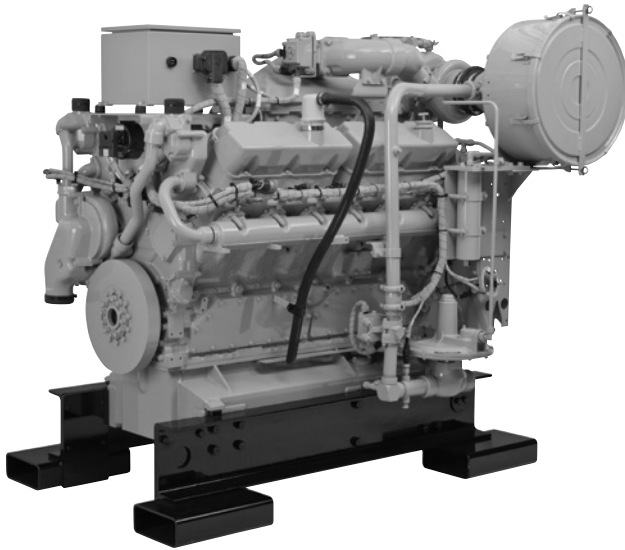




## CG137-12 Gas Petroleum Engine

447 bkW (600 bhp)  
1800 rpm

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



### CAT® ENGINE SPECIFICATIONS

#### V12, 4-Stroke-Cycle

Emissions	NSPS 2010
Bore	137.2 mm (5.4 in)
Stroke	152.4 mm (6 in)
Displacement	27 L (1648 in <sup>3</sup> )
Compression Ratio	8.3:1
Aspiration	Turbocharged-Aftercooled
Rotation (from flywheel end)	Counterclockwise
Flywheel & Flywheel Housing	SAE No. 0
Flywheel Teeth	136
Power per Displacement	22.2 bhp/L
Engine Weight <sup>1</sup>	2835 kg (6250 lb)
Catalyst Weight <sup>2</sup>	81.6/88.5 kg (180/195 lb)
Flywheel & Flywheel Housing	SAE No. 0
Capacity for Liquids — L (U.S. gal)	
Cooling System <sup>3</sup>	75 L (20 U.S. gal)
Lube Oil System (refill)	170 L (45 U.S. gal)
Oil Change Interval <sup>4</sup>	750 hours
Governor	Electronic ADEM™ A4
Ignition, Protection	Electronic ADEM A4
Air/Fuel Ratio Control	Electronic ADEM A4

<sup>1</sup>Engine only, dry

<sup>2</sup>1 g and 0.5 g, respectively

<sup>3</sup>Engine only

<sup>4</sup>Can be extended through S•O•S™ program

### FEATURES

#### Engine Design

- Tough and durable, with field-proven head design
- Caterpillar supplied air/fuel ratio control and three-way catalyst designed specifically for this engine to provide superior emissions control with NSPS and Non-Attainment zone compliance
- 0.5 g and 1 g NOx settings available
- Integrated operator interface panel, TWC and AFRC reduces hands-on time with the engine
- 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

The ADEM A4 system represents the next generation of engine management systems while reducing the number of mechanical components and easing troubleshooting. Features include:

- Air/Fuel Ratio Control (AFRC)
- Electronic ignition
- Electronic governing/speed control
- Start/stop logic
- Engine protection & monitoring

#### Full Range of Attachments

Large variety of factory-installed engine attachments reduces packaging time

#### 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 petroleum 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 petroleum power requirements, visit [www.catoilandgasinfo.com](http://www.catoilandgasinfo.com).



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**STANDARD EQUIPMENT**

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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  
Class 1, Division 2, Group C&D and Zone 2

**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. 0  
Flywheel housing, SAE No. 0  
SAE standard rotation

**Fuel System**

Air/fuel ratio control  
Gas pressure regulator  
Natural gas carburetor

**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  
- oil temperature  
- 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

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**OPTIONAL EQUIPMENT**

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**Charging Alternator**

24V, 35A CSA alternator\*

**Exhaust System**

Exhaust flex fitting  
Exhaust elbow  
Exhaust flange — ANSI

**Instrumentation**

Operator interface panel  
Operator interface panel enclosure  
15', 20', 50' interconnect harness

**Starting System**

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

**Fuel System**

Fuel filter

**Air Inlet System**

Precleaner  
Rain cap

\*CSA certification pending final approval



# CG137-12 GAS PETROLEUM ENGINE

447 bkW (600 bhp)

## TECHNICAL DATA

### CG137-12 Gas Petroleum Engine — 1800 rpm

		DM9291-00 0.5 g NOx NTE	DM9292-00 1.0 g NOx NTE
<b>Engine Power</b> @ 100% Load	bkW (bhp)	448 (600)	448 (600)
<b>Engine Speed</b>	rpm	1800	1800
Max Altitude @ Rated Torque and 38°C (100°F)	m (ft)	1524 (5000)	1524 (5000)
Speed Turndown @ Max Altitude, Rated Torque, and 38°C (100°F)	%	18	18
<b>Aftercooler Temperature</b>			
JW Temperature	°C (°F)	99 (210)	99 (210)
SCAC Temperature	°C (°F)	54 (130)	54 (130)
<b>Compression Ratio</b>		8.3:1	8.3:1
<b>Emissions (NTE)*</b>			
NOx	g/bkW-hr (g/bhp-hr)	1.34 (1)	.067 (0.5)
CO	g/bkW-hr (g/bhp-hr)	2.68 (2)	2.68 (2)
VOC**	g/bkW-hr (g/bhp-hr)	0.31 (0.23)	0.31 (0.23)
<b>Fuel Consumption***</b> @ 100% Load	MJ/bkW-hr (Btu/bhp-hr)	10.47 (7400)	10.47 (7400)
<b>Heat Balance</b>			
Heat Rejection to Jacket Water JW & OC	bkW (Btu/min)	407 (23,129)	407 (23,129)
Heat Rejection to Aftercooler @ 100% Load	bkW (Btu/min)	33 (1895)	33 (1895)
Heat Rejection to Exhaust @ 100% Load	bkW (Btu/min)	301 (17,091)	301 (17,091)
Heat Rejection to Atmosphere @ 100% Load	bkW (Btu/min)	52 (2961)	52 (2961)
<b>Intake System</b>			
Air Inlet Flow Rate @ 100% Load	N•m³/min (scfm)	20.73 (800)	20.73 (800)
<b>Gas Pressure</b>	kPag (psig)	10-34 (1.5-5.0)	10-34 (1.5-5.0)

\*at 100% load and speed, listed as not to exceed

\*\*Volatile organic compounds as defined in U.S. EPA 40 CFR 60, subpart JJJ

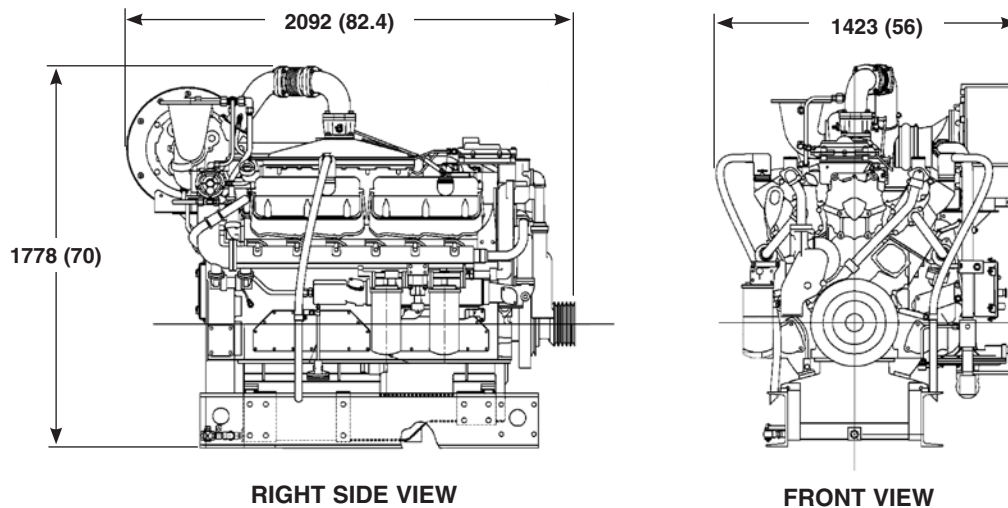
\*\*\*ISO 3046/1



## CG137-12 GAS PETROLEUM ENGINE

447 bkW (600 bhp)

### GAS PETROLEUM ENGINE



**Note:** Dimensions are in mm (inches).

DIMENSIONS		
Length	2092 mm	82.4 in
Width	1423 mm	56 in
Height	1778 mm	70 in

### 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.

Materials and specifications are subject to change without notice. The International System of Units (SI) is used in this publication. CAT, CATERPILLAR, their respective logos, ADEM, S•O•S, "Caterpillar Yellow" and the "Power Edge" trade dress, as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.