

# Cat® G3512

## Gas Generator Sets



Image shown may not reflect actual configuration

|                                     |                               |
|-------------------------------------|-------------------------------|
| Bore – mm (in)                      | 170 (6.7)                     |
| Stroke – mm (in)                    | 190 (7.5)                     |
| Displacement – L (in <sup>3</sup> ) | 52 (3173)                     |
| Compression Ratio                   | 9.7                           |
| Aspiration                          | Turbocharged                  |
| Fuel System                         | Electronic Fuel Control Valve |
| Governor Type                       | ADEM™ A4                      |

| Standby and Continuous<br>60 Hz ekW (kVA) | Emissions Performance                |
|---|--------------------------------------|
| 1000 (1250)                               | NOx Selectable (0.5 to 2.0 g/bhp-hr) |
| 750 (938)                                 | NOx Selectable (0.5 to 2.0 g/bhp-hr) |

### Standard Features

#### Cat® Natural Gas Engine

- Robust high speed block design provides prolonged life and lower owning and operating costs
- Designed for maximum performance on low pressure gaseous fuel supply
- Simple open chamber combustion system for reliability and fuel flexibility
- Twelve cylinder design to optimize transient performance

#### Generator Set Package

- Accepts 100% block load in one step
- Designed to meet NFPA 110, Type 10 starting and loading requirements
- Conforms to ISO 8528-5 G3 load acceptance and steady state criteria
- Reliability verified through torsional vibration, fuel consumption, oil consumption, transient performance, and endurance testing

#### Generators

- Superior motor starting capability minimizes need for oversizing generator
- Designed to match performance and output characteristics of Cat engines

#### Cooling System

- Cooling systems available to operate in ambient temperatures up to 43°C (110°F)
- Package tested to ensure proper cooling of complete generator set

#### 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 ratings
- 12 months/unlimited hour warranty for continuous ratings
- Extended service coverage 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)**

- Installed
- Supplied loose

#### **Muffler**

- Industrial grade (15 dB)
- Residential grade (18 dB)
- Critical grade (25 dB)
- Spark arresting

#### **Starting**

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

### Generators

#### **Output voltage**

- 208V     2400V
- 220V     4160V
- 240V     12470V
- 380V     13200V
- 440V     13800V
- 480V
- 600V

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

- 150°C
- 125°C/130°C
- 105°C
- 80°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
- 400A     800A
- 1200A    1600A
- 2000A    2500A
- 3200A    4000A
- UL         IEC
- 3-pole    4-pole
- Manually operated

- Electrically operated

#### **Trip Unit**

- LSI
- LSI-G
- LSI-G-P

### Enclosure

- Weather protective
- Sound attenuated

#### **Attachments**

- Cold weather bundle
- DC lighting package
- AC lighting package
- Motorized louvers

### Fuel System Pressure

- Standard
- Low

### Control System

#### **Controller**

- EMCP 4.3
- EMCP 4.4

#### **Attachments**

- Local annunciator module
- Remote annunciator module
- Load share module
- Remote monitoring software

### Charging

- Battery charger – 20A
- Battery charger – 35A
- Battery charger – 50A

### Vibration Isolators

- Rubber
- Spring
- Seismic rated

### Cat Connect

#### **Connectivity**

- Ethernet

### Extended Service Options

#### **Terms**

- 2 year
- 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

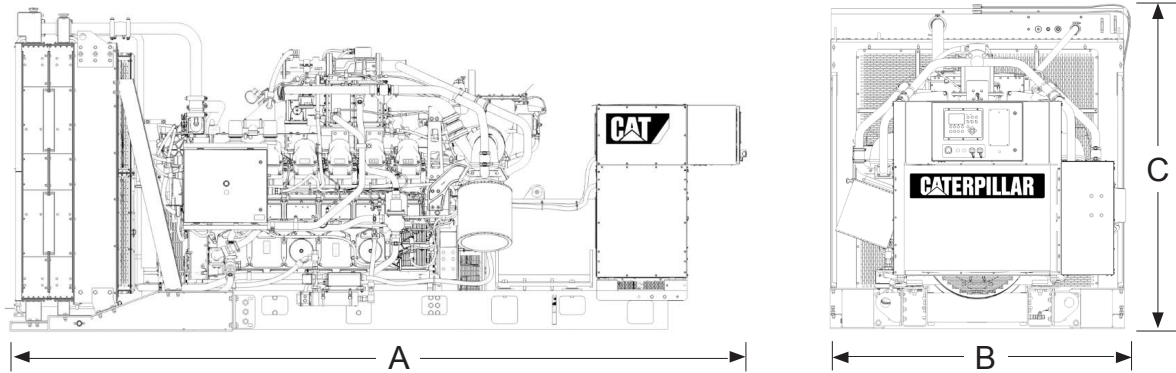
- UL 2200 Listed
- CSA Certified

**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 &amp; Continuous</b> |             |         |  |
|---|----------------|---------------------------------|-------------|---------|--|
| Frequency   | 60 Hz          |                                 |             |         |  |
| Genset power rating @ 0.8 power factor – kW (kVA)                               | 750 (938)      |                                 | 1000 (1250) |         |  |
| Emissions   | 2 g/bhp-hr NOx |                                 |             |         |  |
| Performance number  | EM2091-01      |                                 | EM1622-02   |         |  |
| <b>Fuel Consumption</b>   |                |                                 |             |         |  |
| 100% load with fan – MJ/ekW-hr (Btu/ekW-hr)                                     | 10.57          | (10025)                         | 10.05       | (9526)  |  |
| 75% load with fan – MJ/ekW-hr (Btu/ekW-hr)                                      | 11.39          | (10799)                         | 10.52       | (9971)  |  |
| 50% load with fan – MJ/ekW-hr (Btu/ekW-hr)                                      | 12.96          | (12287)                         | 11.57       | (10970) |  |
| <b>Cooling System</b>   |                |                                 |             |         |  |
| Radiator air flow restriction – kPa (in. water)                                 | 0.12           | (0.5)                           | 0.12        | (0.5)   |  |
| Radiator air flow – m <sup>3</sup> /min (cfm)                                   | 1830           | (64625)                         | 1830        | (64625) |  |
| Radiator ambient capability @ 304 m (1000 ft) – °C (°F)                         | 45             | (113)                           | 45          | (113)   |  |
| Auxiliary circuit temperature (maximum inlet) – °C (°F)                         | 54             | (130)                           | 54          | (130)   |  |
| Jacket water temperature (maximum outlet) – °C (°F)                             | 99             | (210)                           | 99          | (210)   |  |
| <b>Inlet Air</b>  |                |                                 |             |         |  |
| Combustion air inlet flow rate – Nm <sup>3</sup> /bKW-hr (ft <sup>3</sup> /min) | 4.38           | (2339)                          | 4.18        | (2941)  |  |
| <b>Altitude Capability</b>  |                |                                 |             |         |  |
| At 25°C (77°F) ambient, above sea level – m (ft)                                | 2910           | (9547)                          | 2025        | (6644)  |  |
| <b>Exhaust System</b>   |                |                                 |             |         |  |
| Exhaust temperature – engine outlet – °C (°F)                                   | 513            | (956)                           | 508         | (947)   |  |
| Exhaust Gas Flow – Nm <sup>3</sup> /bKW-hr (ft <sup>3</sup> /min)               | 4.67           | (6657)                          | 4.45        | (8320)  |  |
| Exhaust Gas Mass Flow – kg/bkW-hr (lb/hr)                                       | 5.87           | (10757)                         | 5.60        | (13527) |  |
| <b>Heat Rejection</b>   |                |                                 |             |         |  |
| Heat rejection to jacket water circuit (JW+AC1+OC) – kW (Btu/min)               | 486            | (27927)                         | 600         | (34126) |  |
| Heat rejection to jacket water – kW (Btu/min)                                   | 365            | (27668)                         | 422         | (24010) |  |
| Heat rejection to exhaust (LHV to 120°C/248°F) – kW (Btu/min)                   | 602            | (34230)                         | 748         | (42513) |  |
| Heat rejection to auxiliary circuit temperature – kW (Btu/min)                  | 65             | (3671)                          | 93          | (5272)  |  |
| Heat rejection to atmosphere from engine and generator – kW (Btu/min)           | 126            | (7185)                          | 151         | (8605)  |  |

## Weights and Dimensions



| Dim "A"<br>mm (in) | Dim "B"<br>mm (in) | Dim "C"<br>mm (in) | Dry Weight<br>kg (lb) |
|--------------------|--------------------|--------------------|-----------------------|
| 6011(236)          | 2809 (110)         | 2671 (105)         | 12,500 (27,500)       |

**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 an emergency outage. Average power output is 100% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

### Continuous

Output available with non-varying load for unlimited time. Average power output is 70-100% of the continuous power rating. Typical peak demand is 100% of continuous rating for 100% of the operating hours.

### Applicable Codes and Standards

AS 1359, CSA C22.2 No. 100-04, 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.

### Fuel Rates

- For transient response, ambient, and altitude capabilities consult your local Cat dealer.
- Fuel pressure range specified is to the engine fuel control valve. Additional fuel train components may be required and should be considered in pressure and flow calculations.
- For a complete reference of definitions and conditions see the following datasheets
  - 750ekw Standby
    - EM2091 w/fan - 2 g/bhp-hr NOx
    - EM2093 w/fan - 1 g/bhp-hr NOx
    - EM2095 w/fan - 0.5 g/bhp-hr NOx
    - EM2092 w/o fan - 2 g/bhp-hr NOx
    - EM2094 w/o fan - 1 g/bhp-hr NOx
    - EM2096 w/o fan - 0.5 g/bhp-hr NOx
  - 1000ekw Standby
    - EM1622 w/fan - 2 g/bhp-hr NOx
    - EM2089 w/fan - 1 g/bhp-hr NOx
    - EM2087 w/fan - 0.5 g/bhp-hr NOx
    - EM1623 w/o fan - 2 g/bhp-hr NOx
    - EM2090 w/o fan - 1 g/bhp-hr NOx
    - EM2088 w/o fan - 0.5 g/bhp-hr NOx

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

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