

# Cat® 3516C

## Diesel 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	14.0:1
Aspiration	TA
Fuel System	EUI
Governor Type	ADEM™ A3

Standby 50 Hz kVA (ekW)	Mission Critical 50 Hz kVA (ekW)	Prime 50 Hz kVA (ekW)	Emissions Performance
2750 (2200)	2750 (2200)	2500 (2000)	Optimized for Low Fuel Consumption

### 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
- 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

## Standard and 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     6900V
- 400V     10000V
- 415V     10500V
- 6300V    11000V
- 6600V

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

- 150°C
- 125°C/130°C
- 105°C

#### Winding type

- Random wound
- Form wound

#### Excitation

- Permanent magnet (PM)

#### Attachments

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

### Power Termination

#### Type

- Bus bar
- Circuit breaker
- 5000A
- IEC
- 3-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

### 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)
- Paralleling switchgear
- Paralleling controls

### Certifications

- CE
- GB
- IEC
- LVD
- EMC
- RoHS
- ISO 9001
- ISO 14001

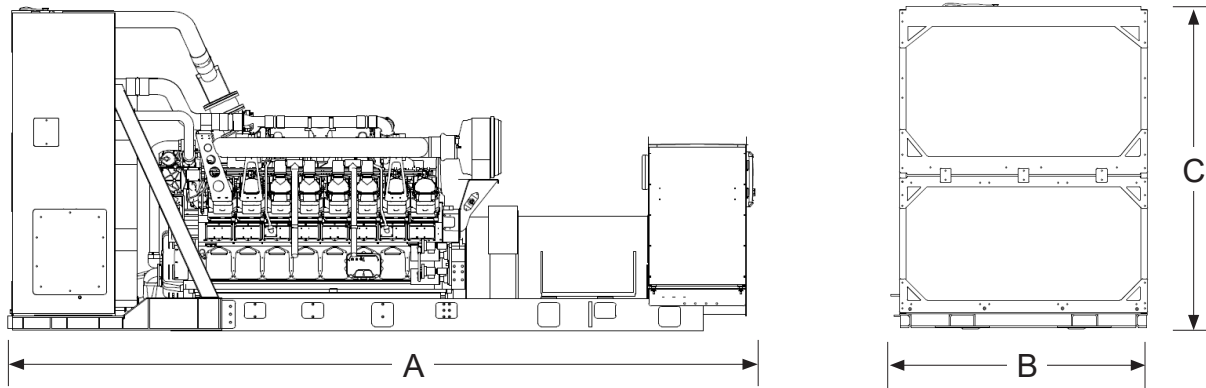
**Note:** Some options may not be available on all models. Certifications may not be available with all model configurations. Consult factory for availability.

**Package Performance**

<b>Performance</b>	<b>Standby</b>		<b>Mission Critical</b>		<b>Prime</b>	
Frequency	50 Hz		50 Hz		50 Hz	
Gen set power rating with fan	2200 ekW		2200 ekW		2000 ekW	
Gen set power rating with fan @ 0.8 power factor	2750 kVA		2750 kVA		2500 kVA	
Emissions	Low Fuel		Low Fuel		Low Fuel	
Performance number	EM2880-02		EM2881-02		DM8445-04	
<b>Fuel Consumption</b>						
100% load with fan – L/hr (gal/hr)	554.2	(146.4)	554.2	(146.4)	505.2	(133.5)
75% load with fan – L/hr (gal/hr)	423.7	(111.9)	423.7	(111.9)	385.0	(101.7)
50% load with fan – L/hr (gal/hr)	291.3	(76.9)	291.3	(76.9)	270.3	(71.4)
25% load with fan – L/hr (gal/hr)	175.9	(46.5)	175.9	(46.5)	166.0	(43.8)
<b>Cooling System</b>						
Radiator air flow restriction (system) – kPa (in. water)	0.12	(0.48)	0.12	(0.48)	0.12	(0.48)
Radiator air flow – m <sup>3</sup> /min (cfm)	2378	(83978)	2378	(83978)	2378	(83978)
Engine coolant capacity – L (gal)	233.2	(61.6)	233.2	(61.6)	233.2	(61.6)
Radiator coolant capacity – L (gal)	180.0	(47.6)	180.0	(47.6)	180.0	(47.6)
Total coolant capacity – L (gal)	413.2	(109.2)	413.2	(109.2)	413.2	(109.2)
<b>Inlet Air</b>						
Combustion air inlet flow rate – m <sup>3</sup> /min (cfm)	183.7	(6486.7)	183.7	(6486.7)	171.2	(6045.2)
<b>Exhaust System</b>						
Exhaust stack gas temperature – °C (°F)	477.8	(892.0)	477.8	(892.0)	465.8	(870.4)
Exhaust gas flow rate – m <sup>3</sup> /min (cfm)	484.2	(17097.8)	484.2	(17097.8)	444.2	(15685.0)
Exhaust system backpressure (maximum allowable) – kPa (in. water)	6.7	(27.0)	6.7	(27.0)	6.7	(27.0)
<b>Heat Rejection</b>						
Heat rejection to jacket water – kW (Btu/min)	757	(43050)	757	(43050)	721	(41002)
Heat rejection to exhaust (total) – kW (Btu/min)	2168	(123295)	2168	(123295)	1964	(111690)
Heat rejection to aftercooler – kW (Btu/min)	594	(33781)	594	(33781)	514	(29230)
Heat rejection to atmosphere from engine – kW (Btu/min)	147	(8360)	147	(8360)	142	(8075)
Heat rejection from alternator – kW (Btu/min)	106	(6034)	106	(6034)	94	(5357)
<b>Emissions* (Nominal)</b>						
NOx mg/Nm <sup>3</sup> (g/hp-h)	2575.8	(5.25)	2575.8	(5.25)	2437.8	(4.97)
CO mg/Nm <sup>3</sup> (g/hp-h)	185.6	(0.38)	185.6	(0.38)	202.5	(0.41)
HC mg/Nm <sup>3</sup> (g/hp-h)	8.1	(0.02)	8.1	(0.02)	11.1	(0.02)
PM mg/Nm <sup>3</sup> (g/hp-h)	9.5	(0.02)	9.5	(0.02)	6.5	(0.01)
<b>Emissions* (Potential Site Variation)</b>						
NOx mg/Nm <sup>3</sup> (g/hp-h)	3090.9	(6.31)	3090.9	(6.31)	2925.4	(5.96)
CO mg/Nm <sup>3</sup> (g/hp-h)	334.1	(0.68)	334.1	(0.68)	364.5	(0.74)
HC mg/Nm <sup>3</sup> (g/hp-h)	10.8	(0.02)	10.8	(0.02)	14.8	(0.03)
PM mg/Nm <sup>3</sup> (g/hp-h)	13.3	(0.03)	13.3	(0.03)	9.1	(0.02)

\*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)
6973 (274.5)	2339 (92.1)	3008 (118.4)	17 731 (39,090)

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 rated kW. 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 rated kW. Typical peak demand up to 100% of rated kW for up to 5% of the operating time. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

### Prime

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

### Applicable Codes and Standards

AS 1359, IBC, IEC 60034-1, ISO 3046, ISO 8528, NEMA MG1-22, NEMA MG1-33, 2014/35/EU, 2006/42/EC, 2014/30/EU and facilitates compliance to NFPA 37, NFPA 70, NFPA 99, NFPA 110.

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

### Data Center Applications

- 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 consumption reported in accordance with ISO 3046-1, 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 15°C (59°F) and weighing 850 g/liter (7.0936 lbs/U.S. gal.) All fuel consumption values refer to rated engine power.

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

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