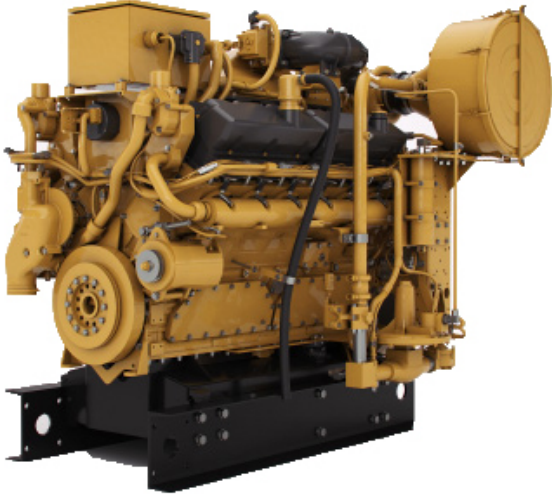


# CG137-12 Gas Engine

448 bkW (600 bhp) @ 1800 rpm

0.5 g/bhp-hr NOx or 1.0 g/bhp-hr NOx (NTE)



## Cat® Engine Specifications V-12, 4-Stroke-Cycle

### Bore

137 mm (5.4 in)

### Stroke

152 mm (6 in)

### Displacement

27 L (1648 cu. in)

### Aspiration

Turbocharged-Aftercooled

### Digital Engine Management Governor and Protection

Electronic (ADEM™ A4)

### Combustion

Integrated Catalyst

### Cooling System Capacity

Total.....82.6 (22 Gal)

JW.....75 L (20 Gal)

SCAC.....7.6 L (2 Gal)

### Lube Oil System (refill)

170 L (45 Gal)

### Oil Change Interval

750 hours

### Rotation (from flywheel end)

Counterclockwise

### Flywheel Teeth

136

## FEATURES AND BENEFITS

### Engine Design

- Tough and durable, with field-proven head design
- Caterpillar supplied air/fuel ratio control (AFRC) and three-way catalyst (TWC) designed specifically for this engine to provide superior emissions control with NSPS and Non-Attainment zone compliance
- 0.5 g and 1.0 g NOx settings available
- Integrated operator interface panel, TWC, and AFRC reduces hands-on time with the engine
- Integrated operator interface panel allows setup and servicing without a laptop
- Runs on a broad range of fuels and speeds at any emissions level
- Factory-installed components with single connection point eases packaging

### 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

A variety of factory-installed attachments which helps reduce 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
- S•O•S 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](http://www.cat.com)

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## Air Inlet System

- Air cleaner — single element with service indicator
- Optional air inlet adapter and rain cap — recommended for weather protection

## Control System

- ADEM A4 Engine Control Module (ECM)
- Class 1, Division 2, Group D

## Cooling System

- Jacket water thermostats and housing — full open temperature 98 °C (208 °F)
- Jacket water pump — gear driven, centrifugal, non-self-priming
- Aftercooler water pump — gear driven, centrifugal, non-self-priming
- Aftercooler core — for treated water and sea air atmosphere

## Exhaust System

- Exhaust manifolds — watercooled
- Exhaust elbow — dry 203 mm (8 in)
- Three-way catalyst — 1.0 g NOx and 0.5 g NOx NTE options

## Flywheels & Flywheel Housings

- Flywheel, SAE No. 14 or 18
- Flywheel housing, SAE No. 0
- SAE standard rotation

## Fuel System

- Air/fuel ratio control
- Gas pressure regulator
- Natural gas carburetor

# OPTIONAL EQUIPMENT

## Charging Alternator

- 24V, 65A CSA alternator

## Exhaust System

- Exhaust flex fitting
- Exhaust elbow
- Exhaust flange — ANSI
- 15' extension harness for catalyst

## Instrumentation

- Cat Connect - Elite cell radio - external antenna
- Cat Connect - Elite cell radio - internal antenna
- Cat Connect - Elite satellite radio - external antenna
- Operator interface panel
- Operator interface panel enclosure
- 15', 25', 50' interconnect harness

## Lube System

- Crankcase breather — top mounted
- Oil cooler
- Oil filter — RH
- Oil filler in valve cover, dipstick — RH

## Mounting System

- Engine mounting rails — 254 mm (10 in) industrial type, entire length

## Protection System

ADEM A4 protection. The following include alarm and shutdown:

- Inlet manifold air temperature
- Inlet manifold air pressure
- Oil pressure
- Coolant temperature
- Engine speed (overspeed)
- Battery voltage
- Catalyst inlet/outlet temperature (sensors shipped loose)

The following is display only:

- Service hours

## General

- Paint, Caterpillar yellow
- Crankshaft vibration damper and drive pulleys
- Lifting eyes
- Cylinder block inspection covers

## Starting System

- Air pressure regulator
- Air start silencer
- Vane starter
- Electric starter
- Turbine starter

## Fuel System

- Fuel filter

## Power Take Offs

- Flywheel stub shaft
- Front stub shaft
- Crankshaft pulley

## Air Inlet System

- Precleaner
- Rain cap

## General

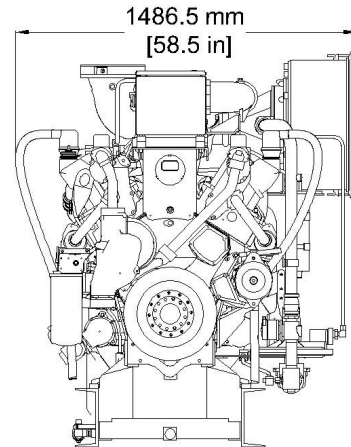
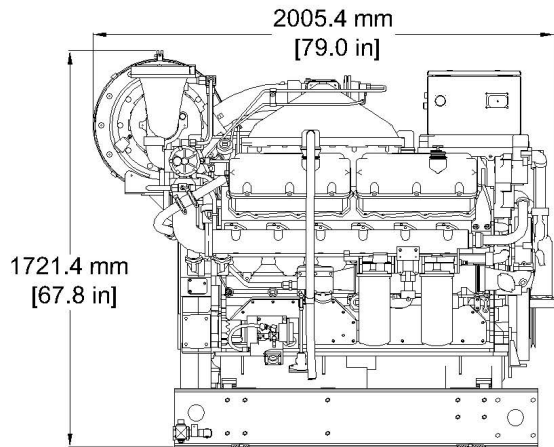
- Special paint
- Vibration isolator pad

Performance Number		EM1969-00	EM1968-00
<b>Rating</b>	g/bhp-hr	0.5 g NOx NTE	1 g NOx NTE
<b>Engine Power</b>	bkW (bhp)	448 (600)	448 (600)
<b>Engine Speed</b>	rpm	1800	1800
Max Altitude @ Rated Torque and 38°C (100°F)	m (ft)	2438.4 (8008)	2438.4 (8008)
Speed Turndown @ Max Altitude, Rated Torque, and 38°C (100°F)	%	25	25
<b>Coolant Temperature</b>			
JW	°C (°F)	99 (210)	99 (210)
SCAC	°C (°F)	54 (130)	54 (130)
<b>Emissions (NTE)*</b>			
NOx	g/bkW-hr (g/bhp-hr)	0.67 (0.5)	1.34 (1)
CO	g/bkW-hr (g/bhp-hr)	2.68 (2)	2.68 (2)
CO <sub>2</sub>	g/bkW-hr (g/bhp-hr)	617 (460)	617 (460)
VOC**	g/bkW-hr (g/bhp-hr)	0.31 (0.23)	0.31 (0.23)
<b>Fuel Consumption ***</b>	MJ/bkW-hr (Btu/bhp-hr)	10.47 (7400)	10.47 (7400)
<b>Heat Balance</b>			
Heat Rejection to Jacket Water	bkW (Btu/min)	407 (23129)	407 (23129)
Heat Rejection to Oil Cooler	bkW (Btu/min)	61 (3491)	61 (3491)
Heat Rejection to Aftercooler	bkW (Btu/min)	33 (1895)	33 (1895)
Heat Rejection to Exhaust LHV To 25°C (77°F)	bkW (Btu/min)	301 (17091)	301 (17091)
Heat Rejection to Atmosphere	bkW (Btu/min)	52 (2961)	52 (2961)
<b>Exhaust System</b>			
Exhaust Gas Flow Rate	m <sup>3</sup> /min (scfm)	69.72 (2462)	69.72 (2462)
Exhaust Stack Temperature	°C (°F)	543 (1010)	543 (1010)
<b>Intake System</b>			
Air Inlet Flow Rate	m <sup>3</sup> /min (scfm)	22.65 (800)	22.65 (800)
<b>Gas Pressure</b>	kPag (psig)	10.34 - 34.48 (1 - 5)	10.34 - 34.48 (1 - 5)

\* at 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



Dimensions		
<b>Length</b>	2005.4 mm	79.0 in
<b>Width</b>	1486.5 mm	58.5 in
<b>Height</b>	1721.4 mm	67.8 in
<b>Weight</b>	2835 kg	6250 lb

## 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.

To find your nearest dealer, please visit:  
[www.cat.com](http://www.cat.com)

Subject to change without notice.  
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