CAT® CG132

Series Gas Generator Sets

CAT® CG132

SMARTER ENERGY SOLUTIONS

COMMERCIAL AND INDUSTRIAL FACILITIES
Facilities such as manufacturing plants, resorts, shopping centers, office or residential buildings, universities, data centers and hospitals reduce operating costs and carbon footprint simultaneously.

ELECTRIC UTILITIES
Caterpillar has led innovation to deliver stationary and containerized gas power plants to electric utilities and district energy facilities around the world for both continuous grid support and peak electricity demand.

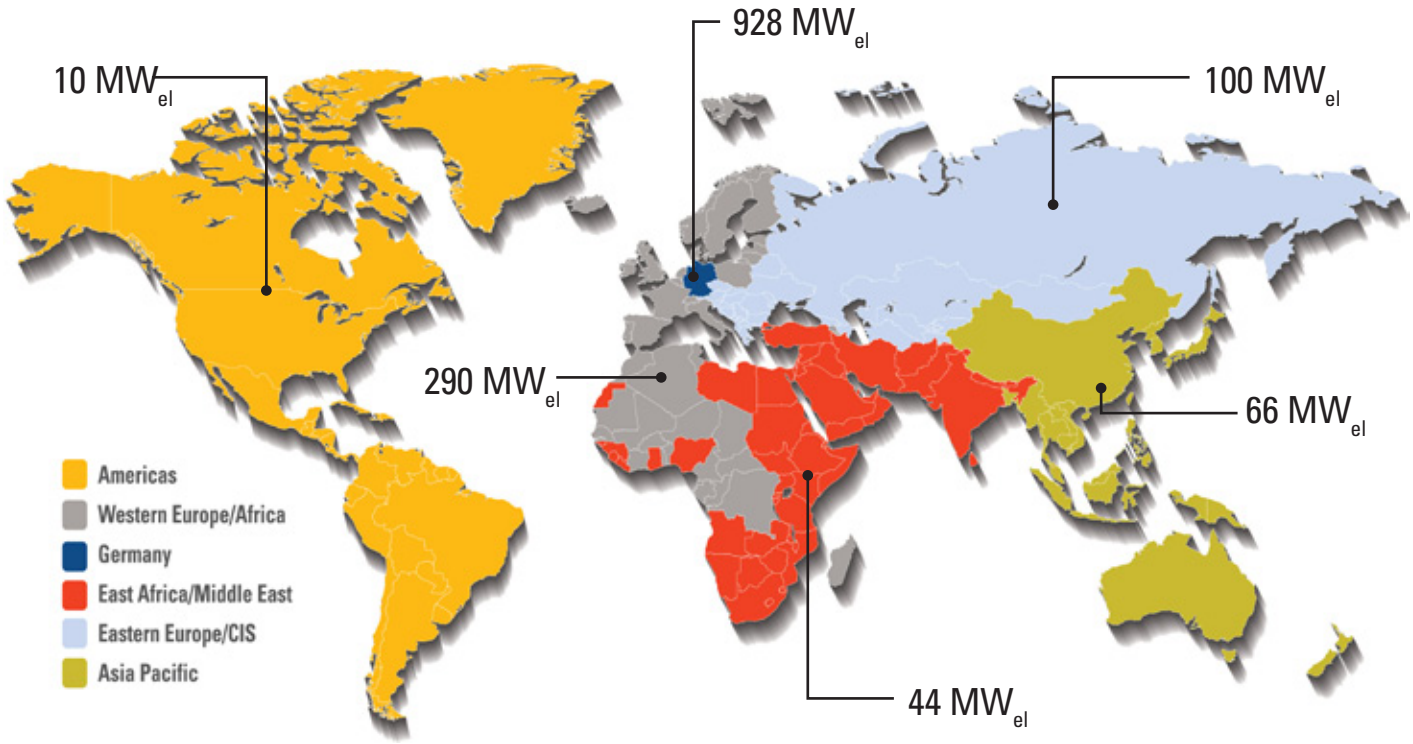
MINES
Mining operators increase mine safety and reduce carbon emissions with coal gas, while many other mining operations are realizing the benefits of onsite gas power generation to support greenfield site development.

AGRICULTURE AND FOOD / BEVERAGE PROCESSING
Biogas, a useful byproduct of the anaerobic digestion of organic waste, is created by food processors, ethanol and biodiesel manufacturers, and farms around the world as a renewable fuel resource for Cat® powered electricity generation.

LANDFILLS AND WASTEWATER TREATMENT PLANTS
Landfill and sewage gases are is generated by communities around the world as part of sanitary process infrastructure. Instead of destroying or flaring the methane gas produced, communities make beneficial use of this fuel as part of a sustainable energy program.

GREENHOUSES
In greenhouses, Cat gas generator sets simultaneously deliver electricity for lighting or sale to the local grid, hot water for facility heating, and carbon dioxide as an organic fertilizer for increased crop production.

Installed capacity of 1,438 MW_{el} with 2,577 generator sets worldwide



MEETING YOUR NEEDS HAS SHAPED OUR HISTORY

At Caterpillar, we understand what it takes to deliver a successful gas power generation system, and it starts with a core machine that is designed for efficiency and reliability. Since the 1920s, Caterpillar has been designing and building engines for power production. Although the technology has changed over the years, the philosophy hasn't: to deliver the most reliable power generation at the lowest possible cost of ownership and operation. Today, Caterpillar not only manufactures power generation equipment, but we also provide customized project financing and trade solutions via Cat Financial and Cat World Trade.

THE COMPLETE SOLUTION

Caterpillar is your complete gas solutions partner. From mechanical systems such as gas fuel train and heat recovery systems, to exhaust aftertreatment that complies with the world's most stringent emission requirements, Cat Gas Solutions engineering works with your local Cat dealer to deliver a complete scope of supply. Caterpillar also provides electrical systems such as master controls and paralleling switchgear, electrical distribution switchgear and uninterruptible power supplies (UPS) that can meet either UL or IEC requirements.

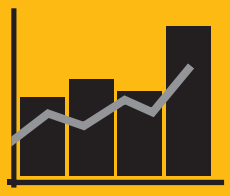
PRODUCT SUPPORT WORLDWIDE

Your gas power system is supported by our factory trained global network of Cat dealers. Therefore, you can rest assured that your equipment will be ordered, delivered, installed and commissioned in consultation with a local expert. You'll also have the confidence that Caterpillar will be there to keep you up and running. Cat dealers have over 1,600 dealer branch stores operating in 200 countries to provide the most extensive post-sales support including oil and fuel monitoring services, preventive maintenance and comprehensive customer support agreements.

LOWER LIFE CYCLE COST

With longer maintenance intervals, higher fuel efficiency and competitive repair options, Caterpillar delivers the lowest total owning and operating costs. When you design your facility within the Cat Application and Installation Guidelines, you can expect generator set availability up to 99 percent of planned operating hours annually. It all adds up to a strong return on your investment, year after year.

CG132: HIGH PERFORMANCE W

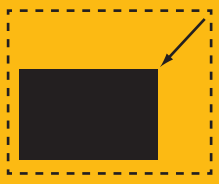


HIGHLY EFFICIENT

Save up to 15 percent annually on fuel costs and improve your profitability. The CG132 gas generator is highly efficient with an optimized camshaft, combustion chamber and spark plugs.

LOWER OPERATING COSTS

Optimized engine components mean the CG132 uses up to 50 percent less lubricating oil than competing generator sets, which means more money stays in your company's pockets.



SMALLER FOOTPRINT

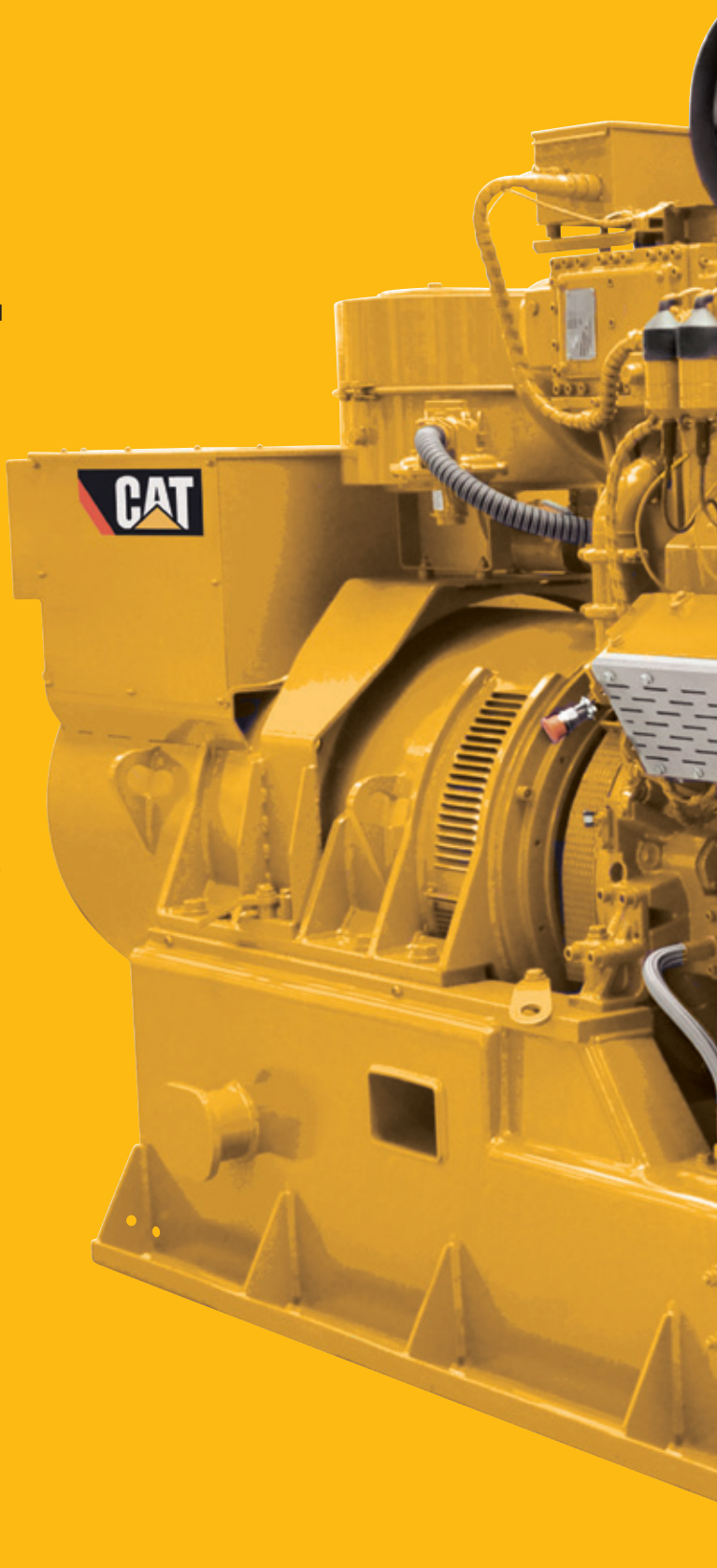
The CG132 uses nearly 50 percent less space than similar systems. Less space means lower installation costs.

SYSTEM CONTROL

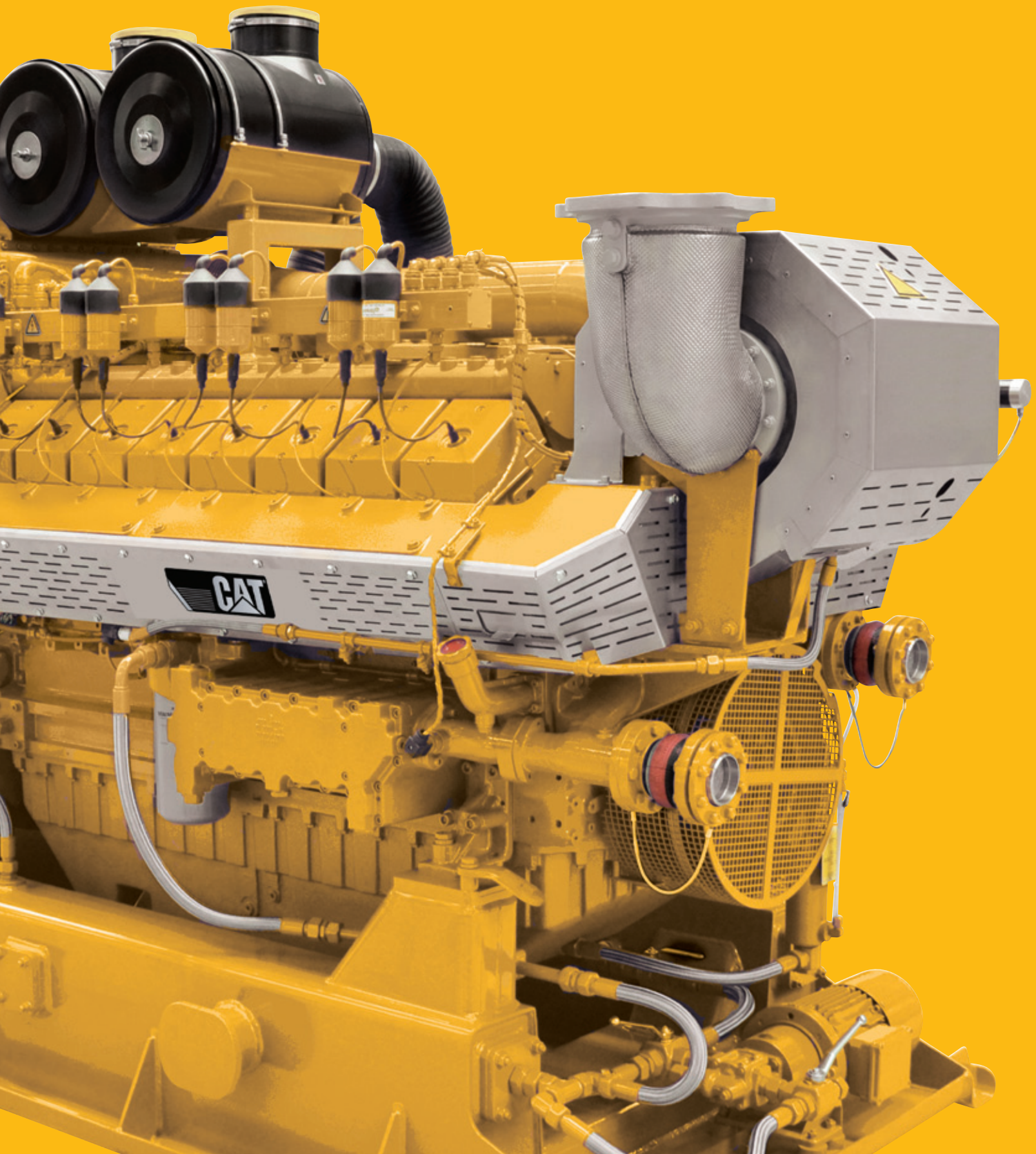
Control the entire system, not just the engine, with the Cat Total Electronic Management System. Features like temperature and pressure monitoring for each cylinder and anti-knock control allow for maximum power output and the best possible fuel utilization, even if gas composition changes.

FLEXIBLE FUEL USAGE

Our gas-mixer technology and Total Electronic Management System let you use a wide variety of gases, including problematic gases like digester, landfill and sewage gases.



VITH LOW OPERATING COSTS



50 Hz PRODUCT PERFORMANCE

ENGINE TYPE	UNITS	CG132-8		CG132-12		CG132-16	
Bore/stroke	mm in	132/160	5.2/6.3	132/160	5.2/6.3	132/160	5.2/6.3
Displacement	l in^3	17.5	1068	26.3	1605	35	2136
Speed	rpm	1500		1500		1500	
Mean piston speed	m/s ft/s	8	26	8	26	8	26
Length [1]	mm in	3,090	122	3,690	145	4,060	160
Width [1]	mm in	1,490	59	1,490	59	1,490	59
Height [1]	mm in	2,190	86	2,160	85	2,110	83
Dry weight genset	kg lb	4,880	10,760	6,090	13,428	6,960	15,347

NATURAL GAS

ENGINE TYPE	UNITS	CG132-8		CG132-12		CG132-16	
Electrical power [2]	kW_e	400		600		800	
Mean effective pressure	bar psi	19.0	276	18.9	274	18.9	274
Thermal output (+/-8 %) [3]	kW Btu/m	428	24362	654	37225	856	48723
Electrical efficiency [2]	%	42.3		42.0		42.4	
Thermal efficiency [3]	%	45.2		45.9		45.3	
Total efficiency	%	87.5		87.9		87.7	

$NO_x \leq 500$ mg/m_n^3, 1 g/bhp-h

BIOGAS

ENGINE TYPE	UNITS	CG132-8		CG132-12		CG132-16	
Electrical power [2]	kW_e	400		600		800	
Mean effective pressure	bar psi	19.0	276	19.0	274	18.9	274
Thermal output (+/-8%) [3]	kW Btu/m	398	22654	608	34607	810	46105
Electrical efficiency [2]	%	42.8		42.7		42.8	
Thermal efficiency [3]	%	42.1		42.3		42.3	
Total efficiency	%	84.9		85.0		85.1	

$NO_x \leq 500$ mg/m_n^3, 1 g/bhp-h

1) Transport dimensions of genset. Components set up separately must be separately taken into account.
2) According to ISO 3046/1 at voltage = 400V, PF=1.0 at 50Hz, and a methane number of MN70 for natural gas, MN 130 for biogas.
3) Exhaust gas cooled to 120° C with natural gas and 150° C with biogas, plus engine jacket water heat.

NOx emissions as NO_2 dry exhaust gas @ 5% O_2

Biogas fuels assumed to meet published engine-in contaminant limits with compositions:
Sewage gas (65 % CH4 / 35 % CO_2)
Biogas (60 % CH4 / 32 % CO_2, rest N_2)
Landfill gas (50 % CH4 / 27 % CO_2, rest N_2)
Minimum heating value (LHV) = 18.0 MJ/mn^3 or 457 Btu/scf.
Specifications for special gases available.

Engine configuration with dry exhaust manifolds.
Data is representative and non-binding. Contact your Caterpillar dealer for site and fuel specific performance.

60 Hz PRODUCT PERFORMANCE

ENGINE TYPE	UNITS	CG132-8		CG132-12		CG132-16	
Bore/stroke	mm in	132/160	5.2/6.3	132/160	5.2/6.3	132/160	5.2/6.3
Displacement	l in^3	17.5	1068	26.3	1605	35	2136
Speed	rpm	1800		1800		1800	
Mean piston speed	m/s ft/s	9.6	31	9.6	31	9.6	31
Length [1]	mm in	3,090	122	3,690	145	4,060	160
Width [1]	mm in	1,490	59	1,490	59	1,490	59
Height [1]	mm in	2,190	86	2,160	85	2,110	83
Dry weight genset	kg lb	4,880	10,760	6,090	13,428	6,960	15,347

NATURAL GAS

ENGINE TYPE	UNITS	CG132-8		CG132-12		CG132-16	
Electrical power [2]	kW_e	400		600		800	
Mean effective pressure	bar psi	15.8	229	15.7	228	15.7	228
Thermal output (+/-8 %) [3]	kW Btu/m	447	25443	681	38762	892	50772
Electrical efficiency [2]	%	41.2		41.1		41.5	
Thermal efficiency [3]	%	46.1		46.6		46.3	
Total efficiency	%	87.3		87.7		87.8	

$NO_X \leq 500$ mg/m_n^3, 1 g/bhp-h

BIOGAS

ENGINE TYPE	UNITS	CG132-8		CG132-12		CG132-16	
Electrical power [2]	kW_e	400		600		800	
Mean effective pressure	bar psi	15.8	229	15.7	228	15.7	228
Thermal output (+/-8%) [3]	kW Btu/m	415	23622	645	36713	845	48097
Electrical efficiency [2]	%	41.6		41.4		41.7	
Thermal efficiency [3]	%	43.2		43.7		43.3	
Total efficiency	%	84.8		85.1		85.0	

$NO_X \leq 500$ mg/m_n^3, 1 g/bhp-h

1) Transport dimensions of genset. Components set up separately must be separately taken into account.
2) According to ISO 3046/1 at voltage = 480V, PF=1.0 at 60Hz, and a methane number of MN 80 for natural gas, MN 130 for biogas.
3) Exhaust gas cooled to 120° C with natural gas and 150° C with biogas, plus engine jacket water heat.

NOx emissions as NO_2 dry exhaust gas @ 5% O_2

Biogas fuels assumed to meet published engine-in contaminant limits with compositions:
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Minimum heating value (LHV) = 18.0 MJ/mn^3 or 457 Btu/scf.
Specifications for special gases available.

Engine configuration with dry exhaust manifolds
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For more information and to contact your local Cat dealer, visit www.catelectricpowerinfo.com/gas

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