Cat® 3516B
Diesel Generator Sets

Image shown may not reflect actual configuration

Bore – mm (in)	170 (6.69)
Stroke – mm (in)	215 (8.46)
Displacement – L (in^3)	78 (4764.73)
Compression Ratio	15.5:1
Aspiration	TA
Fuel System	EUI
Governor Type	ADEM™ A3

Prime-DCP 50 Hz kVA (ekW)	Emissions Performance
2275 (1820)	Optimized for Low Fuel Consumption or Low Emissions

Features

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
- 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
- 12 months/unlimited hour warranty for prime-DCP 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
- ❑ Heavy duty

Muffler
- ❑ Industrial grade (15 dB)
- ❑ Residential grade (25 dB)
- ❑ Critical grade (35 dB)

Starting
- ❑ Standard batteries
- ❑ Oversized batteries
- ❑ Standard electric starter(s)
- ❑ Dual electric starter(s)
- ❑ Jacket water heater

Alternator

Output voltage
- ❑ 380V
- ❑ 400V
- ❑ 415V
- ❑ 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
- ❑ 2000A
- ❑ 2500A
- ❑ 3200A
- ❑ 4000A
- ❑ IEC
- ❑ 3-pole
- ❑ 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

- ❑ 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

Certifications

- ❑ EU & GB Declaration of Conformity
- ❑ EU & GB Declaration of Incorporation
- ❑ Eurasian Conformity (EAC)
- ❑ Telecommunication Lab of China

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

Low Fuel Consumption

Performance	Prime-DCP		Prime-DCP		Prime-DCP	
Frequency	50 Hz		50 Hz		50 Hz	
Gen set power rating with fan	1820 ekW		1820 ekW		1820 ekW	
Gen set power rating with fan @ 0.8 power factor	2275 kVA		2275 kVA		2275 kVA	
Emissions	Low Fuel		Low Fuel		Low Fuel	
Performance number	EM5903-00		EM5904-00		EM5905-00	
Aftercooler (separate circuit) – °C (°F)	30	(86)	60	(140)	90	(194)
Fuel Consumption						
100% load with fan – L/hr (gal/hr)	439.5	(116.1)	445.9	(117.8)	456.0	(120.5)
75% load with fan – L/hr (gal/hr)	325.1	(85.9)	329.9	(87.1)	335.2	(88.6)
50% load with fan – L/hr (gal/hr)	223.5	(59.0)	228.8	(60.5)	231.6	(61.2)
25% load with fan – L/hr (gal/hr)	129.7	(34.3)	132.0	(34.9)	131.1	(34.6)
Cooling System						
Radiator air flow restriction (system) – kPa (in. water)	0.12	(0.48)	0.12	(0.48)	0.12	(0.48)
Radiator air flow – m^3/min (cfm)	1612	(56927)	1612	(56927)	1612	(56927)
Engine coolant capacity – L (gal)	233.0	(61.6)	233.0	(61.6)	233.0	(61.6)
Radiator coolant capacity – L (gal)	131.0	(34.6)	131.0	(34.6)	131.0	(34.6)
Total coolant capacity – L (gal)	364.0	(96.2)	364.0	(96.2)	364.0	(96.2)
Inlet Air						
Combustion air inlet flow rate – m^3/min (cfm)	152.7	(5391.9)	147.5	(5208.3)	143.9	(5081.2)
Exhaust System						
Exhaust stack gas temperature – °C (°F)	456.4	(853.5)	489.0	(912.2)	531.9	(989.4)
Exhaust gas flow rate – m^3/min (cfm)	391.3	(13816.9)	395.4	(13961.6)	407.5	(14388.9)
Exhaust system backpressure (maximum allowable) – kPa (in. water)	6.7	(27.0)	6.7	(27.0)	6.7	(27.0)
Heat Rejection						
Heat rejection to jacket water – kW (Btu/min)	585	(33267)	639	(36339)	702	(39922)
Heat rejection to exhaust (total) – kW (Btu/min)	1707	(97074)	1775	(100941)	1884	(107139)
Heat rejection to aftercooler – kW (Btu/min)	459	(26103)	388	(22065)	314	(17856)
Heat rejection to atmosphere from engine – kW (Btu/min)	133	(7563)	144	(8189)	157	(8928)
Heat rejection from alternator – kW (Btu/min)	83	(4713)	83	(4713)	83	(4713)
Emissions* (Nominal)						
NOx mg/Nm^3 (g/hp-h)	2799.1	(5.65)	3066.9	(6.28)	3225.6	(6.75)
CO mg/Nm^3 (g/hp-h)	153.6	(0.31)	209.8	(0.43)	307.3	(0.64)
HC mg/Nm^3 (g/hp-h)	72.5	(0.15)	67.7	(0.14)	60.5	(0.13)
PM mg/Nm^3 (g/hp-h)	17.9	(0.04)	19.5	(0.04)	22.3	(0.05)
Emissions* (Potential Site Variation)						
NOx mg/Nm^3 (g/hp-h)	3359.0	(6.78)	3680.3	(7.54)	3870.8	(8.10)
CO mg/Nm^3 (g/hp-h)	276.5	(0.56)	377.6	(0.77)	553.1	(1.16)
HC mg/Nm^3 (g/hp-h)	96.4	(0.19)	90.0	(0.18)	80.5	(0.17)
PM mg/Nm^3 (g/hp-h)	25.1	(0.05)	27.3	(0.06)	31.2	(0.07)

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

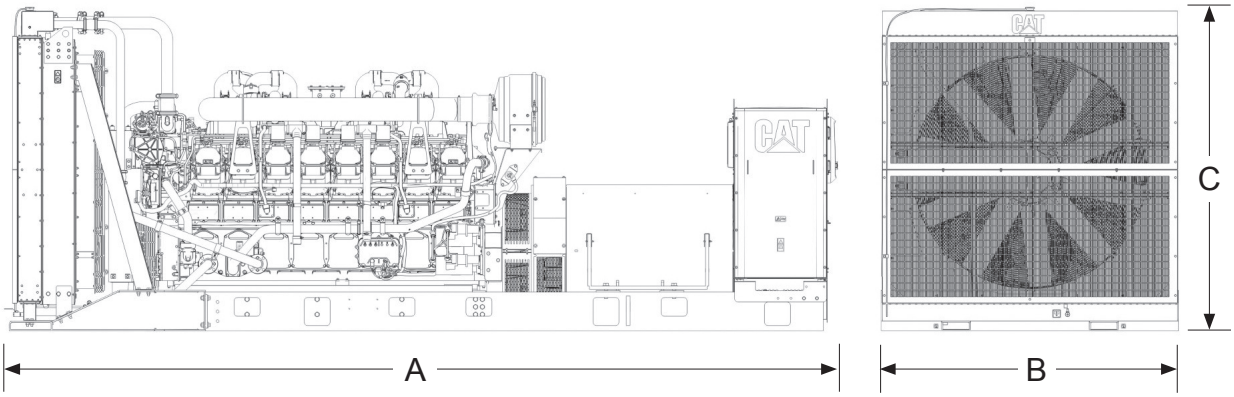
Package Performance

Low Emissions

Performance	Prime-DCP		Prime-DCP		Prime-DCP	
Frequency	50 Hz		50 Hz		50 Hz	
Gen set power rating with fan	1820 ekW		1820 ekW		1820 ekW	
Gen set power rating with fan @ 0.8 power factor	2275 kVA		2275 kVA		2275 kVA	
Emissions	Low Emissions		Low Emissions		Low Emissions	
Performance number	EM5906-00		EM5907-00		EM5908-00	
Aftercooler (separate circuit) – °C (°F)	30	(86)	60	(140)	90	(194)
Fuel Consumption						
100% load with fan – L/hr (gal/hr)	472.7	(124.9)	481.4	(127.2)	462.9	(122.3)
75% load with fan – L/hr (gal/hr)	359.9	(95.1)	362.5	(95.8)	347.9	(91.9)
50% load with fan – L/hr (gal/hr)	241.3	(63.7)	247.4	(65.4)	239.1	(63.2)
25% load with fan – L/hr (gal/hr)	134.8	(35.6)	136.2	(36.0)	138.8	(36.5)
Cooling System						
Radiator air flow restriction (system) – kPa (in. water)	0.12	(0.48)	0.12	(0.48)	0.12	(0.48)
Radiator air flow – m^3/min (cfm)	1612	(56927)	1612	(56927)	1612	(56927)
Engine coolant capacity – L (gal)	233.0	(61.6)	233.0	(61.6)	233.0	(61.6)
Radiator coolant capacity – L (gal)	131.0	(34.6)	131.0	(34.6)	131.0	(34.6)
Total coolant capacity – L (gal)	364.0	(96.2)	364.0	(96.2)	364.0	(96.2)
Inlet Air						
Combustion air inlet flow rate – m^3/min (cfm)	171.4	(6052.2)	167.6	(5918.0)	150.7	(5321.3)
Exhaust System						
Exhaust stack gas temperature – °C (°F)	473.5	(884.3)	506.3	(943.3)	519.1	(966.4)
Exhaust gas flow rate – m^3/min (cfm)	444.0	(15677.8)	453.7	(16020.3)	420.2	(14837.4)
Exhaust system backpressure (maximum allowable) – kPa (in. water)	6.7	(27.0)	6.7	(27.0)	6.7	(27.0)
Heat Rejection						
Heat rejection to jacket water – kW (Btu/min)	617	(35088)	674	(38329)	711	(40434)
Heat rejection to exhaust (total) – kW (Btu/min)	1984	(112828)	2052	(116695)	1923	(109358)
Heat rejection to aftercooler – kW (Btu/min)	560	(31845)	480	(27296)	347	(19733)
Heat rejection to atmosphere from engine – kW (Btu/min)	141	(8019)	154	(8757)	164	(9326)
Heat rejection from alternator – kW (Btu/min)	83	(4713)	83	(4713)	83	(4713)
Emissions* (Nominal)						
NOx mg/Nm^3 (g/hp-h)	1742.2	(3.77)	1969.6	(4.35)	2891.2	(6.14)
CO mg/Nm^3 (g/hp-h)	222.2	(0.48)	400.7	(0.89)	359.7	(0.76)
HC mg/Nm^3 (g/hp-h)	60.9	(0.13)	50.3	(0.11)	64.1	(0.14)
PM mg/Nm^3 (g/hp-h)	35.5	(0.08)	50.9	(0.11)	13.8	(0.03)
Emissions* (Potential Site Variation)						
NOx mg/Nm^3 (g/hp-h)	2090.6	(4.53)	2363.5	(5.22)	3469.4	(7.37)
CO mg/Nm^3 (g/hp-h)	399.9	(0.87)	721.3	(1.59)	647.5	(1.38)
HC mg/Nm^3 (g/hp-h)	81.0	(0.18)	66.9	(0.15)	85.3	(0.18)
PM mg/Nm^3 (g/hp-h)	49.7	(0.11)	71.3	(0.16)	19.3	(0.04)

**mg/Nm³ levels are corrected to 5% O_2. Contact your local Cat dealer for further information.*

Weights and Dimensions



Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Dry Weight kg (lb)
6282 (247.3)	2286 (90.0)	2494 (98.2)	15 535 (34,250)

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

Ratings Definitions

Prime-DCP
For data center applications only. Prime-DCP power output available with varying load for unlimited time. Average power output is not to exceed 100% of prime-DCP rated ekW. Typical peak demand is 100% of the prime-DCP 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.

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 Cat diesel generator set prime-DCP 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 consumption reported in accordance with ISO 3046-1, 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 15ºC (59ºF) and weighing 850 g/liter (7.0936 lbs/U.S. gal.) All fuel consumption values refer to rated engine power.

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