

Caterpillar Power Plants

CM32

6CM32 • 8CM32 • 9CM32 • 50Hz



Engine Specifications

Engine Type.....4-stroke engine
Cylinder configuration.....In-line - 6, 8, 9
Fuel type.....LFO, CRO and HFO up to 700 cSt
Bore.....320 mm (12.6 in)
Stroke.....480 mm (18.9 in)
Cylinder displacement.....38.6 L (2356 cu in)
Cylinder output.....500 kW(644 bhp)
Mean piston speed.....9.6 m/s (31.5 ft/s)
Mean effective pressure.....24.9 bar (361 psig)
Aspiration.....Turbocharged and after-cooled
Engine rating.....3,000-4,500kWm
Generator set rating.....2,880-4,365kWe

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	
	<u>kWm</u>	<u>kWe</u>	<u>kVA</u>	<u>RPM</u>	<u>Hz</u>	<u>kJ/kWh</u>	<u>Btu/kWh</u>	<u>g/kWh</u>	<u>lb/kWh</u>
6CM32	3,000	2,880	3,600	600	50	7,952	7,537	0.6	0.0012
8CM32	4,000	3,880	4,850	600	50	7,870	7,459	0.6	0.0012
9CM32	4,500	4,365	5,456	600	50	7,870	7,459	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 97.0% (96.0% for the 6CM32) 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	
	<u>mm</u>	<u>in</u>	<u>mm</u>	<u>in</u>	<u>mm</u>	<u>in</u>	<u>kg</u>	<u>lb</u>	<u>kg</u>	<u>lb</u>
6CM32	3,817	150	2,242	88	4,788	189	35,400	78,044	18,100	39,904
8CM32	3,926	155	2,342	92	5,898	232	45,400	100,090	24,000	52,911
9CM32	3,926	155	2,342	92	6,428	253	49,400	108,908	26,500	58,422

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