

# Cat® 3516B

## Diesel Generator Sets

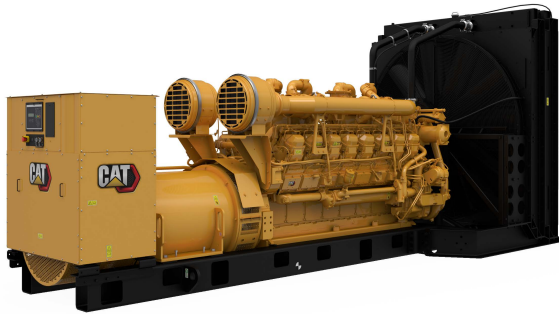


Image shown may not reflect actual configuration

Bore – mm (in)	170 (6.69)
Stroke – mm (in)	190 (7.48)
Displacement – L (in <sup>3</sup> )	69 (4210.64)
Compression Ratio	14.0:1
Aspiration	TA
Fuel System	EUI
Governor Type	ADEM™ A3

Standby 60 Hz ekW (kVA)	Mission Critical 60 Hz ekW (kVA)	Emissions Performance
2250 (2812)	2250 (2812)	Optimized for Low Fuel Consumption

### Standard Features

#### 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 NFPA 110 loading requirements
- Conforms to ISO 8528-5 G3 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 50°C (122°F)
- Tested to ensure proper generator set cooling

#### EMCP 4 Control Panels

- 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
- Heavy duty

#### 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     6300V
- 440V     6600V
- 480V     6900V
- 600V     12470V
- 2400V    13200V
- 4160V    13800V

#### 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
- IEC         UL
- 3-pole     4-pole
- Manually operated
- Electrically operated

#### Trip Unit

- LSI         LSI-G
- LSI-G-P

### Control System

#### Controller

- EMCP 4.2B
- 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

- UL 2200 Listed
- CSA
- IBC seismic certification
- OSHPD pre-approval

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

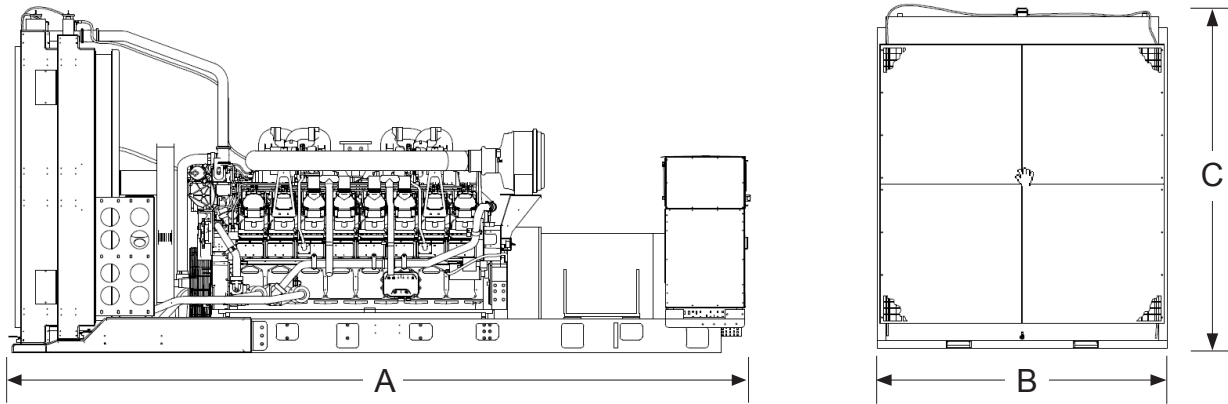
## Package Performance

### Low Fuel Consumption (60°C SCAC)

Performance	Standby		Mission Critical	
Frequency	60 Hz		60 Hz	
Gen set power rating with fan	2250 ekW		2250 ekW	
Gen set power rating with fan @ 0.8 power factor	2812 kVA		2812 kVA	
Emissions	Low Fuel		Low Fuel	
Performance number	EM2642-00		EM2643-00	
Aftercooler (separate circuit) – °C (°F)	60	(140)	60	(140)
<b>Fuel Consumption</b>				
100% load with fan – L/hr (gal/hr)	593.8	(156.9)	593.8	(156.9)
75% load with fan – L/hr (gal/hr)	439.3	(116.1)	439.3	(116.1)
50% load with fan – L/hr (gal/hr)	308.0	(81.4)	308.0	(81.4)
25% load with fan – L/hr (gal/hr)	186.3	(49.2)	186.3	(49.2)
<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)	2549	(90017)	2549	(90017)
Engine coolant capacity – L (gal)	268.8	(71.0)	268.8	(71.0)
Radiator coolant capacity – L (gal)	250.2	(66.1)	250.2	(66.1)
Total coolant capacity – L (gal)	519.0	(137.1)	519.0	(137.1)
<b>Inlet Air</b>				
Combustion air inlet flow rate – m <sup>3</sup> /min (cfm)	185.7	(6557.2)	185.7	(6557.2)
<b>Exhaust System</b>				
Exhaust stack gas temperature – °C (°F)	486.0	(906.8)	486.0	(906.8)
Exhaust gas flow rate – m <sup>3</sup> /min (cfm)	494.0	(17443.4)	494.0	(17443.4)
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)	847	(48168)	847	(48168)
Heat rejection to exhaust (total) – kW (Btu/min)	2234	(127045)	2234	(127045)
Heat rejection to aftercooler – kW (Btu/min)	602	(34235)	602	(34235)
Heat rejection to atmosphere from engine – kW (Btu/min)	163	(9270)	163	(9270)
Heat rejection from alternator – kW (Btu/min)	101	(5719)	101	(5719)
<b>Emissions* (Nominal)</b>				
NOx mg/Nm <sup>3</sup> (g/hp-h)	3619.9	(7.52)	3619.9	(7.52)
CO mg/Nm <sup>3</sup> (g/hp-h)	366.6	(0.76)	366.6	(0.76)
HC mg/Nm <sup>3</sup> (g/hp-h)	15.9	(0.03)	15.9	(0.03)
PM mg/Nm <sup>3</sup> (g/hp-h)	44.8	(0.09)	44.8	(0.09)
<b>Emissions* (Potential Site Variation)</b>				
NOx mg/Nm <sup>3</sup> (g/hp-h)	4343.9	(9.02)	4343.9	(9.02)
CO mg/Nm <sup>3</sup> (g/hp-h)	659.9	(1.37)	659.9	(1.37)
HC mg/Nm <sup>3</sup> (g/hp-h)	21.1	(0.04)	21.1	(0.04)
PM mg/Nm <sup>3</sup> (g/hp-h)	62.7	(0.13)	62.7	(0.13)

\*mg/Nm<sup>3</sup> levels are corrected to 5% O<sub>2</sub>. Contact your local Cat dealer for further information.

## Weights and Dimensions



Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Dry Weight kg (lb)
6637 (261.3)	2588 (101.9)	3051 (120.1)	15 620 (34,420)

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

## Ratings Definitions

### Standby

Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

### Mission Critical

Output available with varying load for the duration of the interruption of the normal source power. Average power output is 85% of the mission critical power rating. Typical peak demand up to 100% of rated power for up to 5% of the operating time. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

### Applicable Codes and Standards

AS 1359, CSA C22.2 No. 100-04, UL 142, UL 489, UL 869, UL 2200, NFPA 37, NFPA 70, NFPA 99, NFPA 110, IBC, IEC 60034-1, ISO 3046, ISO 8528, 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

- ISO 8528-1 Data Center Power (DCP) compliant per DCP application of Cat diesel generator set prime power rating.
- All ratings Tier III/Tier IV compliant per Uptime Institute requirements.
- All ratings ANSI/TIA-942 compliant for Rated-1 through Rated-4 data centers.

### Fuel Rates

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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