

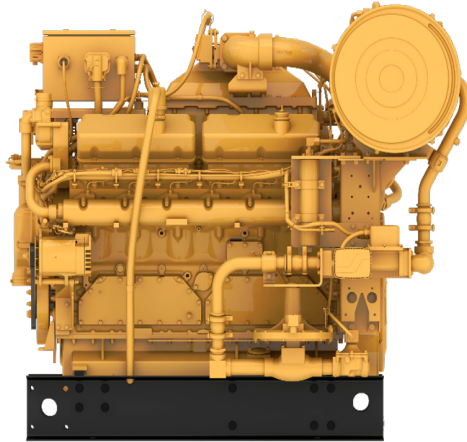


# CG137-12 Gas Engine

448 kW (600 bhp) @ 1800 rpm

0.5% O2 Rating

Serial Number Prefix SZ2 for Gas Compression



Actual configuration may vary from displayed imaged.

## SPECIFICATIONS

V-12, 4 -Stroke-Cycle

Bore.....	137 mm (5.4 in)
Stroke.....	152 mm (6.0 in)
Displacement.....	24 L (1648 cu. in)
Aspiration.....	Turbocharged After Cooled
Governor and Protection.....	Electronic (ADEM™4)
Combustion.....	Rich Burn - Customer Supplied Catalyst
Cooling System	
Capacity Total .....	82.6 L (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.
- When configured with customer-supplied three-way catalyst, the engine is capable of meeting NSPS and non-attainment area emissions levels.
- Improved fuel tolerance allows engine to run on a broad range of fuels.

### Advanced HMI

Intuitive and easy-to-use 8-inch color and touch enabled HMI allows for ECM configuration and monitoring system updates, service tool tests, histograms, screen snapshots, and product status reports, all without the need of a laptop.

### Advanced Digital Engine Management

ADEM™4 (A4) engine management system integrates speed control, air/fuel ratio control, and ignition/detonation controls into a complete engine management system.

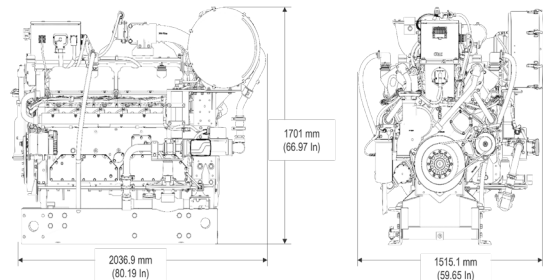
### Full Range of Attachments

Large variety of factory-installed package attachments reduces packaging time.

### Testing

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

## DIMENSIONS



Length	2036.9 mm	80.19 in
Width	1515.1 mm	59.65 in
Height	1701.0 mm	66.97 in

Note: Do not use for installation design. See general dimension drawings for detail. Dimensions are dependent on options selected.

## TECHNICAL DATA

Performance Number		EM4986-01
Rating	% O2	0.4
Engine Power	bkW (bhp)	448 (600)
Engine Speed	rpm	1800
Max Altitude @ Rated Torque and 38°C (100°F) m (ft)		2438 (8000)
Speed Turndown @ Max Altitude, Rated Torque, and 38°C (100°F)	%	12
<b>Temperature</b>		
JW	°C (°F)	99 (210)
SCAC	°C (°F)	54 (130)
<b>Emissions (NTE)*</b>		
NOx	g/bkW-hr (g/bhp-hr)	15.15 (11.30)
CO	g/bkW-hr (g/bhp-hr)	15.15 (11.30)
CO <sub>2</sub>	g/bkW-hr (g/bhp-hr)	599 (447)
VOC**	g/bkW-hr (g/bhp-hr)	0.31 (0.23)
Fuel Consumption ***	MJ/bkW-hr (Btu/bhp-hr)	10.73 (7586)
<b>Heat Balance</b>		
Heat Rejection to Jacket Water	kW (Btu/min)	448 (25486)
Heat Rejection to Oil Cooler	kW (Btu/min)	68 (3846)
Heat Rejection to Aftercooler	kW (Btu/min)	28 (1604)
Heat Rejection to Exhaust LHV to 25°C (77°F)	kW (Btu/min)	289 (16451)
Heat Rejection to Atmosphere	kW (Btu/min)	53 (3035)
<b>Exhaust System</b>		
Exhaust Gas Flow Rate	N*m <sup>3</sup> /bkW-hr (scfm)	3.10 (2406)
Exhaust Stack Temperature	°C (°F)	522 (972)
<b>Intake System</b>		

\* 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

## OPTIONAL EQUIPMENT

### Air Inlet System

- Precleaner
- Rain Cap

### Charging Alternator

- 24 V, 65A CSA alternator

### Exhaust System

- Exhaust flex fitting
- Exhaust elbow
- Exhaust flange - ANSI

### Fuel System

- Fuel filter

### General

- Front sub shafts

### Instrumentation

- Product Link™ cellular radio - external antenna
- Product Link™ cellular radio - internal antenna
- Product Link™ satellite radio - external antenna
- 8-inch HMI touch screen panel
- 15', 25', 50' interconnect harness

### Starting System

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

### Torsional Vibration Analysis

#### Rating Definitions and Conditions

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

Transient response data is acquired from an engine/generator combination at normal operating temperature and in accordance with ISO3046/1 standard ambient conditions. Also in accordance with SAE J1995, BS5514/1, and DIN6271/1 standard reference conditions.

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.

LEHW20196-00

Caterpillar: Confidential Green

## STANDARD EQUIPMENT

### Air Inlet System

- Air Cleaner - single element with service indicator
- Optional air inlet adapter with rain cap - recommended for weather protection.

### 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 manifolds - water cooled
- Exhaust elbow - dry 203 mm (8 in)

### Flywheels and Flywheel Housings

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

### Control System

- ADEM™4 (A4) Engine Control Module (ECM)
- CSA Class 1, Division 2, Group D

### Fuel System

- Gas pressure regulator
- Natural gas carburetor
- Single gas shutoff
- Electronic Fuel Valve

### Lube System

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

### Protection System

- ADEM™4 (A4) protection. The following includes alarm and shutdown
  - Inlet manifold air temperature
  - Inlet manifold air pressure
  - Oil pressure
  - Oil temperature
  - Coolant temperature
  - Engine speed (overspeed)
  - Battery voltage
  - Aftertreatment TWC inlet/outlet temperature

### General

- Crankshaft vibration damper and drive pulleys
- Lifting eyes
- Cylinder block inspection covers