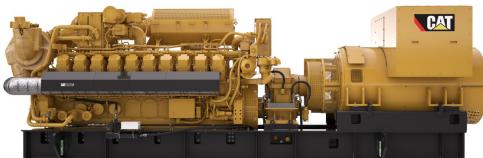


Cat® G3520H

60 Hz Continuous Gas Generator Sets



Bore – mm (in)	170 (6.7)
Stroke – mm (in)	215 (8.5)
Displacement – L (in³)	97.5 (5956)
Aspiration	Turbocharged
Fuel System	Electronic Fuel Control Valve
Governor Type	ADEM™ A4

Image shown may not reflect actual configuration

	Fuel Type	ekW (kVA)	Compression Ratio	Engine Speed – rpm
Humidity/Fuel Tolerant W/ Pumps	Natural Gas	2469 (3086)	11.1	1500
Humidity/Fuel Tolerant W/O Pumps	Natural Gas	2483 (3104)	11.1	1500
High Efficiency W/ Pumps	Natural Gas	2469 (3086)	12.1	1500
High Efficiency W/O Pumps	Natural Gas	2483 (3104)	12.1	1500

Standard Features

Cat® Engine

- Robust high speed block design provides prolonged life and lower owning and operating costs
- High power density and efficiency

Generator Set Package

- Top tier electrical efficiency
- Lowest maintenance and overhaul costs driven by low oil consumption, extended service intervals, and reduced downtime
- Capable of ISO 8528-5 Class G1 transient performance with specified load steps
- Complete genset reliability verified through torsional vibration, fuel consumption, oil consumption, transient performance, and endurance testing

Generators

- High-efficiency design
- Designed to match performance and output characteristics of Cat engines

Applications

- Caterpillar generator sets are capable of maximizing power production opportunities in an extensive range of industries

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

- 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	Generators	Control System
Air Cleaner	Output voltage	Controller
<input type="checkbox"/> Installed <input type="checkbox"/> Shipped loose	<input type="checkbox"/> 440V <input type="checkbox"/> 6300V <input type="checkbox"/> 480V <input type="checkbox"/> 6600V <input type="checkbox"/> 600V <input type="checkbox"/> 6900V <input type="checkbox"/> 2400V <input type="checkbox"/> 12470V <input type="checkbox"/> 4160V <input type="checkbox"/> 13200V <input type="checkbox"/> <input type="checkbox"/> 13800V	<input type="checkbox"/> EMCP 4.3 <input type="checkbox"/> EMCP 4.4
Cooling System	Temperature Rise (over 40°C ambient)	Attachments
<input type="checkbox"/> JW & SCAC engine driven pumps <input type="checkbox"/> RH JW outlet flange	<input type="checkbox"/> 105°C <input type="checkbox"/> 80°C	<input type="checkbox"/> Discrete I/O module <input type="checkbox"/> Load share module <input type="checkbox"/> Local annunciator module <input type="checkbox"/> Remote annunciator module <input type="checkbox"/> Remote monitoring software
Exhaust System	Attachments	Vibration Isolators
<input type="checkbox"/> Elbows <input type="checkbox"/> Expanders <input type="checkbox"/> Flanges <input type="checkbox"/> Flexible fittings	<input type="checkbox"/> Anti-condensation heater <input type="checkbox"/> Generator RTD module <input type="checkbox"/> Neutral Ground - LV <input type="checkbox"/> Cross-Current CT - HV <input type="checkbox"/> Differential CTs - HV <input type="checkbox"/> Shipped loose CT - HV	<input type="checkbox"/> Rubber <input type="checkbox"/> Spring <input type="checkbox"/> Seismic rated
Fuel System	Power Termination	Enclosure
<input type="checkbox"/> Gas train pressure sensors <input type="checkbox"/> Gas knockdown regulator	Type	<input type="checkbox"/> Weather protective <input type="checkbox"/> Sound attenuated
General	NEMA Bus bar - LV <input type="checkbox"/> Circuit breaker - LV <input type="checkbox"/>	Attachments
<input type="checkbox"/> Barring group		<input type="checkbox"/> Cold weather bundle <input type="checkbox"/> DC lighting package <input type="checkbox"/> AC lighting package <input type="checkbox"/> Motorized louvers
Lubrication	Circuit Breaker Options	Ancillary Equipment
<input type="checkbox"/> Lubricating oil (NGEO) <input type="checkbox"/> Oil level regulator <input type="checkbox"/> Positive crankcase ventilation <input type="checkbox"/> Electric prelube <input type="checkbox"/> Extended Life Oil Tank	<input type="checkbox"/> 5000A <input type="checkbox"/> UL <input type="checkbox"/> IEC <input type="checkbox"/> 3-pole <input type="checkbox"/> 4-pole <input type="checkbox"/> Manually operated <input type="checkbox"/> Electrically operated	<input type="checkbox"/> Automatic transfer switch (ATS) <input type="checkbox"/> Uninterruptible power supply (UPS) <input type="checkbox"/> Paralleling switchgear <input type="checkbox"/> Paralleling controls
Mufflers	Trip Unit Options	
<input type="checkbox"/> Industrial Grade (15dB) <input type="checkbox"/> Residential Grade (18dB) <input type="checkbox"/> Critical Grade (25dB) <input type="checkbox"/> Spark Arresting	<input type="checkbox"/> LSI <input type="checkbox"/> LSI-G <input type="checkbox"/> LSIG-P	
Protection System	Cat Connect	
<input type="checkbox"/> Explosion relief valves	Connectivity	
Starting/Charging	<input type="checkbox"/> Ethernet <input type="checkbox"/> Satellite <input type="checkbox"/> Cell	
<input type="checkbox"/> Charging alternator - 60A <input type="checkbox"/> Battery charger - 20A <input type="checkbox"/> Oversized batteries <input type="checkbox"/> Battery cables / racks <input type="checkbox"/> Air starters		

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

60 Hz Humidity/Fuel Tolerant Package Performance – AC and JW Pumps

Performance		Continuous			
Frequency		60 Hz		60 Hz	
Genset power rating @ 0.8 power factor – ekW (kVA)		2469	(3086)	2469	(3086)
Engine Speed – rpm		1500		1500	
Compression ratio		11.1		11.1	
NOx Emission Level – mg/Nm ³ (g/bhp-hr) NOx		251	(0.50)	519	(1.00)
Performance number		EM3737-00		EM3735-00	
Fuel Consumption					
100% load with fan – MJ/ekW-hr (Btu/ekW-hr)		8.56	(8116)	8.29	(7857)
75% load with fan – MJ/ekW-hr (Btu/ekW-hr)		8.76	(8306)	8.49	(8047)
50% load with fan – MJ/ekW-hr (Btu/ekW-hr)		9.26	(8783)	8.98	(8516)
Cooling System					
Auxiliary Circuit temperature (maximum inlet) – °C (°F)		54	(130)	54	(130)
Jacket water temperature (maximum outlet) – °C (°F)		99	(210)	99	(210)
Inlet Air					
Combustion air inlet flow rate (0°C, 101.3 kPa)/(77°F, 14.7 psia) – Nm ³ /bkW-hr (ft ³ /min)		4.05	(6690)	3.85	(6353)
Altitude Capability					
At 25°C (77°F) ambient, above sea level – m (ft)		975	(3199)	1500	(4921)
Exhaust System					
Exhaust temperature – engine outlet – °C (°F)		400	(751)	401	(753)
Exhaust gas flow (0°C, 101.3 kPa)/(77°F, 14.7 psia) – Nm ³ /bkW-hr (ft ³ /min)		4.30	(16224)	4.08	(15445)
Exhaust gas mass flow – kg/bkW-hr (lb/hr)		5.42	(30710)	5.15	(29180)
Heat Rejection					
Heat rejection to jacket water – kW (Btu/min)		664	(37743)	620	(35253)
Heat rejection to exhaust (LHV to 120°C/248°F) – kW (Btu/min)		1203	(68409)	1148	(65305)
Heat rejection to auxiliary circuit – kW (Btu/min)		343	(19489)	271	(15431)
Heat rejection to atmosphere from engine and generator – kW (Btu/min)		176	(9627)	170	(9277)
Heat rejection to jacket water circuit (JW+OC+AC1) – kW (Btu/min)		1363	(77495)	1349	(76730)

60 Hz High Efficiency Package Performance – AC and JW Pumps

		Continuous			
Performance					
Frequency		60 Hz		60 Hz	
Genset power rating @ 0.8 power factor – ekW (kVA)		2469	(3086)	2469	(3086)
Engine Speed – rpm		1500		1500	
Compression ratio		12.1		12.1	
NOx Emission Level – mg/Nm ³ (g/bhp-hr) NOx		256	(0.50)	530	(1.00)
Performance number		EM0915-04		EM0913-04	
Fuel Consumption					
100% load with fan – MJ/ekW-hr (Btu/ekW-hr)		8.38	(7942)	8.10	(7679)
75% load with fan – MJ/ekW-hr (Btu/ekW-hr)		8.53	(8091)	8.27	(7838)
50% load with fan – MJ/ekW-hr (Btu/ekW-hr)		8.93	(8466)	8.65	(8203)
Cooling System					
Auxiliary Circuit temperature (maximum inlet) – °C (°F)		48	(118)	48	(118)
Jacket water temperature (maximum outlet) – °C (°F)		99	(210)	99	(210)
Inlet Air					
Combustion air inlet flow rate (0°C, 101.3 kPa)/(77°F, 14.7 psia) – Nm ³ /bkW-hr (ft ³ /min)		4.01	(6621)	3.81	(6297)
Altitude Capability					
At 25°C (77°F) ambient, above sea level – m (ft)		900	(2953)	750	(2461)
Exhaust System					
Exhaust temperature – engine outlet – °C (°F)		391	(736)	394	(742)
Exhaust gas flow (0°C, 101.3 kPa)/(77°F, 14.7 psia) – Nm ³ /bkW-hr (ft ³ /min)		4.25	(15842)	4.05	(15159)
Exhaust gas mass flow – kg/bkW-hr (lb/hr)		5.36	(30382)	5.10	(28911)
Heat Rejection					
Heat rejection to jacket water – kW (Btu/min)		654	(37205)	593	(33713)
Heat rejection to exhaust (LHV to 120°C/248°F) – kW (Btu/min)		1110	(63134)	1093	(62167)
Heat rejection to auxiliary circuit – kW (Btu/min)		329	(18722)	284	(16130)
Heat rejection to atmosphere from engine and generator – kW (Btu/min)		192	(10525)	157	(8562)
Heat rejection to jacket water circuit (JW+OC+AC1) – kW (Btu/min)		1310	(74495)	1263	(71822)

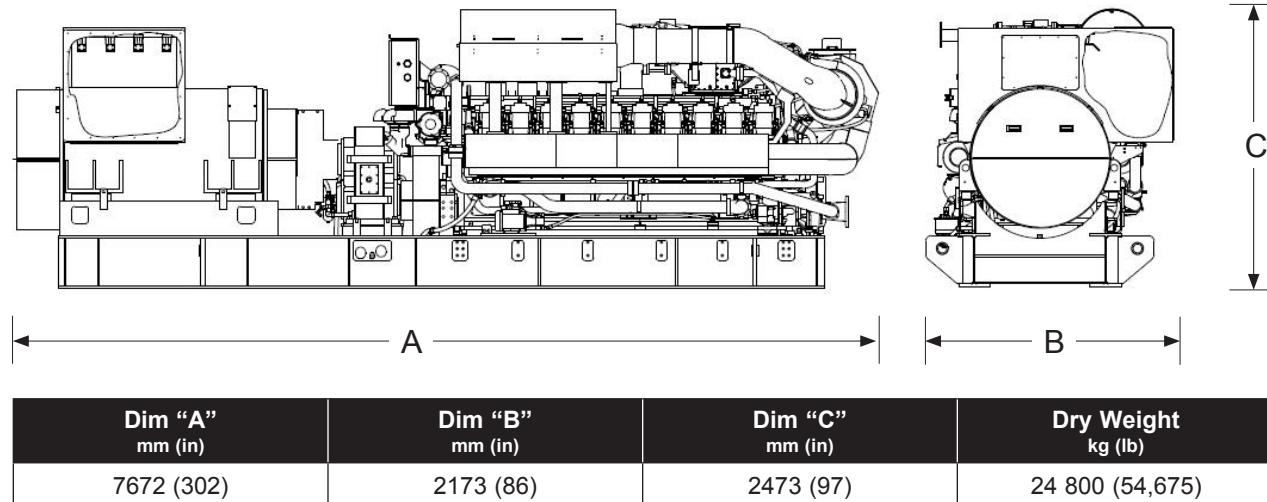
60 Hz Humidity/Fuel Tolerant Package Performance – No Pumps

Performance		Continuous			
Frequency		60 Hz		60 Hz	
Genset power rating @ 0.8 power factor – ekW (kVA)		2483	(3104)	2483	(3104)
Engine Speed – rpm		1500		1500	
Compression ratio		11.1		11.1	
NOx Emission Level – mg/Nm ³ (g/bhp-hr) NOx		252	(0.50)	523	(1.00)
Performance number		EM3736-00		EM3734-00	
Fuel Consumption					
100% load with fan – MJ/ekW-hr (Btu/ekW-hr)		8.51	(8067)	8.24	(7810)
75% load with fan – MJ/ekW-hr (Btu/ekW-hr)		8.69	(8241)	8.42	(7984)
50% load with fan – MJ/ekW-hr (Btu/ekW-hr)		9.16	(8683)	8.88	(8420)
Cooling System					
Auxiliary Circuit temperature (maximum inlet) – °C (°F)		54	(130)	54	(130)
Jacket water temperature (maximum outlet) – °C (°F)		99	(210)	99	(210)
Inlet Air					
Combustion air inlet flow rate (0°C, 101.3 kPa)/(77°F, 14.7 psia) – Nm ³ /bkW-hr (ft ³ /min)		4.03	(6686)	3.82	(6349)
Altitude Capability					
At 25°C (77°F) ambient, above sea level – m (ft)		975	(3199)	1500	(4921)
Exhaust System					
Exhaust temperature – engine outlet – °C (°F)		400	(751)	401	(753)
Exhaust gas flow (0°C, 101.3 kPa)/(77°F, 14.7 psia) – Nm ³ /bkW-hr (ft ³ /min)		4.27	(16216)	4.06	(15438)
Exhaust gas mass flow – kg/bkW-hr (lb/hr)		5.38	(30693)	5.12	(29164)
Heat Rejection					
Heat rejection to jacket water – kW (Btu/min)		664	(37760)	620	(35269)
Heat rejection to exhaust (LHV to 120°C/248°F) – kW (Btu/min)		1202	(68382)	1148	(65282)
Heat rejection to auxiliary circuit – kW (Btu/min)		342	(19471)	271	(15419)
Heat rejection to atmosphere from engine and generator – kW (Btu/min)		176	(9627)	170	(9283)
Heat rejection to jacket water circuit (JW+OC+AC1) – kW (Btu/min)		1363	(77481)	1349	(76715)

60 Hz High Efficiency Package Performance – No Pumps

		Continuous			
Performance		60 Hz		60 Hz	
Frequency		60 Hz		60 Hz	
Genset power rating @ 0.8 power factor – ekW (kVA)		2483	(3104)	2483	(3104)
Engine Speed – rpm		1500		1500	
Compression ratio		12.1		12.1	
NOx Emission Level – mg/Nm ³ (g/bhp-hr) NOx		258	(0.50)	533	(1.00)
Performance number		EM0914-04		EM0912-04	
Fuel Consumption					
100% load with fan – MJ/ekW-hr (Btu/ekW-hr)		8.33	(7894)	8.05	(7633)
75% load with fan – MJ/ekW-hr (Btu/ekW-hr)		8.47	(8027)	8.20	(7777)
50% load with fan – MJ/ekW-hr (Btu/ekW-hr)		8.83	(8368)	8.55	(8109)
Cooling System					
Auxiliary Circuit temperature (maximum inlet) – °C (°F)		48	(118)	48	(118)
Jacket water temperature (maximum outlet) – °C (°F)		99	(210)	99	(210)
Inlet Air					
Combustion air inlet flow rate (0°C, 101.3 kPa)/(77°F, 14.7 psia) – Nm ³ /bkW-hr (ft ³ /min)		3.98	(6617)	3.79	(6294)
Altitude Capability					
At 25°C (77°F) ambient, above sea level – m (ft)		900	(2953)	750	(2461)
Exhaust System					
Exhaust temperature – engine outlet – °C (°F)		391	(736)	394	(742)
Exhaust gas flow (0°C, 101.3 kPa)/(77°F, 14.7 psia) – Nm ³ /bkW-hr (ft ³ /min)		4.22	(15835)	4.02	(15152)
Exhaust gas mass flow – kg/bkW-hr (lb/hr)		5.33	(30365)	5.07	(28896)
Heat Rejection					
Heat rejection to jacket water – kW (Btu/min)		649	(36928)	593	(33728)
Heat rejection to exhaust (LHV to 120°C/248°F) – kW (Btu/min)		1115	(63381)	1092	(62126)
Heat rejection to auxiliary circuit – kW (Btu/min)		324	(18412)	283	(16118)
Heat rejection to atmosphere from engine and generator – kW (Btu/min)		192	(10547)	158	(8583)
Heat rejection to jacket water circuit (JW+OC+AC1) – kW (Btu/min)		1309	(74480)	1263	(71807)

Weights and Dimensions



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

Ratings Definitions

Continuous Power Rating

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 ekW for 100% of 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.

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 data sheets

a. **60 Hz 2469ekW Continuous / Standard (W/ Pumps)**

EM0913-04 (1.0 g/bhp-hr NOx) - High Efficiency
EM0915-04 (0.5 g/bhp-hr NOx) - High Efficiency
EM0917-04 (1.0 g/bhp-hr NOx) - High Response
EM0919-04 (0.5 g/bhp-hr NOx) - High Response
EM0921-04 (1.0 g/bhp-hr NOx) - High Altitude/Ambient
EM0923-04 (0.5 g/bhp-hr NOx) - High Altitude/Ambient
EM3735-00 (1.0 g/bhp-hr NOx) - Humidity/Fuel Tolerant
EM3737-00 (0.5 g/bhp-hr NOx) - Humidity/Fuel Tolerant

b. **60 Hz 2483ekW Continuous / Standard (W/O Pumps)**

EM0912-04 (1.0 g/bhp-hr NOx) - High Efficiency
EM0914-04 (0.5 g/bhp-hr NOx) - High Efficiency
EM0916-04 (1.0 g/bhp-hr NOx) - High Response
EM0918-04 (0.5 g/bhp-hr NOx) - High Response
EM0920-04 (1.0 g/bhp-hr NOx) - High Altitude/Ambient
EM0922-04 (0.5 g/bhp-hr NOx) - High Altitude/Ambient
EM3734-00 (1.0 g/bhp-hr NOx) - Humidity/Fuel Tolerant
EM3736-00 (0.5 g/bhp-hr NOx) - Humidity/Fuel Tolerant

<http://www.cat.com/powergeneration>

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