

# Cat® G3520 WITH FAST RESPONSE

## Gas Generator Sets



Bore – mm (in)	170 (6.7)
Stroke – mm (in)	215 (8.5)
Displacement – L (in³)	97.6 (5956)
Compression Ratio	11.5:1
Aspiration	Turbocharged
Fuel System	Electronic Fuel Control Valve
Governor Type	ADEM™ A4

Image shown may not reflect actual configuration

Standby and Continuous 60 Hz kW (kVA) w/Fan	Emissions Performance
2500 (3125)	NOx Selectable (0.5 to 1.0 g/bhp-hr)
2000 (2500)	NOx Selectable (0.5 to 1.0 g/bhp-hr)

### Standard Features

#### Cat® Natural Gas Engine

- Robust 20 cylinder high speed block design provides prolonged life and lower owning and operating costs
- Engineered for standby power
- Designed for maximum performance on low pressure gaseous fuel supply

#### Generator Set Package

- Accepts 100% block load in one step
- Facilitates compliance with NFPA 110, Type 10 starting and loading requirements (LV)
- Conforms to ISO 8528-5 G2 load acceptance 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

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

#### Cat Energy Control System (ECS)

- 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
- Graphical touchscreen display
- Easily upgradeable

#### Warranty

- 24 months/1000-hour warranty for standby ratings
- 12 months/unlimited hour warranty for 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)**

- 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**

- 440V  12470V
- 480V  13200V
- 600V  13800V
- 4160V

#### **Temperature Rise (over 40°C)**

- 150°C  105°C
- 125°C/130°C  80°C

#### **Winding type**

- Random wound
- Form wound

#### **Excitation**

- Permanent magnet (PM)

#### **Attachments**

- Anti-condensation heater
- Stator and bearing temperature monitoring and protection

### Radiator

- Factory Provided
- Dealer / Customer Provided

### 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**

- Cat ECS 100
- 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
- Cellular

### Extended Service Options

#### **Terms**

- 2 year
- 3 year
- 5 year
- 10 year

#### **Coverage**

- Silver
- Gold
- Platinum
- Platinum Plus

### Ancillary Equipment

- Automatic transfer switch (ATS)
- Paralleling switchgear
- Paralleling controls

### Certifications

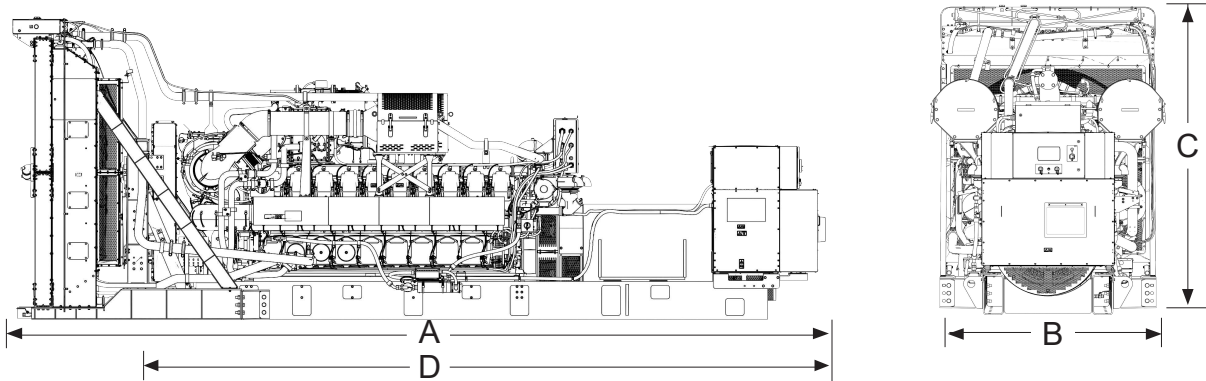
- ULC 2200 Listed
- OSHPD pre-approval

**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

<b>Performance</b>		<b>Standby &amp; Continuous</b>			
Frequency	60 Hz				
Genset power rating @ 0.8 power factor – kW (kVA)	2000 (2500)		2500 (3125)		
Emissions	1 g/bhp-hr NOx				
Performance number	EM4307		EM4304		
<b>Fuel Consumption</b>					
100% load with fan – MJ/ekW-hr (Btu/ekW-hr)	9.54	(9048)	9.32	(8836)	
75% load with fan – MJ/ekW-hr (Btu/ekW-hr)	9.91	(9394)	9.67	(9170)	
50% load with fan – MJ/ekW-hr (Btu/ekW-hr)	10.84	(10280)	10.39	(9851)	
<b>Cooling System (Optional Factory Radiator)</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)	1814	(64060)	3745	(132253)	
Radiator ambient capability @ 304 m (1000 ft) – °C (°F)	42	(107)	44	(112)	
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)	4.26	(6030)	4.24	(7378)	
<b>Altitude Capability</b>					
At 25°C (77°F) ambient, above sea level – m (ft)	2690	(8825)	1870	(6135)	
<b>Exhaust System</b>					
Exhaust temperature – engine outlet – °C (°F)	472	(881)	452	(846)	
Exhaust Gas Flow – Nm <sup>3</sup> /bkW-hr (ft <sup>3</sup> /min)	4.52	(16197)	4.50	(19297)	
Exhaust Gas Mass Flow – kg/bkW-hr (lb/hr)	5.70	(27670)	5.67	(33852)	
<b>Heat Rejection</b>					
Heat rejection to jacket water circuit (JW+AC1+OC) – kW (Btu/min)	1013	(57623)	1321	(75144)	
Heat rejection to jacket water – kW (Btu/min)	589	(33505)	731	(41593)	
Heat rejection to exhaust (LHV to 120°C/248°F) – kW (Btu/min)	1374	(78152)	1585	(90132)	
Heat rejection to auxiliary circuit – kW (Btu/min)	220	(12508)	304	(17288)	
Heat rejection to atmosphere from engine and generator – kW (Btu/min)	275	(15636)	296	(16838)	

## Weights and Dimensions



Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Dim "D" (w/o rad) mm (in)	Dry Weight kg (lb)
8534 (336)	3,168 (125)	3230 (128)	6736 (266)	22,000 (48,501)

**Note:** For reference only. Do not use for installation design, price list offers many sizes of generators & radiators. 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.

### Applicable Codes and Standards

AS 1359, ULC 2200 3rd edition, UL 489, UL 869A, 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.

### Fuel Rates

1. For transient response, ambient, and altitude capabilities consult your local Cat dealer.
2. 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.
3. For a complete reference of definitions and conditions see the following datasheets
  - a. 2000ekw Standby / Emergency - 1 g/bhp-hr NOx
    - i. Standard Alt - EM4307 & EM5121 w/fan
    - ii. Standard Alt - EM4301 & EM5118 w/o fan
  - b. 2000ekw Standby / Emergency - 0.5 g/bhp-hr NOx
    - i. Standard Alt - EM4306 & EM5120 w/fan
    - ii. Standard Alt - EM4300 & EM5117 w/o fan
  - c. 2500ekw Standby / Emergency - 1 g/bhp-hr NOx
    - i. Standard Alt - EM4304 & EM5544 w/fan
    - ii. Standard Alt - EM4298 & EM5538 w/o fan
    - iii. High Alt - EM5535 & EM5547 w/fan
    - iv. High Alt - EM5532 & EM5541 w/o fan
  - d. 2500ekw Standby / Emergency - 0.5 g/bhp-hr NOx
    - i. Standard Alt - EM4303 & EM5543 w/fan
    - ii. Standard Alt - EM4297 & EM5537 w/o fan
    - iii. High Alt - EM5534 & EM5546 w/fan
    - iv. High Alt - EM5531 & EM5540 w/o fan

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Materials and specifications are subject to change without notice. The International System of Units (SI) is used in this publication.