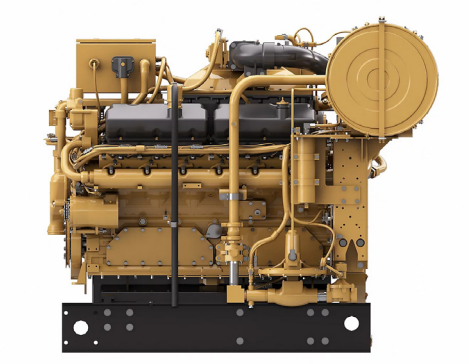


Image shown may not reflect actual configuration

# Cat® CG137-12 Gas Compression Engine

The Cat® CG137-12 is a 24 L V-12 rich-burn gas engine delivering 448 bkW (600 bhp) at 1,800 rpm for gas-compression applications. Its field-proven cylinder-head design, improved fuel tolerance, ADEM A4 engine management, and Class I, Division 2 control architecture support dependable operation across varied field-gas conditions. With a customer-supplied three-way catalyst, the engine can be configured for NSPS and non-attainment-area emissions requirements.

## Features and Benefits:

### ENGINE DESIGN

- V-12, 24 L rich-burn platform delivers 448 bkW (600 bhp) at 1,800 rpm.
- Tough, field-proven cylinder-head design supports durability.
- Improved fuel tolerance accommodates a broad range of gaseous fuels.
- Customer-supplied three-way catalyst enables NSPS and non-attainment-area emissions capability.

### MORE FUEL FLEXIBILITY

- Improved fuel tolerance and electronic fuel control allow the CG137-12 to operate across a broader range of gaseous fuels, helping operators use available site gas while maintaining stable compression performance.

### CONTROL WITHOUT THE LAPTOP

- The 8-inch color touchscreen HMI supports ECM configuration, monitoring updates, service tests, histograms, screenshots, and status reports directly at the engine, helping technicians diagnose and adjust the package faster.

### PROTECTION BUILT FOR CRITICAL SITES

- ADEM A4 monitors air, oil, coolant, speed, battery, and catalyst temperatures with alarm and shutdown protection, helping prevent abnormal conditions from becoming costly failures in continuous gas-compression service.

## Specifications

| | | | |
|---|---|---|---|
| **Configuration** | V-12, 4-Stroke-Cycle Gas | **Cooling System Capacity** | |
| **Serial Prefix** | SZ2 | **Total** | 82.6 L (22 gal) |
| **Bore** | 137 mm (5.4 in) | **JW** | 75 L (20 gal) |
| **Stroke** | 152 mm (6.0 in) | **SCAC** | 7.6 L (2 gal) |
| **Displacement** | 24 L (1648 $in^3$) | **Lube Oil System (refill)** | 170 L (45 gal) |
| **Aspiration** | Turbocharged-Aftercooled | **Oil Change Interval** | 750 hours |
| **Governor and Protection** | Electronic (ADEM™ 4) | **Rotation (from flywheel end)** | Counterclockwise |
| **Combustion** | Rich Burn - Customer Supplied Catalyst | **Flywheel Teeth** | 136 |

# CG137-12 Gas Compression Engine

## Technical Data

| Performance Number | EM4986-01 |
|---|---|
| **Rating – % $O_2$** | 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 |
| **Aftercooler Temperature -** Stage 1 (JW) – °C (°F) | 99 (210) |
| **Aftercooler Temperature -** Stage 2 (SCAC) – °C (°F) | 54 (130) |
| **Emissions (NTE)*-** NOx (as $NO_2$) – g/bkW-h (g/bhp-h) | 15.15 (11.30) |
| **Emissions (NTE)* -** CO – g/bkW-h (g/bhp-h) | 15.15 (11.30) |
| **VOC**– g/bkW-h (g/bhp-h)** | 0.31 (0.23) |
| **Fuel Consumption *** (ISO) – MJ/bkW-h (btu/bhp-h)** | 10.73 (7586) |
| **Heat Balance -** Heat Rejection to Jacket Water (JW) – kW (btu/min) | 448 (25,486) |
| **Heat Balance -** Heat Rejection to Aftercooler – kW (btu/min) | 28 (1604) |
| **Heat Balance -** Heat Rejection to Exhaust – LHV to 25 °C (77 °F) – kW (btu/min) | 289 (16,451) |
| **Exhaust System -** Exhaust Gas Flow Rate – Engine Outlet – N*m³/min (scfm) | 3.10 (2406) |
| **Exhaust System -** Exhaust Stack Temperature – Engine Outlet – °C (°F) | 522 (972) |

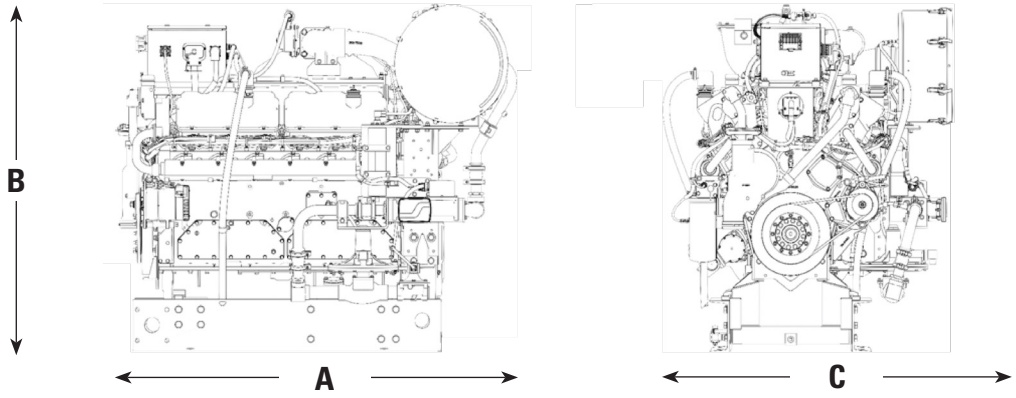
* at 100% load and speed, listed as not to exceed
** Volatile organic compounds as defined in U.S. EPA 40 CFR 60, subpart JJJJ
*** ISO 3046/1
**** For customer supplied AFR controls & aftertreatment contact supplier for performance and emissions data

## 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.

## Dimensions

All dimensions are approximate.




| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **A** | Length | 2036.90 mm | 80.19 in | **C** | Width | 1515.10 mm | 59.65 in |
| **B** | Height | 1701.00 mm | 66.97 in | | Weight (wet) | 2200 kg | 4850 lb |

Note: Do not use for installation design. See general dimension drawings for detail. Weights and dimensions are approximations.

# Standard and Optional Equipment

## Standard Equipment

**Air Inlet System**
- Single-element air cleaner with service indicator
- Air-inlet adapter with rain cap recommended for weather protection

**Control System**
- ADEM A4 ECM
- CSA Class I, Division 2, Group D
- Electronic fuel valve and integrated engine management acket-water thermostats and housing, full open at 98°C

**Cooling System**
- Jacket-water thermostats and housing, full open at 98°C
- Gear-driven centrifugal jacket-water and aftercooler pumps
- Aftercooler core for treated water and sea-air atmosphere
- Water-cooled exhaust manifolds

**Exhaust System**
- Dry 203 mm (8 in) exhaust elbow
- Water-cooled exhaust manifolds

**Flywheels and Flywheel Housings**
- SAE No. 14 or 18 flywheel
- SAE No. 0 flywheel housing
- SAE standard rotation

**Fuel System**
- Gas-pressure regulator
- Natural-gas carburetor
- Single gas shutoff
- Electronic fuel valve

**Instrumentation**
- 8-inch color touchscreen HMI
- ECM configuration, monitoring, service tests, histograms, screenshots, and status reports

**Lube System**
- Top-mounted crankcase breather
- Oil cooler
- RH oil filter
- Valve-cover oil fill and RH dipstict

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

## Optional Equipment

**Air Inlet System**
- Precleaner
- Rain Cap

**Control System**
- 24 V / 65A CSA charging alternator

**Exhaust System**
- Exhaust flex fitting
- Exhaust elbow
- ANSI Exhaust flange

**Exhaust System**
- Exhaust flex fitting
- Exhaust elbow
- Exhaust flange - ANSI

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

**Power Take-Offs**
- Front stub shafts
- Product Link™ cellular radio - internal antenna

**Starting System**
- Air pressure regulator
- Air start silencer
- Vane starter, Electric starter, Turbine starter

**Torsional Vibration Analysis**



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