Cat® 3516B

Dynamic Gas Blending™ (DGB™) Generator Sets

Image shown may not reflect actual configuration

Bore – mm (in)	170 (6.69)
Stroke – mm (in)	190 (7.48)
Displacement – L (in^3)	69 (4210.64)
Compression Ratio	14.0:1
Aspiration	TA
Fuel System	EUI
Governor Type	ADEM™ A4

Prime 50 Hz kVA (ekW)	Continuous 50 Hz kVA (ekW)	Emissions Performance
2000 (1600)	1750 (1400)	Optimized for Low Fuel Consumption or Low Emissions

Features

Dynamic Gas Blending™ (DGB™) System

- DGB system automatically activates when gas supply is detected
- Reduces diesel consumption by up to 70% using gas substitution while maintaining safe engine operation
- Control system enables maximum substitution over the widest load range in the industry
- Maintains traditional diesel generator set power and transient response performance
- Accepts a wide range of gas quality and automatically adjusts to fuel quality changes, eliminating the need for field calibration
- Maintains existing diesel maintenance and overhaul intervals

Cat® Diesel Engine

- Designed and optimized for low emissions or 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 G2 load acceptance requirements
- Reliability verified through torsional vibration, fuel consumption, oil consumption, transient performance, and endurance testing

Alternators

- Superior motor starting capability minimizes the need for oversizing the generator
- Designed to match the 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

- EMCP 4.3/4.4 control panel is the single-point interface for the engine, generator, and DGB functions
- 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

Standard and Optional Equipment

Engine

Air Cleaner

- ❑ Single element
- ❑ Dual element

Muffler

- ❑ Industrial grade (15 dB)

Starting

- ❑ Standard batteries
- ❑ Oversized batteries
- ❑ Standard electric starter(s)
- ❑ Heavy duty electric starter(s)
- ❑ Air starter(s)
- ❑ Jacket water heater

Alternator

Output voltage

- ❑ 380V
- ❑ 400V
- ❑ 415V
- ❑ 3300V
- ❑ 6300V
- ❑ 6600V
- ❑ 6900V
- ❑ 10000V
- ❑ 10500V
- ❑ 11000V

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
- ❑ 3000A
- ❑ 3200A
- ❑ 4000A
- ❑ 5000A
- ❑ UL
- ❑ IEC
- ❑ 3-pole
- ❑ 4-pole
- ❑ Manually operated
- ❑ Electrically operated

Trip Unit

- ❑ LSI
- ❑ LSI-G
- ❑ LSIG-P

Control System

- ❑ 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

- ❑ Rubber
- ❑ Spring
- ❑ Seismic rated

Cat Connect

Connectivity

- ❑ Ethernet
- ❑ Cellular

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)
- ❑ Paralleling switchgear
- ❑ Paralleling controls

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

400-966-2276

Package Performance

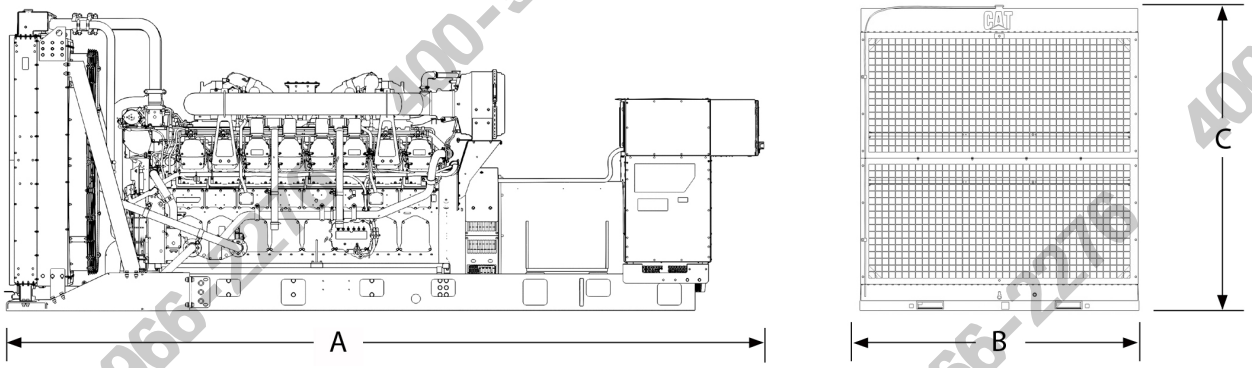
Low Emissions and Low Fuel Consumption (60°C SCAC) based on 100% Diesel, except *

Performance	Prime		Continuous		Prime		Continuous	
Frequency	50 Hz		50 Hz		50 Hz		50 Hz	
Genset power rating with fan	1600 ekW		1400 ekW		1600 ekW		1400 ekW	
Genset power rating with fan @ 0.8 power factor	2000 kVA		1750 kVA		2000 kVA		1750 kVA	
Emissions	Low Emissions		Low Emissions		Low Fuel		Low Fuel	
Performance number	EM2594-00		EM2598-00		EM2592-00		EM2596-00	
Aftercooler (separate circuit) – °C (°F)	60	(140)	60	(140)	60	(140)	60	(140)
Fuel Consumption								
100% load with fan – L/hr (gal/hr)	426.3	(112.6)	372.4	(98.4)	397.2	(104.9)	351.1	(92.7)
75% load with fan – L/hr (gal/hr)	315.9	(83.4)	281.5	(74.4)	301.0	(79.5)	269.3	(71.1)
50% load with fan – L/hr (gal/hr)	217.9	(57.6)	196.7	(52.0)	211.7	(55.9)	192.3	(50.8)
25% load with fan – L/hr (gal/hr)	123.9	(32.7)	115.2	(30.4)	125.2	(33.1)	116.6	(30.8)
***Gas Fuel Flow (Pressure range before regulating: 0.83-6.89 bar (12-100 psi)**								
Maximum @ 85 MN – MJ/hr (Btu/min)	10974	(173356)	9785	(154573)	10841	(171255)	9593	(151540)
Cooling System								
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^3/min (cfm)	1841	(65014)	1841	(65014)	1841	(65014)	1841	(65014)
Engine coolant capacity – L (gal)	233.0	(61.6)	233.0	(61.6)	233.0	(61.6)	233.0	(61.6)
Radiator coolant capacity – L (gal)	236.0	(62.0)	236.0	(62.0)	236.0	(62.0)	236.0	(62.0)
Total coolant capacity – L (gal)	469.0	(123.6)	469.0	(123.6)	469.0	(123.6)	469.0	(123.6)
Inlet Air								
Combustion air inlet flow rate – m^3/min (cfm)	141.4	(4682.1)	120.9	(4269.1)	122.4	(4320.3)	111.7	(3944.3)
Exhaust System								
Exhaust stack gas temperature – °C (°F)	520.6	(919.0)	470.6	(879.1)	476.2	(889.1)	463.6	(866.5)
Exhaust gas flow rate – m^3/min (cfm)	395.3	(12606)	315.8	(11151.4)	321.2	(11340.6)	288.0	(10169.7)
Exhaust system backpressure (maximum allowable) – kPa (in. water)	6.7	(27)	6.7	(27)	6.7	(27)	6.7	(27)
Heat Rejection								
Heat rejection to jacket water – kW (Btu/min)	718	(37534)	596	(33894)	624	(35502)	568	(32302)
Heat rejection to exhaust (total) – kW (Btu/min)	1846	(92410)	1407	(80016)	1446	(82224)	1280	(72794)
Heat rejection to aftercooler – kW (Btu/min)	465	(21894)	301	(17118)	299	(17023)	235	(13365)
Heat rejection to atmosphere from engine – kW (Btu/min)	168	(8643)	140	(7962)	138	(7850)	131	(7450)
Heat rejection from alternator – kW (Btu/min)	68	(3890)	64	(3662)	68	(3890)	64	(3662)
Emissions (Nominal)**								
NOx mg/Nm^3 (g/hp-h)	2061.9	(4.67)	2304.9	(4.87)	4265.2	(8.49)	4351.6	(8.65)
CO mg/Nm^3 (g/hp-h)	135.1	(0.27)	168.3	(0.36)	206.6	(0.41)	180.2	(0.36)
HC mg/Nm^3 (g/hp-h)	63	(0.16)	78.1	(0.16)	58.2	(0.12)	60.4	(0.12)
PM mg/Nm^3 (g/hp-h)	17.2	(0.04)	19.1	(0.04)	22.7	(0.05)	23.4	(0.05)
Emissions (Potential Site Variation)**								
NOx mg/Nm^3 (g/hp-h)	2474.3	(5.61)	2765.9	(5.84)	5118.3	(10.19)	5221.9	(10.38)
CO mg/Nm^3 (g/hp-h)	243.3	(0.49)	302.9	(0.64)	371.9	(0.74)	324.4	(0.64)
HC mg/Nm^3 (g/hp-h)	83.8	(0.21)	103.9	(0.22)	77.4	(0.15)	80.3	(0.16)
PM mg/Nm^3 (g/hp-h)	24	(0.05)	26.7	(0.06)	31.8	(0.06)	32.8	(0.07)

***mg/Nm^3 levels are corrected to 5% O_2. Contact your local Cat dealer for further information.*

400-966-2276

Weights and Dimensions



Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Dry Weight kg (lb)
7066 (278.2)	2286 (90.0)	2360 (92.9)	15 135 (33,300)

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

Ratings Definitions

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 ekW 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, IBC, 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.

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 (60ºF)] 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.)

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