Cat® 3512B
Diesel 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)	51.8 (3161.03)
Compression Ratio	14.0:1
Aspiration	TA
Fuel System	EUI
Governor Type	ADEM™ A3

Prime-DCP 60 Hz ekW (kVA)	Emissions Performance
1360 (1700)	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 and 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

Muffler
- ❑ Industrial grade (15 dB)

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

Alternator

Output voltage
- ❑ 380V
- ❑ 480V

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
- ❑ 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

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.*

Package Performance

Low Fuel Consumption

Performance	Prime-DCP		Prime-DCP		Prime-DCP	
Frequency	60 Hz		60 Hz		60 Hz	
Gen set power rating with fan	1360 ekW		1360 ekW		1360 ekW	
Gen set power rating with fan @ 0.8 power factor	1700 kVA		1700 kVA		1700 kVA	
Emissions	Low Fuel		Low Fuel		Low Fuel	
Performance number	EM5937-00		EM5938-00		EM5939-00	
Aftercooler (separate circuit) – °C (°F)	30	(86)	60	(140)	90	(194)
Fuel Consumption						
100% load with fan – L/hr (gal/hr)	352.8	(93.2)	353.5	(93.3)	360.4	(95.3)
75% load with fan – L/hr (gal/hr)	263.1	(69.5)	264.2	(69.8)	263.4	(69.5)
50% load with fan – L/hr (gal/hr)	181.6	(48.0)	184.5	(48.8)	186.7	(49.3)
25% load with fan – L/hr (gal/hr)	112.5	(29.7)	113.2	(29.9)	114.9	(30.3)
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)	1611	(56891)	1611	(56891)	1611	(56891)
Engine coolant capacity – L (gal)	156.8	(41.4)	156.8	(41.4)	156.8	(41.4)
Radiator coolant capacity – L (gal)	149.0	(39.4)	149.0	(39.4)	149.0	(39.4)
Total coolant capacity – L (gal)	305.8	(80.8)	305.8	(80.8)	305.8	(80.8)
Inlet Air						
Combustion air inlet flow rate – m^3/min (cfm)	124.8	(4406.8)	122.1	(4311.4)	120.7	(4262.0)
Exhaust System						
Exhaust stack gas temperature – °C (°F)	427.2	(801.0)	448.1	(838.6)	476.5	(889.7)
Exhaust gas flow rate – m^3/min (cfm)	307.4	(10854.5)	310.0	(10946.3)	318.9	(11260.6)
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)	558	31733	586	(33325)	620	(35259)
Heat rejection to exhaust (total) – kW (Btu/min)	1301	73986	1349	(76716)	1412	(80298)
Heat rejection to aftercooler – kW (Btu/min)	414	23544	347	(19733)	299	(17004)
Heat rejection to atmosphere from engine – kW (Btu/min)	121	6881	130	(7393)	143	(8132)
Heat rejection from alternator – kW (Btu/min)	66	3731	66	(3731)	66	(3731)
Emissions* (Nominal)						
NOx mg/Nm^3 (g/hp-h)	2865.8	6.10	3644.2	(7.77)	4329.2	(9.42)
CO mg/Nm^3 (g/hp-h)	573.1	1.22	695.5	(1.48)	654.8	(1.42)
HC mg/Nm^3 (g/hp-h)	202.0	0.43	189.8	(0.40)	196.5	(0.43)
PM mg/Nm^3 (g/hp-h)	58.5	0.12	46.8	(0.10)	41.5	(0.09)
Emissions* (Potential Site Variation)						
NOx mg/Nm^3 (g/hp-h)	3439.0	7.32	4373.0	(9.33)	5195.0	(11.30)
CO mg/Nm^3 (g/hp-h)	1031.6	2.20	1251.9	(2.67)	1178.6	(2.56)
HC mg/Nm^3 (g/hp-h)	268.7	0.57	252.4	(0.54)	261.3	(0.57)
PM mg/Nm^3 (g/hp-h)	81.9	0.17	65.5	(0.14)	58.1	(0.13)

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

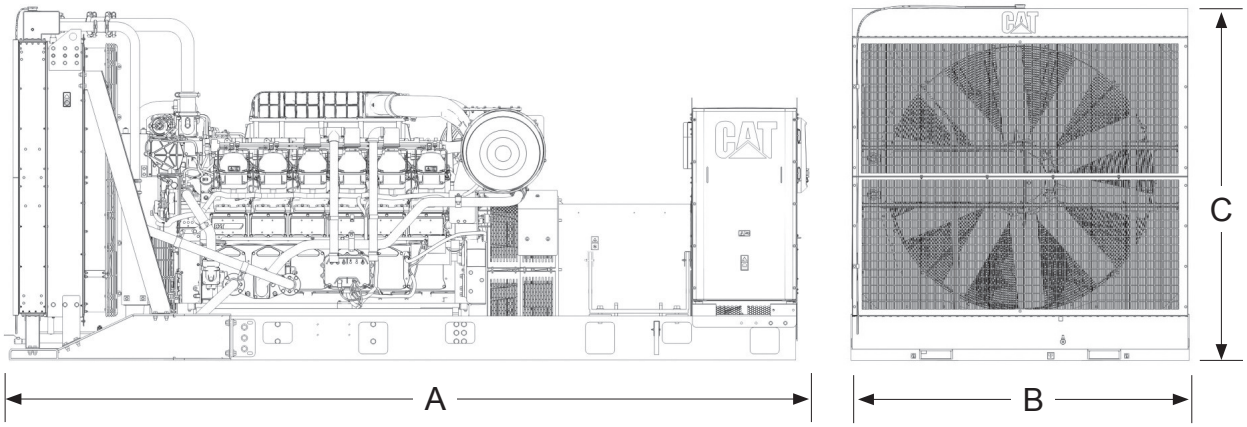
Package Performance

Low Emissions

Performance	Prime-DCP		Prime-DCP		Prime-DCP	
Frequency	60 Hz		60 Hz		60 Hz	
Gen set power rating with fan	1360 ekW		1360 ekW		1360 ekW	
Gen set power rating with fan @ 0.8 power factor	1700 kVA		1700 kVA		1700 kVA	
Emissions	Low Emissions		Low Emissions		Low Emissions	
Performance number	EM5940-00		EM5941-00		EM5942-00	
Aftercooler (separate circuit) – °C (°F)	30	(86)	60	(140)	90	(194)
Fuel Consumption						
100% load with fan – L/hr (gal/hr)	379.9	(100.4)	372.0	(98.3)	360.3	(95.2)
75% load with fan – L/hr (gal/hr)	281.3	(74.4)	278.2	(73.5)	279.2	(73.8)
50% load with fan – L/hr (gal/hr)	188.0	(49.7)	188.1	(49.7)	199.7	(52.8)
25% load with fan – L/hr (gal/hr)	115.0	(30.4)	114.0	(30.1)	120.8	(31.9)
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)	1611	(56891)	1611	(56891)	1611	(56891)
Engine coolant capacity – L (gal)	156.8	(41.4)	156.8	(41.4)	156.8	(41.4)
Radiator coolant capacity – L (gal)	149.0	(39.4)	149.0	(39.4)	149.0	(39.4)
Total coolant capacity – L (gal)	305.8	(80.8)	305.8	(80.8)	305.8	(80.8)
Inlet Air						
Combustion air inlet flow rate – m^3/min (cfm)	134.6	(4752.8)	129.7	(4579.8)	120.6	(4258.5)
Exhaust System						
Exhaust stack gas temperature – °C (°F)	457.3	(855.1)	461.6	(862.9)	476.0	(888.8)
Exhaust gas flow rate – m^3/min (cfm)	345.8	(12210.4)	335.3	(11839.6)	318.5	(11246.4)
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)	588	(33440)	604	(34349)	619	(35202)
Heat rejection to exhaust (total) – kW (Btu/min)	1494	(84961)	1451	(82516)	1404	(79843)
Heat rejection to aftercooler – kW (Btu/min)	476	(27069)	391	(22236)	299	(17004)
Heat rejection to atmosphere from engine – kW (Btu/min)	134	(7620)	141	(8018)	143	(8132)
Heat rejection from alternator – kW (Btu/min)	66	(3731)	66	(3731)	66	(3731)
Emissions* (Nominal)						
NOx mg/Nm^3 (g/hp-h)	2006.7	(4.60)	2647.9	(5.95)	4211.7	(9.16)
CO mg/Nm^3 (g/hp-h)	682.8	(1.57)	670.6	(1.51)	644.3	(1.40)
HC mg/Nm^3 (g/hp-h)	125.7	(0.29)	123.6	(0.28)	119.1	(0.26)
PM mg/Nm^3 (g/hp-h)	85.7	(0.20)	59.9	(0.13)	47.9	(0.10)
Emissions* (Potential Site Variation)						
NOx mg/Nm^3 (g/hp-h)	2408.0	(5.52)	3177.5	(7.15)	5054.0	(10.99)
CO mg/Nm^3 (g/hp-h)	1229.0	(2.82)	1207.1	(2.71)	1159.7	(2.52)
HC mg/Nm^3 (g/hp-h)	167.2	(0.38)	164.4	(0.37)	158.4	(0.34)
PM mg/Nm^3 (g/hp-h)	120.0	(0.28)	83.9	(0.19)	67.1	(0.15)

**mg/Nm^3 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)
5279 (207.8)	2286 (90.0)	2409 (94.9)	11 321 (24,959)

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, CSA C22.2 No. 100-04, UL 142, UL 489, UL 869, UL 2200, 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.

www.cat.com/electricpower