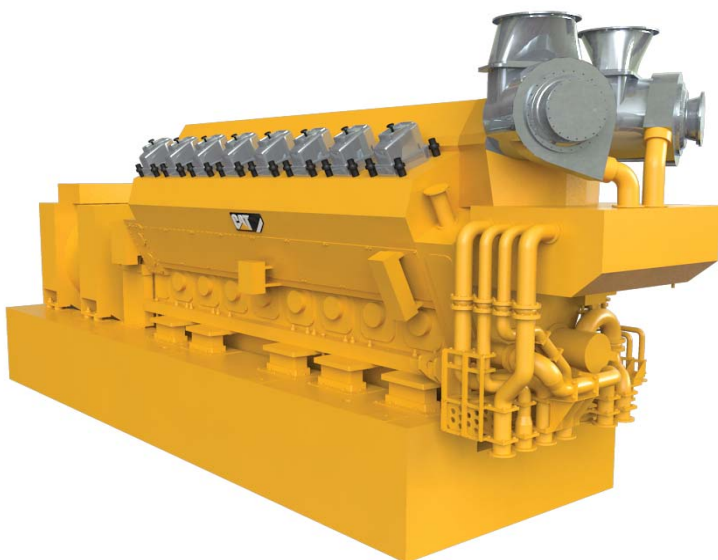


# Caterpillar Power Plants

# CM43

12CM43 • 16CM43 • 60Hz



## Engine Specifications

Engine Type.....4-stroke engine  
Cylinder configuration..... Vee - 12, 16  
Fuel type.....LFO, CRO and HFO up to 700 cSt  
Bore.....430 mm (16.9 in)  
Stroke.....610 mm (24.0 in)  
Cylinder displacement.....88.6 L (5406 cu in)  
Cylinder output.....900 kW(1207 bhp)  
Mean piston speed.....10.5 m/s (34.4 ft/s)  
Mean effective pressure.....23.7 bar (344 psig)  
Aspiration.....Turbocharged and after-cooled  
Engine rating.....10,800-14,400 kWm  
Generator set rating.....10,530 - 14,040 kWe

## Features

### Designed for Reliable Operation

- ▶ Intensive cooling of key components including exhaust valve seats, injector cooling integrated into lube oil system and high-efficiency turbocharger
- ▶ Capable of operation up to 700 cSt/50° C fuel quality according to CIMAC H55/K55

### Minimized Mechanical Wear

- ▶ Modular design
- ▶ State of the art material ensures long life of components

### Overall Economy

- ▶ High availability and long life
- ▶ Low fuel and oil consumption
- ▶ Low maintenance requirements

### Highest Quality Engine Parts

- ▶ Semi-dry wear resistant liners with calibration inserts
- ▶ Pistons with forged steel crown and aluminum skirt
- ▶ Inlet/Outlet valves with armored seats
- ▶ High efficiency turbo charger

### One-Piece Dry Engine Block

- ▶ High strength nodular cast iron with under slung crankshaft and free from cooling water

### Ease of Maintenance & Reliability

- ▶ Easily removable cylinder heads, quick removable fluid connections
- ▶ Split connecting rods to allow piston removal without disturbing the big end bearing
- ▶ High reliability, modular design and integral construction reduce the number of components by 40% over conventional designs

### Total Power Solutions

- ▶ Caterpillar® can develop, finance, design, build, test, maintain and operate medium speed reciprocating engine power plants and at the customer's option provide:
  - Power generation equipment
  - Engineered systems
  - Turnkey power plants
  - Contract power
  - Combined heat and power systems
  - Construction and installation services
  - Operation and maintenance services

### Worldwide Product Support

- ▶ With nearly 200 Cat dealers & 1500 facilities worldwide serving in excess of 200 countries, you're never far from the Caterpillar support you need.
- ▶ Customer Support Agreements offer back-to-back services including scheduled inspections, preventative maintenance and overhauls to full operations and maintenance.

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## Nominal Performance

	Engine Rating		Generator Set Rating		Speed	Frequency	Heat Rate				Specific Lube Oil Consumption	
	kWm	kWe	kVA	rpm			Hz	WBI		WBI		g/kWh
					kJ/kWh	Btu/KWh		kJ/kWh	Btu/KWh			
12CM43	10,800	10,530	13,162	514	60	7,608	7,211	7,652	7,253	0.6	0.0012	
16CM43	14,400	14,040	17,550	514	60	7,608	7,211	7,652	7,253	0.6	0.0012	

## Rating Definitions and Conditions

Fuel type: Light fuel oil (LFO), crude oil (CRO) and heavy fuel oil (HFO) with fuel quality limit at 50° C according to CIMAC H55/K55.

Ratings: Based on ISO 3046/1 standard reference conditions.

Power output: May require adjustment for values other than ISO 3046/1 standard reference conditions.

Conditions output: Available for an unlimited time without varying load.

Generator efficiency of 97.5% based on 0.8 pf with medium voltage class generator; actual efficiency will depend on generator selection.

Fuel consumption: Based on ISO 3046/1 standard reference conditions of 25° C (77 F) and 100 kPa (29.61 in Hg), including one engine-driven lube oil pump, with 5% tolerance and LCV=42,700 kJ/kg (18,358 Btu/lb). Value based on measurement at the generator terminals.

Lube oil consumption: Tolerance on value of +/-0.3 g/kWh (0.0007-lb/kWh). Lube oil consumption can only be demonstrated after 500 hours of operation.

FOR MORE INFORMATION Go to:  
<http://www.cat.com/powerplants>  
<http://www.catpowerplants.com>

	Engine Dimensions						Approximate Weight (Dry)			
	Height (H)		Width (W)		Length (L)		Engine		Generator	
	mm	in	mm	in	mm	in	kg	lb	kg	lb
12CM43	5,580	220	3,900	154	8,038	316	162,000	357,149	50,050	110,341
16CM43	5,580	220	3,900	154	9,982	393	215,000	473,994	66,500	146,607

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