control
- Compatible with Cat Electronic Technician (ET) and Data View
- Modbus and Ethernet capable

**Lube System**
- Air or electric motor-driven prelube
- Duplex oil filter
- RH service
- Lube oil makeup system

**Mounting System**
- Mounting plates (set of four)
- Extra mounting feet (set of two)
- Extra mounting plates (set of two)

**Power Take-offs**
- Front stub shafts

**Starting System**
- Air pressure reducing valve

**General**
- Engine barring device
- Damper guard
TECHNICAL DATA
G3608 with ADEM A4 Gas Engine

<table>
<thead>
<tr>
<th>Performance Number</th>
<th>EM1410-04</th>
<th>EM1409-04</th>
<th>EM1408-04</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rating °C (°F)</td>
<td>54 (130)</td>
<td>43 (110)</td>
<td>32 (90)</td>
</tr>
<tr>
<td>Engine Power bkW (bhp)</td>
<td>1864 (2500)</td>
<td>1931 (2590)</td>
<td>1995 (2675)</td>
</tr>
<tr>
<td>Engine Speed rpm</td>
<td>1000</td>
<td>1000</td>
<td>1000</td>
</tr>
<tr>
<td>Max Altitude @ Rated Torque and 38°C (100°F) m (ft)</td>
<td>1434.5 (4711)</td>
<td>1301.4 (4274)</td>
<td>1168.2 (3837)</td>
</tr>
<tr>
<td>Speed Turndown @ Max Altitude, Rated Torque, and 38°C (100°F) %</td>
<td>25</td>
<td>25</td>
<td>25</td>
</tr>
</tbody>
</table>

Aftercooler Temperature

| Stage 1 (JW) °C (°F) | 88 (190) |
| Stage 2 (SCAC) °C (°F) | 54 (130) |

Emissions (NTE)*

| NOx g/bkW-hr (g/bhp-hr) | 0.4 (0.3) |
| CO2 g/bkW-hr (g/bhp-hr) | 2.5 (1.9) |
| CO2 g/bkW-hr (g/bhp-hr) | 2.0 (1.4) |
| VOC** g/bkW-hr (g/bhp-hr) | 0.26 (0.20) |

Fuel Consumption *** MJ/bkW-hr (Btu/bhp-hr) 9.45 (6685)

Heat Balance

Heat Rejection to Jacket Water bkW (Btu/min) 487 (27698) 491 (27950) 495 (28176)
Heat Rejection to Oil Cooler bkW (Btu/min) 221 (12553) 239 (13570) 257 (14603)
Heat Rejection to Aftercooler bkW (Btu/min) 344 (19561) 357 (20318) 370 (21042)
Heat Rejection to Exhaust LHV To 25°C (77°F) bkW (Btu/min) 1721 (97849) 1744 (99188) 1766 (100408)
Heat Rejection to Atmosphere bkW (Btu/min) 193 (10994) 197 (11188) 198 (11233)

Exhaust System

Exhaust Gas Flow Rate m³/min (scfm) 455.56 (16088) 463.6 (16372) 471.08 (16636)
Exhaust Stack Temperature °C (°F) 445 (833) 441 (826) 437 (819)

Intake System

Air Inlet Flow Rate m³/min (scfm) 177.04 (6252) 181.06 (6394) 184.85 (6528)

Gas Pressure kPag (psig) 400 - 485 (58 - 70) 400 - 485 (58 - 70) 400 - 485 (58 - 70)

All technical data is based on 100% load and speed
* listed as not to exceed
** Volatile organic compounds as defined in U.S. EPA 40 CFR 60, subpart JJJJ
*** ISO 3046/1
**Rating Definitions and Conditions**

Engine performance is obtained in accordance with SAE J1995, ISO3046/1, BS5514/1, and DIN6271/1 standards.

Conditions: Power for gas engines is based on fuel having an LHV of 33.74 kJ/L (905 Btu/cu ft) at 101 kPa (29.91 in Hg) and 15°C (59°F). Fuel rate is based on a cubic meter at 100 kPa (29.61 in Hg) and 15.6°C (60.1°F). Air flow is based on a cubic foot at 100 kPa (29.61 in Hg) and 25°C (77°F). Exhaust flow is based on a cubic foot at 100 kPa (29.61 in Hg) and stack temperature.

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**Dimensions**

<table>
<thead>
<tr>
<th></th>
<th><strong>Length</strong></th>
<th><strong>Width</strong></th>
<th><strong>Height</strong></th>
<th><strong>Weight</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>5178.5 mm</strong></td>
<td>203.9 in</td>
<td><strong>2188.7 mm</strong></td>
<td>86.2 in</td>
<td><strong>2922.4 mm</strong></td>
</tr>
</tbody>
</table>

Note: General configuration not to be used for installation.