

# Cat® 3516E

## Diesel Generator Sets



Image shown may not reflect actual configuration

Bore – mm (in)	170 (6.69)
Stroke – mm (in)	215 (8.47)
Displacement – L (in <sup>3</sup> )	78.1 (4766)
Compression Ratio	14.7:1
Aspiration	TA
Fuel System	EUI
Governor Type	ADEM™ A5

Standby 60 Hz ekW (kVA)	Mission Critical 60 Hz ekW (kVA)	Performance Strategy
2750 (3437)	2750 (3437)	U.S. EPA Certified for Emergency Stationary Applications (Tier 2)

### Standard Features

#### Cat® Diesel Engine

- Meets U.S. EPA Stationary Emergency Use Only (Tier 2) emission standards
- 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 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

#### Muffler

- Industrial grade (15 dB)
- Critical grade (25 dB)
- Hospital grade (35 dB)

#### Starting

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

### Alternator

#### Output voltage

- 416V     12470V
- 480V     13200V
- 600V     13800V
- 4160V

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

- 150°C
- 125°C/130°C
- 105°C
- 80°C

#### Winding type

- Form wound

#### Excitation

- 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-P      LSIG-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

- 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

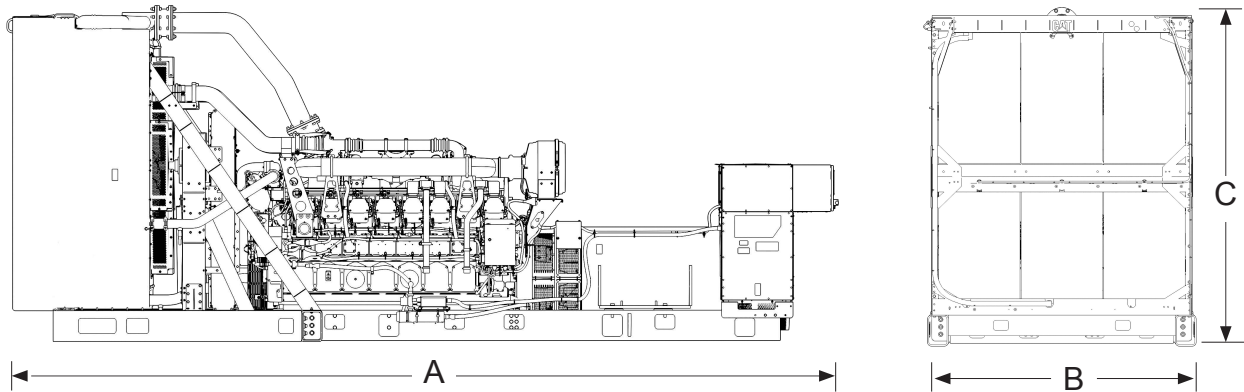
- UL2200
- CSA
- IBC seismic certification
- OSHPD pre-approval
- EEC Declaration of Conformity
- EU Declaration of Incorporation
- Eurasian Conformity (EAC) Mark

**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

Performance	Standby		Mission Critical	
Frequency	60 Hz		60 Hz	
Genset Power rating with fan	2750 ekW		2750 ekW	
Genset Power rating with fan @ 0.8 Power Factor	3437 kVA		3437 kVA	
Emissions	EPA ESE (Tier 2)		EPA ESE (Tier 2)	
Performance Number	EM2026-00		EM2116-00	
<b>Fuel Consumption</b>				
100% load with fan - L/hr (gal/hr)	735.6	(194.3)	735.6	(194.3)
75% load with fan - L/hr (gal/hr)	559.9	(147.9)	559.9	(147.9)
50% load with fan - L/hr (gal/hr)	406.7	(107.4)	406.7	(107.4)
25% load with fan - L/hr (gal/hr)	236.8	(62.6)	236.8	(62.6)
<b>Cooling System</b>				
Radiator Air flow restriction (system) - kPa (in. water)	0.12	(0.5)	0.12	(0.5)
Radiator airflow - m <sup>3</sup> /min (cfm)	3026	(106862)	3026	(106862)
Engine coolant capacity - L (gal)	233	(61.6)	233	(61.6)
Radiator coolant capacity - L (gal)	202	(53.3)	202	(53.3)
Total coolant capacity; L (gal)	435	(114.9)	435	(114.9)
<b>Inlet Air</b>				
Combustion air inlet flow rate; m <sup>3</sup> /min (cfm)	235.4	(8313.0)	235.4	(8313.0)
<b>Exhaust System</b>				
Exhaust stack gas temperature - °C (°F)	480.6	(897)	480.6	(897)
Exhaust gas flow rate - m <sup>3</sup> /min (cfm)	615.2	(21724.6)	615.2	(21724.6)
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)	898	(51083)	898	(51083)
Heat rejection to exhaust (total) - kW (Btu/min)	2867	(163046)	2867	(163046)
Heat rejection to aftercooler - kW (Btu/min)	874	(49686)	874	(49686)
Heat rejection to atmosphere from engine - kW (Btu/min)	160	(9085)	160	(9085)
Heat rejection from alternator - kW (Btu/min)	126	(7172)	126	(7172)
<b>Emissions (Nominal)</b>				
NOx mg/Nm <sup>3</sup> (g/hp-h)	2195.2	(5.12)	2195.2	(5.12)
CO mg/Nm <sup>3</sup> (g/hp-h)	283.4	(0.64)	283.4	(0.64)
HC mg/Nm <sup>3</sup> (g/hp-h)	39.8	(0.10)	39.8	(0.10)
PM mg/Nm <sup>3</sup> (g/hp-h)	24.7	(0.07)	24.7	(0.07)
<b>Emissions (Potential Site Variation)</b>				
NOx mg/Nm <sup>3</sup> (g/hp-h)	2634.2	(6.14)	2634.2	(6.14)
CO mg/Nm <sup>3</sup> (g/hp-h)	510.1	(1.16)	510.1	(1.16)
HC mg/Nm <sup>3</sup> (g/hp-h)	52.9	(0.14)	52.9	(0.14)
PM mg/Nm <sup>3</sup> (g/hp-h)	34.5	(0.09)	34.5	(0.09)

## Weights and Dimensions



Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Dry Weight kg (lb)
8238 (324)	2640 (104)	3342 (132)	18 480 (40,750)

**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

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

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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