

# Cat® 3512C

## Diesel Generator Sets



|                                     |                |
|-------------------------------------|----------------|
| Bore – mm (in)                      | 170 (6.69)     |
| Stroke – mm (in)                    | 190 (7.48)     |
| Displacement – L (in <sup>3</sup> ) | 51.8 (3161.03) |
| Compression Ratio                   | 14.7:1         |
| Aspiration                          | TA             |
| Fuel System                         | EUI            |
| Governor Type                       | ADEM™ A3       |

Image shown may not reflect actual configuration

| 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                            |
|----------------------------|-------------------------------------|--------------------------|-------------------------------|--|
| 1500 (1875)                | 1500 (1875)                         | 1360 (1700)              | 1230 (1537)                   | U.S. EPA Stationary Emergency Use Only. (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 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)
- Dual electric starter(s)
- Air starter(s)
- Jacket water heater

### Alternator

#### Output voltage

- 380V     6600V
- 440V     6900V
- 480V     12470V
- 600V     13200V
- 4160V    13800V
- 6300V

#### 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     3200A
- 3000A
- UL         IEC
- 3-pole     4-pole
- Manually operated
- 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
- 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

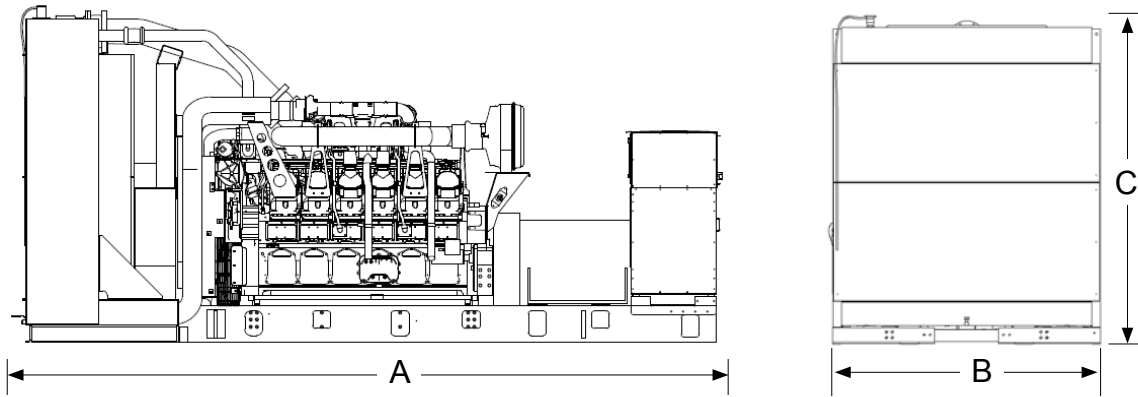
**Note:** Some options may not be available on all models. Certifications may not be available with all model configurations. Consult factory for availability.

## Package Performance

| Performance   | Standby                           |           | Mission Critical                  |           | Prime                             |           | Continuous                        |           |
|---|-----------------------------------|-----------|-----------------------------------|-----------|-----------------------------------|-----------|-----------------------------------|-----------|
| Frequency   | 60 Hz                             |           | 60 Hz                             |           | 60 Hz                             |           | 60 Hz                             |           |
| Gen set power rating with fan                                     | 1500 ekW                          |           | 1500 ekW                          |           | 1360 ekW                          |           | 1230 ekW                          |           |
| Gen set power rating with fan @ 0.8 power factor                  | 1875 kVA                          |           | 1875 kVA                          |           | 1700 kVA                          |           | 1537 kVA                          |           |
| Emissions   | EPA Stationary Emergency (Tier 2) |           | EPA Stationary Emergency (Tier 2) |           | EPA Stationary Emergency (Tier 2) |           | EPA Stationary Emergency (Tier 2) |           |
| Performance number  | EM1898-00                         |           | EM1899-00                         |           | DM8261-04                         |           | DM8262-04                         |           |
| <b>Fuel Consumption</b>   |                                   |           |                                   |           |                                   |           |                                   |           |
| 100% load with fan – L/hr (gal/hr)                                | 395.9                             | (104.6)   | 395.9                             | (104.6)   | 364.1                             | (96.2)    | 336.9                             | (89.0)    |
| 75% load with fan – L/hr (gal/hr)                                 | 310.5                             | (82.0)    | 310.5                             | (82.0)    | 285.8                             | (75.5)    | 262.2                             | (69.3)    |
| 50% load with fan – L/hr (gal/hr)                                 | 219.7                             | (58.0)    | 219.7                             | (58.0)    | 201.7                             | (53.3)    | 185.0                             | (48.9)    |
| 25% load with fan – L/hr (gal/hr)                                 | 128.4                             | (33.9)    | 128.4                             | (33.9)    | 119.7                             | (31.6)    | 111.7                             | (29.5)    |
| <b>Cooling System</b>   |                                   |           |                                   |           |                                   |           |                                   |           |
| 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 <sup>3</sup> /min (cfm)                     | 2075                              | (73278)   | 2075                              | (73278)   | 2075                              | (73278)   | 2075                              | (73278)   |
| Engine coolant capacity – L (gal)                                 | 156.8                             | (41.4)    | 156.8                             | (41.4)    | 156.8                             | (41.4)    | 156.8                             | (41.4)    |
| Radiator coolant capacity – L (gal)                               | 234                               | (61)      | 234                               | (61)      | 234                               | (61)      | 234                               | (61)      |
| Total coolant capacity – L (gal)                                  | 390.8                             | (102.4)   | 390.8                             | (102.4)   | 390.8                             | (102.4)   | 390.8                             | (102.4)   |
| <b>Inlet Air</b>  |                                   |           |                                   |           |                                   |           |                                   |           |
| Combustion air inlet flow rate – m <sup>3</sup> /min (cfm)        | 139.8                             | (4937.2)  | 139.8                             | (4937.2)  | 134.8                             | (4758.3)  | 129.5                             | (4572.1)  |
| <b>Exhaust System</b>   |                                   |           |                                   |           |                                   |           |                                   |           |
| Exhaust stack gas temperature – °C (°F)                           | 402.6                             | (756.6)   | 402.6                             | (756.6)   | 387.3                             | (729.2)   | 380.6                             | (717.1)   |
| Exhaust gas flow rate – m <sup>3</sup> /min (cfm)                 | 332.3                             | (11734.1) | 332.3                             | (11734.1) | 312.2                             | (11022.8) | 296.4                             | (10466.9) |
| Exhaust system backpressure (maximum allowable) – kPa (in. water) | 6.7                               | (27.0)    | 6.7                               | (27.0)    | 6.7                               | (27.0)    | 6.7                               | (27.0)    |
| <b>Heat Rejection</b>   |                                   |           |                                   |           |                                   |           |                                   |           |
| Heat rejection to jacket water – kW (Btu/min)                     | 502                               | (28541)   | 502                               | (28541)   | 474                               | (26951)   | 449                               | (25556)   |
| Heat rejection to exhaust (total) – kW (Btu/min)                  | 1398                              | (79477)   | 1398                              | (79477)   | 1284                              | (73015)   | 1202                              | (68380)   |
| Heat rejection to aftercooler – kW (Btu/min)                      | 519                               | (29539)   | 519                               | (29539)   | 478                               | (27174)   | 438                               | (24921)   |
| Heat rejection to atmosphere from engine – kW (Btu/min)           | 124                               | (7072)    | 124                               | (7072)    | 119                               | (6744)    | 114                               | (6473)    |
| Heat rejection from alternator – kW (Btu/min)                     | 74                                | (4208)    | 74                                | (4208)    | 64                                | (3645)    | 69                                | (3913)    |
| <b>Emissions* (Nominal)</b>                                       |                                   |           |                                   |           |                                   |           |                                   |           |
| NOx mg/Nm <sup>3</sup> (g/hp-h)                                   | 2373.9                            | (5.48)    | 2373.9                            | (5.48)    | 2363.9                            | (5.46)    | 1691.5                            | (4.04)    |
| CO mg/Nm <sup>3</sup> (g/hp-h)                                    | 237.3                             | (0.48)    | 237.3                             | (0.48)    | 236.6                             | (0.48)    | 195.6                             | (0.41)    |
| HC mg/Nm <sup>3</sup> (g/hp-h)                                    | 51.7                              | (0.12)    | 51.7                              | (0.12)    | 52.0                              | (0.12)    | 64.8                              | (0.16)    |
| PM mg/Nm <sup>3</sup> (g/hp-h)                                    | 13.0                              | (0.03)    | 13.0                              | (0.03)    | 13.0                              | (0.03)    | 15.4                              | (0.04)    |
| <b>Emissions* (Potential Site Variation)</b>                      |                                   |           |                                   |           |                                   |           |                                   |           |
| NOx mg/Nm <sup>3</sup> (g/hp-h)                                   | 2848.7                            | (6.58)    | 2848.7                            | (6.58)    | 2836.7                            | (6.55)    | 2029.8                            | (4.85)    |
| CO mg/Nm <sup>3</sup> (g/hp-h)                                    | 427.2                             | (0.87)    | 427.2                             | (0.87)    | 425.8                             | (0.86)    | 352.1                             | (0.74)    |
| HC mg/Nm <sup>3</sup> (g/hp-h)                                    | 68.8                              | (0.16)    | 68.8                              | (0.16)    | 69.2                              | (0.16)    | 86.2                              | (0.21)    |
| PM mg/Nm <sup>3</sup> (g/hp-h)                                    | 18.2                              | (0.04)    | 18.2                              | (0.04)    | 18.3                              | (0.04)    | 21.5                              | (0.05)    |

\*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"<br>mm (in) | Dim "B"<br>mm (in) | Dim "C"<br>mm (in) | Dry Weight<br>kg (lb) |
|--------------------|--------------------|--------------------|-----------------------|
| 5920 (233.1)       | 2281 (89.8)        | 2794 (110.0)       | 13 970 (30,790)       |

**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

AS 1359, CSA C22.2 No. 100-04, UL 142, UL 489, UL 869, UL 2200, NFPA37, NFPA70, NFPA99, NFPA110, 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

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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