

# Cat® 3516B

## Dynamic Gas Blending™ (DGB™) Generator Sets

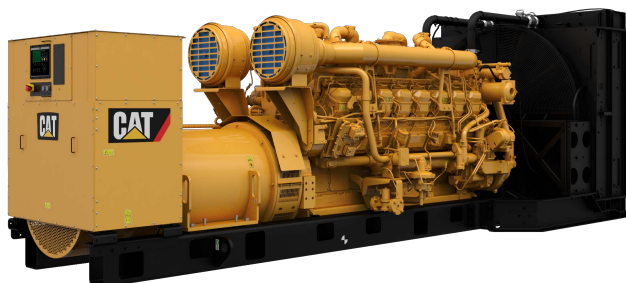


Image shown may not reflect actual configuration

Bore – mm (in)	170 (6.69)
Stroke – mm (in)	215 (8.46)
Displacement – L (in <sup>3</sup> )	78 (4764.73)
Compression Ratio	15.5:1
Aspiration	TA
Fuel System	EUI
Governor Type	ADEM™ A4

Prime 50 Hz kVA (ekW)	Continuous 50 Hz kVA (ekW)	Emissions Performance
2275 (1820)	2000 (1600)	Optimized for Low Fuel Consumption

### Standard Features

#### Dynamic Gas Blending™ (DGB™) System

- DGB system automatically activates when gas supply is detected
- Reduces diesel consumption by up to 70% using gas substitution while maintaining safe engine operation
- Control system enables maximum substitution over the widest load range in the industry
- Maintains traditional diesel generator set power and transient response performance
- Accepts a wide range of gas quality and automatically adjusts to fuel quality changes, eliminating the need for field calibration
- Maintains existing diesel maintenance and overhaul intervals

#### Cat® Diesel Engine

- Designed and optimized for low fuel consumption
- Reliable performance proven in thousands of applications worldwide

#### Generator Set Package

- Accepts 100% block load in one step and meets other NFPA 110 loading requirements
- Conforms to ISO 8528-5 G2 load acceptance requirements
- Reliability verified through torsional vibration, fuel consumption, oil consumption, transient performance, and endurance testing

#### Alternators

- Superior motor starting capability minimizes need for oversizing generator
- Designed to match performance and output characteristics of Cat diesel engines

#### Cooling System

- Cooling systems available to operate in ambient temperatures up to 47°C (117°F)
- Tested to ensure proper generator set cooling

#### EMCP 4 Control Panels

- EMCP 4.3/4.4 control panel is the single-point interface for the engine, generator, and DGB functions
- User-friendly interface and navigation
- Scalable system to meet a wide range of installation requirements
- Expansion modules and site specific programming for specific customer requirements

#### Warranty

- 24 months/1000-hour warranty for standby and mission critical ratings
- 12 months/unlimited hour warranty for prime and continuous ratings
- Extended service protection is available to provide extended coverage options

#### Worldwide Product Support

- Cat dealers have over 1,800 dealer branch stores operating in 200 countries
- Your local Cat dealer provides extensive post-sale support, including maintenance and repair agreements

#### Financing

- Caterpillar offers an array of financial products to help you succeed through financial service excellence
- Options include loans, finance lease, operating lease, working capital, and revolving line of credit
- Contact your local Cat dealer for availability in your region

## Optional Equipment

### Engine

#### Air Cleaner

- Single element
- Dual element

#### Muffler

- Industrial grade (15 dB)

#### Starting

- Standard batteries
- Oversized batteries
- Standard electric starter(s)
- Heavy duty electric starter(s)
- Air starter(s)
- Jacket water heater

### Alternator

#### Output voltage

- 380V     6600V
- 400V     6900V
- 415V     10000V
- 3300V    10500V
- 6300V    11000V

#### Temperature Rise (over 40°C ambient)

- 150°C
- 125°C/130°C
- 105°C
- 80°C

#### Winding type

- Random wound
- Form wound

#### Excitation

- Internal excitation (IE)
- Permanent magnet (PM)

#### Attachments

- Anti-condensation heater
- Stator and bearing temperature monitoring and protection

### Power Termination

#### Type

- Bus bar
- Circuit breaker
- 1600A     2000A
- 2500A     3000A
- 3200A     4000A
- 5000A
- UL         IEC
- 3-pole     4-pole
- Manually operated
- Electrically operated

#### Trip Unit

- LSI         LSI-G
- LSI-G-P

### Control System

#### Controller

- EMCP 4.3
- EMCP 4.4

#### Attachments

- Local annunciator module
- Remote annunciator module
- Expansion I/O module
- Remote monitoring software

### Charging

- Battery charger – 10A
- Battery charger – 20A
- Battery charger – 35A

### Vibration Isolators

- Rubber
- Spring
- Seismic rated

### Cat Connect

#### Connectivity

- Ethernet
- Cellular
- Satellite

### Extended Service Options

#### Terms

- 2 year (prime)
- 3 year
- 5 year
- 10 year

#### Coverage

- Silver
- Gold
- Platinum
- Platinum Plus

### Ancillary Equipment

- Automatic transfer switch (ATS)
- Uninterruptible power supply (UPS)
- Paralleling switchgear
- Paralleling controls

### Certifications

- IBC Seismic Certification
- EU Declaration of Conformity
- EEC Declaration of Conformity

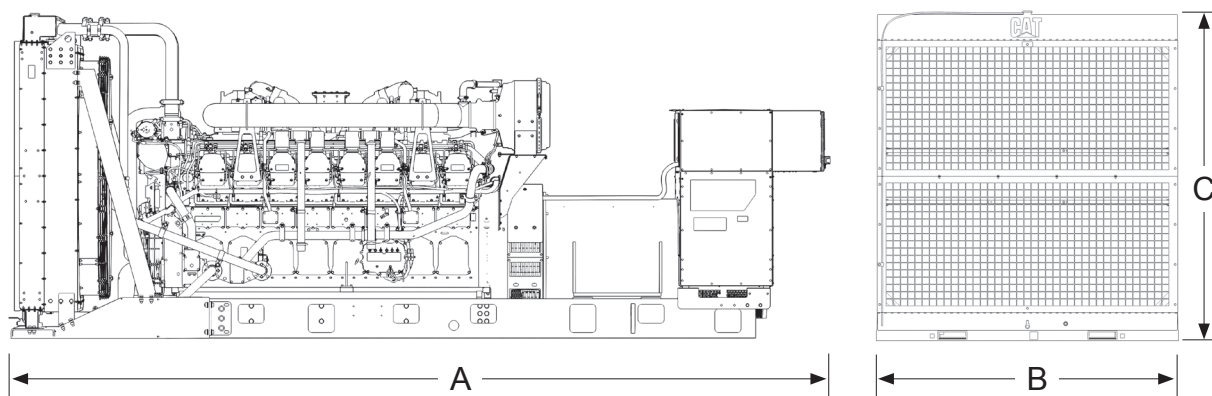
**Note:** Some options may not be available on all models. Certifications may not be available with all model configurations. Consult factory for availability.

## Package Performance

Low Fuel Consumption (60°C SCAC) based on 100% Diesel, except\*

Performance	Prime		Continuous	
Frequency	50 Hz		50 Hz	
Genset power rating with fan	1820 ekW		1600 ekW	
Genset power rating with fan @ 0.8 power factor	2275 kVA		2000 kVA	
Emissions	Low Fuel		Low Fuel	
Performance number	EM2608-00		EM2610-00	
Aftercooler (separate circuit) – °C (°F)	60	(140)	60	(140)
<b>Fuel Consumption</b>				
100% load with fan – L/hr (gal/hr)	460.6	(121.7)	400.8	(105.9)
75% load with fan – L/hr (gal/hr)	340.7	(90.0)	301.3	(79.6)
50% load with fan – L/hr (gal/hr)	236.4	(62.4)	211.7	(55.9)
25% load with fan – L/hr (gal/hr)	136.4	(36.0)	124.1	(32.8)
<b>*Gas Fuel Flow (Pressure range before regulating: 0.83-6.89 bar (12-100 psi))</b>				
Maximum @ 85 MN – MJ/hr (Btu/min)	9463	(149487)	9284	(146659)
<b>Cooling System</b>				
Radiator air flow restriction (system) – kPa (in. water)	0.12	(0.48)	0.12	(0.48)
Radiator air flow – m <sup>3</sup> /min (cfm)	2254	(79599)	2254	(79599)
Engine coolant capacity – L (gal)	233	(61.6)	233	(61.6)
Radiator coolant capacity – L (gal)	131	(34.6)	131	(34.6)
Total coolant capacity – L (gal)	364	(96.2)	364	(96.2)
<b>Inlet Air</b>				
Combustion air inlet flow rate – m <sup>3</sup> /min (cfm)	147.5	(5208.3)	133.7	(4721.1)
<b>Exhaust System</b>				
Exhaust stack gas temperature – °C (°F)	489.0	(912.2)	467.8	(874.0)
Exhaust gas flow rate – m <sup>3</sup> /min (cfm)	395.4	(13961.6)	348.1	(12291.9)
Exhaust system backpressure (maximum allowable) – kPa (in. water)	6.7	(27.0)	6.7	(27.0)
<b>Heat Rejection</b>				
Heat rejection to jacket water – kW (Btu/min)	639	(36339)	583	(33155)
Heat rejection to exhaust (total) – kW (Btu/min)	1775	(100941)	1548	(88035)
Heat rejection to aftercooler – kW (Btu/min)	388	(22065)	309	(17573)
Heat rejection to atmosphere from engine – kW (Btu/min)	144	(8189)	135	(7677)
Heat rejection from alternator – kW (Btu/min)	83	(4713)	72	(4093)
<b>Emissions (Nominal)</b>				
NOx mg/Nm <sup>3</sup> (g/hp-h)	3066.9	(6.28)	3249.6	(6.57)
CO mg/Nm <sup>3</sup> (g/hp-h)	209.8	(0.43)	109.1	(0.22)
HC mg/Nm <sup>3</sup> (g/hp-h)	67.7	(0.14)	74.2	(0.15)
PM mg/Nm <sup>3</sup> (g/hp-h)	19.5	(0.04)	13.1	(0.03)
<b>Emissions (Potential Site Variation)</b>				
NOx mg/Nm <sup>3</sup> (g/hp-h)	3680.3	(7.54)	3899.6	(7.88)
CO mg/Nm <sup>3</sup> (g/hp-h)	377.6	(0.77)	196.4	(0.40)
HC mg/Nm <sup>3</sup> (g/hp-h)	90.0	(0.18)	98.7	(0.20)
PM mg/Nm <sup>3</sup> (g/hp-h)	27.3	(0.06)	18.3	(0.04)

## Weights and Dimensions



Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Dry Weight kg (lb)
7416 (292.0)	2286 (90.0)	2360 (92.9)	16 490 (36,280)

**Note:** For reference only. Do not use for installation design. Contact your local Cat dealer for precise weights and dimensions.

## Ratings Definitions

### Prime

Output available with varying load for an unlimited time. Average power output is 70% of the prime power rating. Typical peak demand is 100% of prime rated kW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year.

### Continuous

Output available with non-varying load for an unlimited time. Average power output is 70-100% of the continuous power rating. Typical peak demand is 100% of continuous rated kW for 100% of the operating hours.

### Applicable Codes and Standards

AS1359, CSA C22.2 No100-04, UL142, UL489, UL869, UL2200, NFPA37, NFPA70, NFPA99, NFPA110, IBC, IEC60034-1, ISO3046, ISO8528, NEMA MG1-22, NEMA MG1-33, 2014/35/EU, 2006/42/EC, 2014/30/EU.

**Note:** Codes may not be available in all model configurations. Please consult your local Cat dealer for availability.

### Data Center Applications

Tier III/Tier IV compliant per Uptime Institute requirements. ANSI/TIA-942 compliant for Rated-1 through Rated-4 data centers.

### Fuel Rates

Diesel fuel rates are based on fuel oil of 35° API [16°C (60°F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29°C (85°F) and weighing 838.9 g/liter (7.001 lbs/U.S. gal.)

[www.cat.com/electricpower](http://www.cat.com/electricpower)

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