**Cat® 3516**

**Diesel Generator Sets**

Bore – mm (in) 170 (6.69)

Stroke – mm (in) 190 (7.48)

Displacement – L (in³) 69 (4210.64)

Compression Ratio 13.0:1

Aspiration TA

Fuel System MUI

Governor Type Mechanical

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**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

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**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

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<table>
<thead>
<tr>
<th>Standby 50 Hz kVA (e kW)</th>
<th>Mission Critical 50 Hz kVA (e kW)</th>
<th>Prime 50 Hz kVA (e kW)</th>
<th>Continuous 50 Hz kVA (e kW)</th>
<th>Emissions Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000 (1600)</td>
<td>2000 (1600)</td>
<td>1825 (1460)</td>
<td>1600 (1280)</td>
<td>Optimized for Low Fuel Consumption</td>
</tr>
</tbody>
</table>

**Emissions Performance**
- Optimized for Low Fuel Consumption
## Optional Equipment

### Engine
- **Air Cleaner**
  - Single element
  - Dual element
  - Heavy duty
- **Muffler**
  - Industrial grade (15 dB)
  - Residential grade (25 dB)
  - Critical grade (35 dB)
- **Starting**
  - Standard batteries
  - Oversized batteries
  - Standard electric starter(s)
  - Dual electric starter(s)
  - Jacket water heater

### Power Termination
- **Type**
  - Bus bar
  - Circuit breaker
  - 2000A
  - 3200A
  - 2500A
  - 4000A
  - IEC
  - 3-pole
  - Electrically operated
- **Trip Unit**
  - LSI
  - LSI-G
  - 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
  - 20A
  - 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
- EU Declaration of Conformity
- EU Declaration of Incorporation
- Eurasian Conformity (EAC)
- Telecommunication Lab of China

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**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

<table>
<thead>
<tr>
<th>Performance</th>
<th>Standby</th>
<th>Mission Critical</th>
<th>Prime</th>
<th>Continuous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>50 Hz</td>
<td>50 Hz</td>
<td>50 Hz</td>
<td>50 Hz</td>
</tr>
<tr>
<td>Gen set power rating with fan</td>
<td>1600 ekW</td>
<td>1600 ekW</td>
<td>1460 ekW</td>
<td>1280 ekW</td>
</tr>
<tr>
<td>Gen set power rating with fan @ 0.8 power factor</td>
<td>2000 kVA</td>
<td>2000 kVA</td>
<td>1825 kVA</td>
<td>1600 kVA</td>
</tr>
<tr>
<td>Emissions</td>
<td>Low Fuel</td>
<td>Low Fuel</td>
<td>Low Fuel</td>
<td>Low Fuel</td>
</tr>
<tr>
<td>Performance number</td>
<td>DM7961-03</td>
<td>EM0609-01</td>
<td>DM7962-01</td>
<td>DM7963-02</td>
</tr>
</tbody>
</table>

### Fuel Consumption

<table>
<thead>
<tr>
<th>Load</th>
<th>100% load with fan – L/hr (gal/hr)</th>
<th>75% load with fan – L/hr (gal/hr)</th>
<th>50% load with fan – L/hr (gal/hr)</th>
<th>25% load with fan – L/hr (gal/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>419.1 (110.7)</td>
<td>315.8 (83.4)</td>
<td>224.5 (59.3)</td>
<td>130.5 (34.5)</td>
</tr>
<tr>
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<td>419.1 (110.7)</td>
<td>315.8 (83.4)</td>
<td>224.5 (59.3)</td>
<td>130.5 (34.5)</td>
</tr>
<tr>
<td></td>
<td>382.7 (101.1)</td>
<td>292.1 (77.2)</td>
<td>209.2 (55.3)</td>
<td>123.5 (32.6)</td>
</tr>
<tr>
<td></td>
<td>337.0 (89.0)</td>
<td>260.6 (68.8)</td>
<td>187.5 (49.5)</td>
<td>112.6 (29.7)</td>
</tr>
</tbody>
</table>

### Cooling System

<table>
<thead>
<tr>
<th>Coolant Capacity</th>
<th>Radiator air flow restriction (system) – kPa (in. water)</th>
<th>Radiator air flow – m³/min (cfm)</th>
<th>Engine coolant capacity – L (gal)</th>
<th>Radiator coolant capacity – L (gal)</th>
<th>Total coolant capacity – L (gal)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.12 (0.48)</td>
<td>1946 (68722)</td>
<td>233.0 (61.6)</td>
<td>144.0 (38.0)</td>
<td>377.0 (99.6)</td>
</tr>
<tr>
<td></td>
<td>0.12 (0.48)</td>
<td>1946 (68722)</td>
<td>233.0 (61.6)</td>
<td>144.0 (38.0)</td>
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<td>233.0 (61.6)</td>
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<td>377.0 (99.6)</td>
</tr>
</tbody>
</table>

### Inlet Air

<table>
<thead>
<tr>
<th>Load</th>
<th>Combustion air inlet flow rate – m³/min (cfm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100% load with fan</td>
<td>124.5 (4396.2)</td>
</tr>
<tr>
<td>75% load with fan</td>
<td>124.5 (4396.2)</td>
</tr>
<tr>
<td>50% load with fan</td>
<td>115.7 (4085.5)</td>
</tr>
<tr>
<td>25% load with fan</td>
<td>104.5 (61.6)</td>
</tr>
</tbody>
</table>

### Exhaust System

<table>
<thead>
<tr>
<th>Exhaust Stack Gas Temperature – °C (°F)</th>
<th>Exhaust Gas Flow Rate – m³/min (cfm)</th>
<th>Exhaust System Backpressure (Maximum Allowable) – kPa (in. water)</th>
</tr>
</thead>
<tbody>
<tr>
<td>490.3 (914.5)</td>
<td>333.0 (11758.4)</td>
<td>0.7 (27.0)</td>
</tr>
<tr>
<td>490.3 (914.5)</td>
<td>333.0 (11758.4)</td>
<td>0.7 (27.0)</td>
</tr>
<tr>
<td>477.6 (891.7)</td>
<td>304.2 (10741.6)</td>
<td>6.7 (27.0)</td>
</tr>
<tr>
<td>464.5 (868.1)</td>
<td>270.3 (9544.6)</td>
<td>6.7 (27.0)</td>
</tr>
</tbody>
</table>

### Heat Rejection

<table>
<thead>
<tr>
<th>Heat Rejection to Jacket Water – kW (Btu/min)</th>
<th>Heat Rejection to Exhaust (Total) – kW (Btu/min)</th>
<th>Heat Rejection to Aftercooler – kW (Btu/min)</th>
<th>Heat Rejection to Atmosphere from Engine – kW (Btu/min)</th>
<th>Heat Rejection from Alternator – kW (Btu/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1051 (59769)</td>
<td>1527 (86838)</td>
<td>234 (13307)</td>
<td>116 (9440)</td>
<td>77 (4385)</td>
</tr>
<tr>
<td>1051 (59769)</td>
<td>1527 (86838)</td>
<td>191 (10862)</td>
<td>159 (9042)</td>
<td>69 (3913)</td>
</tr>
<tr>
<td>961 (54651)</td>
<td>1380 (78480)</td>
<td>137 (7791)</td>
<td>149 (8474)</td>
<td>60 (3429)</td>
</tr>
<tr>
<td>848 (48226)</td>
<td>1206 (68585)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Emissions* (Nominal)

<table>
<thead>
<tr>
<th>Emissions</th>
<th>NOx mg/Nm³ (g/hp-h)</th>
<th>CO mg/Nm³ (g/hp-h)</th>
<th>HC mg/Nm³ (g/hp-h)</th>
<th>PM mg/Nm³ (g/hp-h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOx mg/Nm³ (g/hp-h)</td>
<td>6743.6 (14.17)</td>
<td>354.7 (0.74)</td>
<td>104.2 (0.22)</td>
<td>34.1 (0.07)</td>
</tr>
<tr>
<td>CO mg/Nm³ (g/hp-h)</td>
<td>6743.6 (14.17)</td>
<td>354.7 (0.74)</td>
<td>104.2 (0.22)</td>
<td>34.1 (0.07)</td>
</tr>
<tr>
<td>HC mg/Nm³ (g/hp-h)</td>
<td>7168.2 (14.99)</td>
<td>328.6 (0.69)</td>
<td>95.7 (0.20)</td>
<td>34.7 (0.07)</td>
</tr>
<tr>
<td>PM mg/Nm³ (g/hp-h)</td>
<td>7553.0 (15.80)</td>
<td>359.8 (0.75)</td>
<td>86.9 (0.18)</td>
<td>35.5 (0.07)</td>
</tr>
</tbody>
</table>

### Emissions* (Potential Site Variation)

<table>
<thead>
<tr>
<th>Emissions</th>
<th>NOx mg/Nm³ (g/hp-h)</th>
<th>CO mg/Nm³ (g/hp-h)</th>
<th>HC mg/Nm³ (g/hp-h)</th>
<th>PM mg/Nm³ (g/hp-h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOx mg/Nm³ (g/hp-h)</td>
<td>8092.3 (17.00)</td>
<td>638.5 (1.34)</td>
<td>138.6 (0.29)</td>
<td>47.7 (0.10)</td>
</tr>
<tr>
<td>CO mg/Nm³ (g/hp-h)</td>
<td>8092.3 (17.00)</td>
<td>638.5 (1.34)</td>
<td>138.6 (0.29)</td>
<td>47.7 (0.10)</td>
</tr>
<tr>
<td>HC mg/Nm³ (g/hp-h)</td>
<td>8601.8 (17.98)</td>
<td>591.5 (1.24)</td>
<td>127.3 (0.27)</td>
<td>48.6 (0.10)</td>
</tr>
<tr>
<td>PM mg/Nm³ (g/hp-h)</td>
<td>9063.6 (18.96)</td>
<td>647.6 (1.35)</td>
<td>115.6 (0.24)</td>
<td>49.7 (0.10)</td>
</tr>
</tbody>
</table>

*mg/Nm³ levels are corrected to 5% O₂. Contact your local Cat dealer for further information.
Weights and Dimensions

<table>
<thead>
<tr>
<th>Dim “A” mm (in)</th>
<th>Dim “B” mm (in)</th>
<th>Dim “C” mm (in)</th>
<th>Dry Weight kg (lb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5953 (234.4)</td>
<td>2286 (90.0)</td>
<td>2410 (94.9)</td>
<td>15 350 (33,840)</td>
</tr>
</tbody>
</table>

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.

**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**

**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 (60°F)] 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.)