# Cat® 3516C
## Diesel Generator Sets

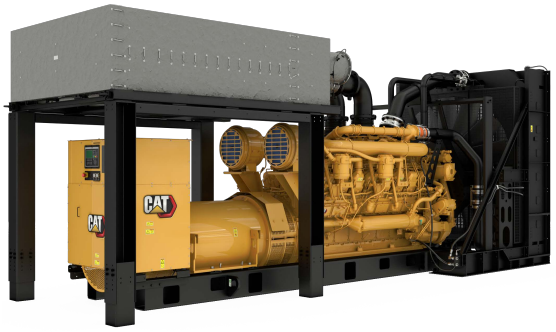


Image shown may not reflect actual configuration

| | |
|---|---|
| Bore – mm (in) | 170 (6.69) |
| Stroke – mm (in) | 215 (8.46) |
| Displacement – L ($in^3$) | 78 (4764.73) |
| Compression Ratio | 14.7:1 |
| Aspiration | TA |
| Fuel System | EUI |
| Governor Type | ADEM™ A4 |

| Standby<br>60 Hz ekW (kVA) | Mission Critical<br>60 Hz ekW (kVA) | Prime<br>60 Hz ekW (kVA) | Continuous<br>60 Hz ekW (kVA) | Emissions Performance |
|---|---|---|---|---|
| 2500 (3125) | 2500 (3125) | 2250 (2812) | 2050 (2562) | U.S. EPA Tier 4 Final |

## Features

### Cat® Diesel Engine
- Meets U.S. EPA Tier 4 Final emission standards
- 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

### Clean Emissions Module
- Diesel oxidation catalyst for particulate matter (PM) and hydrocarbon (HC) control
- Selective catalytic reduction (SCR) for nitrogen oxides (NOx) control
- Integrated electronics for monitoring, protection, and closed loop NOx control

### 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 (12 dB)

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

## Alternator

***Output voltage***
- ❑ 480V ❑ 6600V
- ❑ 600V ❑ 6900V
- ❑ 2400V ❑ 12470V
- ❑ 4160V ❑ 13200V
- ❑ 6300V ❑ 13800V

***Temperature Rise (over 40°C ambient)***
- ❑ 150°C
- ❑ 125°C/130°C
- ❑ 105°C
- ❑ 80°C

***Winding type***
- ❑ Random wound
- ❑ Form wound

***Excitation***
- ❑ Self excited
- ❑ 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
- ❑ LSIG-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

## 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

- ❑ IBC seismic certification
- ❑ OSHPD pre-approval

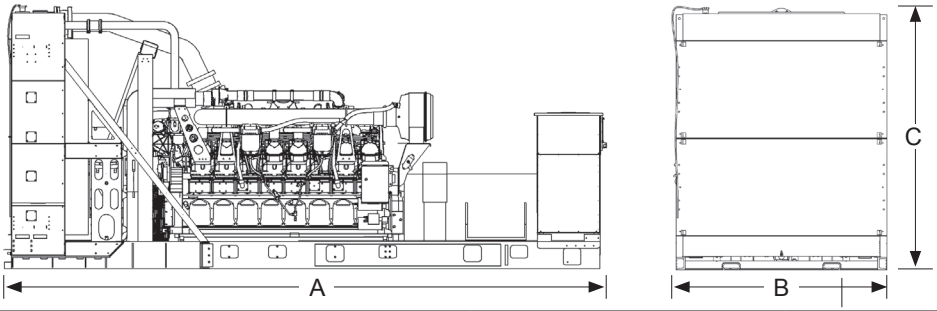
**Note:** *Some options may not be available on all models. Certifications may not be available with all model configurations. Consult factory for availability.*

## Package Performance

| Performance | Standby | | Mission Critical | | Prime | | Continuous | |
|---|---|---|---|---|---|---|---|---|
| Frequency | 60 Hz | | 60 Hz | | 60 Hz | | 60 Hz | |
| Gen set power rating with fan | 2500 ekW | | 2500 ekW | | 2250 ekW | | 2050 ekW | |
| Gen set power rating with fan @ 0.8 power factor | 3125 kVA | | 3125 kVA | | 2812 kVA | | 2562 kVA | |
| Emissions | Tier 4 Final | | Tier 4 Final | | Tier 4 Final | | Tier 4 Final | |
| Performance number | DM9370-02 | | DM9301-02 | | DM9371-03 | | DM9372-02 | |
| **Fuel Consumption** | | | | | | | | |
| 100% load with fan – L/hr (gal/hr) | 654.5 | (172.9) | 654.5 | (172.9) | 589.0 | (155.6) | 538.5 | (142.2) |
| 75% load with fan – L/hr (gal/hr) | 496.0 | (131.0) | 496.0 | (131.0) | 451.0 | (119.1) | 417.1 | (110.2) |
| 50% load with fan – L/hr (gal/hr) | 356.6 | (94.2) | 356.6 | (94.2) | 328.0 | (86.7) | 304.0 | (80.3) |
| 25% load with fan – L/hr (gal/hr) | 211.0 | (55.7) | 211.0 | (55.7) | 196.7 | (52.0) | 184.8 | (48.8) |
| **Diesel Exhaust Fluid (DEF) Consumption** | | | | | | | | |
| 100% load with fan – L/hr (gal/hr) | 50.8 | (13.4) | 50.8 | (13.4) | 43.8 | (11.6) | 39.1 | (10.3) |
| 75% load with fan – L/hr (gal/hr) | 35.0 | (9.2) | 35.0 | (9.2) | 30.1 | (7.9) | 26.0 | (6.9) |
| 50% load with fan – L/hr (gal/hr) | 18.1 | (4.8) | 18.1 | (4.8) | 15.7 | (4.1) | 13.8 | (3.6) |
| 25% load with fan – L/hr (gal/hr) | 7.7 | (2.0) | 7.7 | (2.0) | 6.7 | (1.8) | 6.1 | (1.6) |
| **Cooling System** | | | | | | | | |
| Radiator air flow restriction (system) – kPa (in. water) | 0.12 | (0.48) | 0.12 | (0.48) | 0.12 | (0.48) | 0.12 | (0.48) |
| Radiator air flow – $m^3$/min (cfm) | 3048.0 | (107639) | 3048.0 | (107639) | 3048.0 | (107639) | 3048.0 | (107639) |
| Engine coolant capacity – L (gal) | 233.0 | (61.6) | 233.0 | (61.6) | 233.0 | (61.6) | 233.0 | (61.6) |
| Radiator coolant capacity – L (gal) | 268.8 | (71.0) | 268.8 | (71.0) | 268.8 | (71.0) | 268.8 | (71.0) |
| Total coolant capacity – L (gal) | 501.8 | (132.6) | 501.8 | (132.6) | 501.8 | (132.6) | 501.8 | (132.6) |
| **Inlet Air** | | | | | | | | |
| Combustion air inlet flow rate – $m^3$/min (cfm) | 197.8 | (6983.8) | 197.8 | (6983.8) | 196.7 | (6577.3) | 175.7 | (6204.1) |
| **Exhaust System** | | | | | | | | |
| Exhaust stack gas temperature – °C (°F) | 522.9 | (973.3) | 522.7 | (973.3) | 505.0 | (941.1) | 493.5 | (920.3) |
| Exhaust gas flow rate – $m^3$/min (cfm) | 556.8 | (19661.9) | 556.8 | (19661.9) | 508.8 | (17966.0) | 469.7 | (16586.0) |
| Exhaust system backpressure (maximum allowable) – kPa (in. water) | 6.0 | (24.0) | 6.0 | (24.0) | 6.0 | (24.0) | 6.0 | (24.0) |
| CEM outlet temperature – °C (°F) | 501.7 | (935.0) | 501.7 | (935.0) | 488.1 | (910.6) | 478.9 | (894.0) |
| **Heat Rejection** | | | | | | | | |
| Heat rejection to jacket water – kW (Btu/min) | 841 | (47832) | 8412 | (47832) | 765 | (43514) | 716 | (40724) |
| Heat rejection to exhaust (total) – kW (Btu/min) | 2571 | (146192) | 2571 | (146192) | 2308 | (131244) | 2108 | (119903) |
| Heat rejection to aftercooler – kW (Btu/min) | 665 | (37839) | 665 | (37839) | 579 | (32928) | 504 | (28658) |
| Heat rejection to atmosphere from engine – kW (Btu/min) | 167 | (9525) | 167 | (9525) | 157 | (8945) | 152 | (8657) |
| Heat rejection to atmosphere from CEM – kW (Btu/min) | 90.0 | (5098) | 90.0 | (5098) | 90.0 | (5098) | 85.6 | (4874) |
| Heat rejection from alternator – kW (Btu/min) | 121 | (6853) | 121 | (6853) | 106 | (6028) | 94 | (5368) |

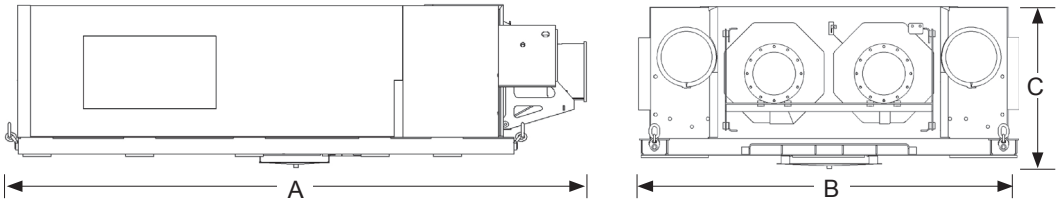
# 3516C Diesel Generator Sets
# Electric Power

## Weights and Dimensions




| Dim "A" mm (in) | Dim "B" mm (in) | Dim "C" mm (in) | Dry Weight kg (lb) |
|---|---|---|---|
| 7033 (276.9) | 2569 (101.2) | 3016 (118.7) | 18 270 (40,280) |

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




| Dim "A" mm (in) | Dim "B" mm (in) | Dim "C" mm (in) | Dry Weight kg (lb) |
|---|---|---|---|
| 3460 (136.2) | 2257 (88.9) | 895 (35.2) | 2064 (4550) |

## 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.

**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 ekW 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**
AS 1359, CSA C22.2 No. 100-04, UL 142, UL 489, UL 869, UL 2200, 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**
- 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 35º API [16°C (60ºF)] gravity having an LHV of 42,780 kJ/kg (18,390 Btu/lb) when used at 29ºC (85ºF) and weighing 838.9 g/liter (7.001 lbs/U.S. gal.)

www.cat.com/electricpower