

THE CG170B SERIES: 1,380 kW TO 2,300 kW
EFFICIENCY AT A NEW LEVEL

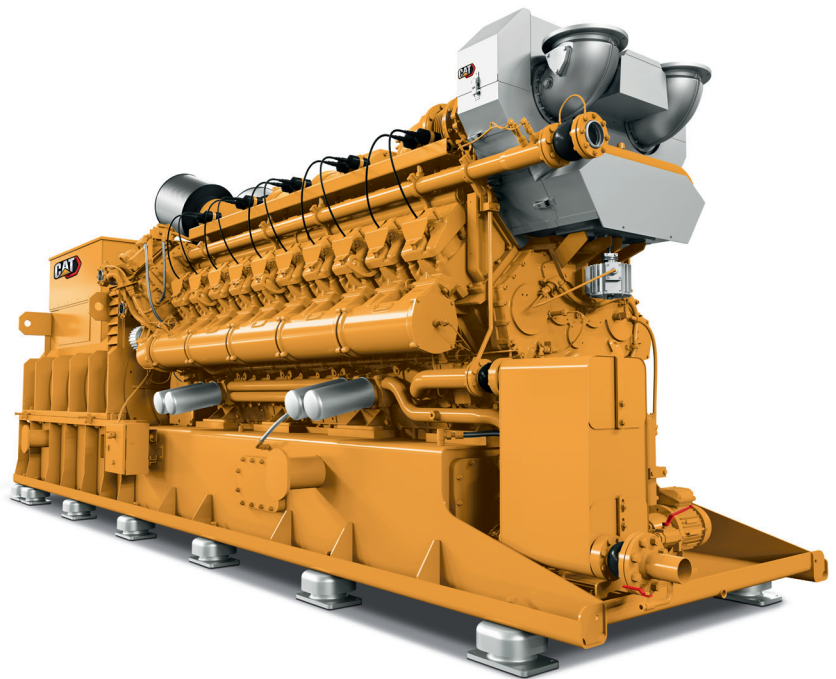


FLEXIBLE IN APPLICATION. CONSISTENT IN EFFICIENCY.

EFFICIENCY AT A NEW LEVEL.

Featuring a compact design, state-of-the-art components, and the flexibility to meet the demands of a wide range of applications, products in the Cat® CG170B gas generator range are truly talented.

Controlled by the smart and secure Total Plant & Energy Management (TPEM) system, the new CG170B series offers optimal efficiency and performance.



COST EFFECTIVE IN OPERATION

- > High efficiency values, low oil consumption (0.15 g/kWh), and up to 80,000 oh (operating hours) until major overhaul delivers cost-effective operation and high profitability for the customer



IMPROVED RELIABILITY

- > Reliable and proven core engine upgraded with state-of-the-art technologies
- > Extended maintenance intervals



OPTIMUM EFFICIENCY

- > Increased electrical efficiency – up to 45% (NG), up to 43.6% (BG)
- > Increased electrical output up to 2,300 kW_{el}
- > Optimal combination of efficiency and reliability



FLEXIBILITY BY DESIGN – FUEL TYPE & APPLICATION

- > Variants available for a multitude of applications including natural gas, biogas, landfill gas, and propane gas operation



TPEM SYSTEM AS STANDARD

- > Hardware and software for the engine and a holistic plant control
- > Enables full power capability of the genset with maximum reliability, availability, performance, and usability



IMPROVED POWER DENSITY

- > Compact design: The CG170B series delivers up to 18% more power from the same footprint as its predecessor

ONE GENSET, VARIOUS APPLICATIONS

Combined Heat and Power (CHP)



Utilities
District heating
Industrial

Hospitals
Airports
Greenhouses

Electrical Power



Energy services
Independent power producer
Utilities
Industrial

Biogas



Agriculture
Food industry
Sewage
Landfill

TECHNICAL DATA

PERFORMANCE DATA

ENGINE TYPE	CG170B-12	CG170B-16	CG170B-20
Bore/Stroke	170 mm/195 mm	170 mm/195 mm	170 mm/195 mm
Displacement	53 dm ³	71 dm ³	89 dm ³
Speed	1500 1/min	1500 1/min	1500 1/min
Mean Piston Speed	9.8 m/s	9.8 m/s	9.8 m/s
Mean Effective Pressure	21.5 bar	21.5 bar	21.5 bar
Length	5080 mm	6100 mm	6600 mm
Width	1710 mm	1710 mm	1710 mm
Height	2190 mm	2190 mm	2190 mm
Dry Weight Genset	12 900 kg	17 400 kg	21 400 kg

NATURAL GAS AND PROPANE GAS APPLICATIONS – POWER DATA 50 HZ

NO_x ≤ 500 mg/Nm³*

ENGINE TYPE	CG170B-12 P ¹	CG170B-12 R ²	CG170B-16 P ¹	CG170B-16 R ²	CG170B-20 P ¹	CG170B-20 R ²
Electrical Power	1380 kW	1380 kW	1840 kW	1840 kW	2300 kW	2300 kW
Electrical Efficiency**	45.0%	44.0%	44.7%	44.0%	45.0%	44.0%
Thermal Efficiency**	42.3%	43.6%	42.6%	43.6%	42.3%	43.6%
Thermal Output*** ±8%	1296 kW	1369 kW	1755 kW	1824 kW	2164 kW	2281 kW
Major Overhaul	Up to 80,000 oh	Up to 80,000 oh	Up to 80,000 oh	Up to 80,000 oh	Up to 80,000 oh	Up to 80,000 oh
Lube Oil Consumption	0.15 g/kWh	0.15 g/kWh	0.15 g/kWh	0.15 g/kWh	0.15 g/kWh	0.15 g/kWh
Overall Efficiency	87.3%	87.6%	87.3%	87.6%	87.3%	87.6%

NO_x ≤ 250 mg/Nm³*

ENGINE TYPE	CG170B-12 P ¹	CG170B-12 R ²	CG170B-16 P ¹	CG170B-16 R ²	CG170B-20 P ¹	CG170B-20 R ²	CG170B-20 Z ⁴
Electrical Power	1380 kW	1380 kW	1840 kW	1840 kW	2300 kW	2300 kW	1880 kW
Electrical Efficiency**	43.9%	42.9%	43.6%	42.9%	44.0%	42.9%	41.8%
Thermal Efficiency**	43.2%	44.5%	43.5%	44.5%	43.1%	44.6%	45.9%
Thermal Output*** ±8%	1359 kW	1431 kW	1835 kW	1910 kW	2255 kW	2391 kW	2063 kW
Major Overhaul	Up to 80,000 oh	Up to 80,000 oh	Up to 80,000 oh	Up to 80,000 oh	Up to 80,000 oh	Up to 80,000 oh	Up to 80,000 oh
Lube Oil Consumption	0.15 g/kWh	0.15 g/kWh	0.15 g/kWh	0.15 g/kWh	0.15 g/kWh	0.15 g/kWh	0.15 g/kWh
Overall Efficiency	87.1%	87.4%	87.1%	87.4%	87.1%	87.5%	87.7%

BIO-, LANDFILL, AND SEWAGE GAS APPLICATIONS – POWER DATA 50 HZ

NO_x ≤ 500 mg/Nm³*

ENGINE TYPE	CG170B-12 X ³	CG170B-16 X ³	CG170B-20 X ³
Electrical Power	1380 kW	1840 kW	2300 kW
Electrical Efficiency**	43.6%	43.6%	43.6%
Thermal Efficiency**	42.7%	42.7%	42.8%
Thermal Output*** ±8%	1351 kW	1802 kW	2254 kW
Major Overhaul	Up to 64,000 oh	Up to 64,000 oh	Up to 64,000 oh
Lube Oil Consumption	0.15 g/kWh	0.15 g/kWh	0.15 g/kWh
Overall Efficiency	86.3%	86.3%	86.4%

NO_x ≤ 250 mg/Nm³*

ENGINE TYPE	CG170B-12 X ³	CG170B-16 X ³	CG170B-20 X ³
Electrical Power	1380 kW	1840 kW	2300 kW
Electrical Efficiency**	42.6%	42.6%	42.7%
Thermal Efficiency**	43.4%	43.5%	43.5%
Thermal Output*** ±8%	1407 kW	1878 kW	2346 kW
Major Overhaul	Up to 64,000 oh	Up to 64,000 oh	Up to 64,000 oh
Lube Oil Consumption	0.15 g/kWh	0.15 g/kWh	0.15 g/kWh
Overall Efficiency	86.0%	86.1%	86.2%

* 5% O₂ and dry exhaust gases

** According to ISO 3046-1 at U = 0.48 kV, cosphi = 1.0 for 50 Hz, a minimum methane number of MN 70 for natural gas (P, R), MN 34 for propane (Z) and MN 134 (sewage gas) for biogas applications.

*** Exhaust gas cooled to 120°C for natural gas and 150°C for biogas.

P = High Efficiency

R = High Response

Z = Propane

X = Biogas

¹ = Optimized for high electrical efficiency

² = Optimized for high total efficiency

³ = Optimized for operation with all biogases

⁴ = Optimized for operation with propane

The values given in this data sheet are for information only and are not binding.

The information given in the offer is authoritative.

TPEM. THE DOOR TO THE DIGITAL AGE.

With its comprehensive digital power plant control TPEM (Total Plant & Energy Management), Caterpillar redefines the control standard for energy solutions.

TPEM eliminates the need for additional control systems, as all power plant data for the genset and plant control are combined in one system. The optimum power plant control enables high economic efficiency provided from a single source.

SET UP

- > Custom-tailored technical solutions
- > One integrated, flexible control system for all electric power applications
- > Multiple functionalities for individual solutions

OPTIMIZE

- > Data management and analysis delivers information for optimizing the system
- > Life cycle history enables the logging of and access to data throughout the life cycle of the genset and the peripherals



OPERATE

- > High efficiency through optimal control
- > Enables remote management and monitoring
- > Use the full genset potential with maximum reliability

For more information and to contact your local Cat dealer, visit www.cat.com/catcg170b

LET'S DO THE WORK.™

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