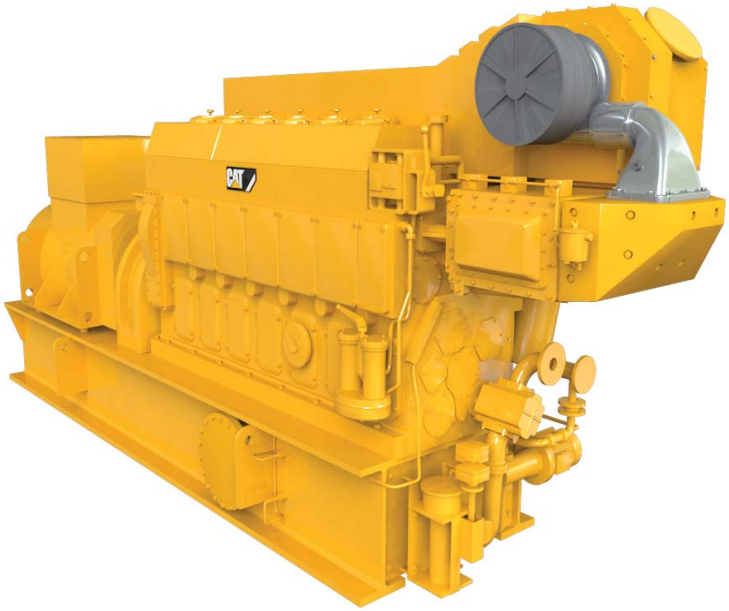
Caterpillar Power Plants

CM20

6CM20 • 8CM20 • 9CM20 • 60Hz



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.....200 mm
Stroke.....300 mm
Cylinder displacement.....9.4 (L)
Cylinder output.....170 (kW)
Mean piston speed.....9.0 m/s
Mean effective pressure.....24.1 bar
Aspiration.....Turbo Charged and after cooled
Engine rating.....1,020 - 1,530 kWm
Generator set rating.....979 - 1,469 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 strenght 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 Catepillar 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	kJ/kWh	Btu/kWh	g/kWh	lb/kWh
6CM20	1,020	979	1,224	900	60	8,356	7,920	0.6	0.0012
8CM20	1,360	1,306	1,632	900	60	8,356	7,920	0.6	0.0012
9CM20	1,530	1,469	1,836	900	60	8,356	7,920	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 96.0% 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://catpowerplants.com

	Engine Dimensions						Approximate Weight (Dry)			
	Length (L)		Width (W)		Height (H)		Engine		Generator	
	mm	in	mm	in	mm	in	kg	lb	kg	lb
6CM20	3,130	123	1,425	56	2,370	93	10,500	23,149	3,200	7,055
8CM20	3,790	149	1,425	56	2,680	106	13,000	28,660	5,200	11,464
9CM20	4,120	162	1,425	56	2,680	106	14,100	31,085	6,460	14,242

Materials and specifications are subject to change without notice.
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