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)	58.56 (3573.55)
Compression Ratio	14.0:1
Aspiration	TA
Fuel System	EUI
Governor Type	ADEM™ A3

Standby 60 Hz ekW (kVA)	Prime 60 Hz ekW (kVA)	Emissions Performance
1400 (1750)	1275 (1593)	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
- 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
- ❑ Heavy duty

Muffler
- ❑ Industrial grade (15 dB)

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

Alternator

Output voltage
- ❑ 380V
- ❑ 440V
- ❑ 480V
- ❑ 600V
- ❑ 4160V
- ❑ 6300V
- ❑ 6600V
- ❑ 6900V
- ❑ 12470V
- ❑ 13200V
- ❑ 13800V

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
- ❑ UL
- ❑ 3000A
- ❑ 3200A
- ❑ IEC
- ❑ 4-pole
- ❑ 3-pole
- ❑ Manually operated
- ❑ 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
- ❑ 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
- ❑ UL 2200 Listed
- ❑ CSA
- ❑ IBC seismic certification
- ❑ 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

(30°C SCAC)

Performance	Standby		Prime		Standby		Prime	
Frequency	60 Hz		60 Hz		60 Hz		60 Hz	
Gen set power rating with fan	1400 ekW		1275 ekW		1400 ekW		1275 ekW	
Gen set power rating with fan @ 0.8 power factor	1750 kVA		1593 kVA		1750 kVA		1593 kVA	
Emissions	Low Fuel		Low Fuel		Low Emissions		Low Emissions	
Performance number	DM8182-01		DM8185-01		DM8191-01		DM8194-01	
Fuel Consumption								
100% load with fan – L/hr (gal/hr)	376.0	(99.3)	341.8	(90.3)	404.8	(106.9)	368.8	(97.4)
75% load with fan – L/hr (gal/hr)	280.5	(74.1)	255.0	(67.4)	300.3	(79.3)	271.5	(71.7)
50% load with fan – L/hr (gal/hr)	192.4	(50.8)	178.4	(47.1)	199.8	(52.8)	184.3	(48.7)
25% load with fan – L/hr (gal/hr)	118.4	(31.3)	111.5	(29.5)	121.1	(32.0)	113.9	(30.1)
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)	1671	(59010)	1671	(59010)	1671	(59010)	1671	(59010)
Engine coolant capacity – L (gal)	156.8	(41.4)	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)	149.0	(39.4)
Total coolant capacity – L (gal)	305.8	(80.8)	305.8	(80.8)	305.8	(80.8)	305.8	(80.8)
Inlet Air								
Combustion air inlet flow rate – m^3/min (cfm)	127.9	(4516.3)	120.2	(4244.3)	137.2	(4844.7)	130.0	(4590.4)
Exhaust System								
Exhaust stack gas temperature – °C (°F)	429.3	(804.7)	416.2	(781.2)	461.7	(863.1)	446.3	(835.3)
Exhaust gas flow rate – m^3/min (cfm)	315.9	(11154.9)	291.3	(10285.9)	354.7	(12525.0)	328.5	(11599.4)
Exhaust system backpressure (maximum allowable) – kPa (in. water)	6.7	(27.0)	6.7	(27.0)	6.7	(27.0)	6.7	(27.0)
Heat Rejection								
Heat rejection to jacket water – kW (Btu/min)	571	(32473)	532	(30254)	602	(34236)	561	(31903)
Heat rejection to exhaust (total) – kW (Btu/min)	1345	(76492)	1217	(69209)	1544	(87809)	1397	(79445)
Heat rejection to aftercooler – kW (Btu/min)	435	(24739)	376	(21382)	595	(33840)	437	(24851)
Heat rejection to atmosphere from engine – kW (Btu/min)	124	(7052)	116	(6597)	138	(7848)	126	(7165)
Heat rejection from alternator – kW (Btu/min)	72	(4100)	64	(3657)	72	(4100)	64	(3657)
Emissions* (Nominal)								
NOx mg/Nm^3 (g/hp-h)	2965.2	(6.32)	2732.4	(5.81)	2150.5	(4.93)	1962.6	(4.50)
CO mg/Nm^3 (g/hp-h)	598.3	(1.27)	700.8	(1.49)	737.9	(1.69)	702.0	(1.61)
HC mg/Nm^3 (g/hp-h)	199.7	(0.43)	128.8	(0.27)	213.7	(0.49)	129.0	(0.30)
PM mg/Nm^3 (g/hp-h)	64.7	(0.14)	63.3	(0.13)	88.4	(0.20)	86.6	(0.20)
Emissions* (Potential Site Variation)								
NOx mg/Nm^3 (g/hp-h)	3558.3	(7.58)	3278.9	(6.97)	2580.6	(5.92)	2355.1	(5.40)
CO mg/Nm^3 (g/hp-h)	1076.9	(2.29)	1261.4	(2.68)	1328.3	(3.05)	1263.6	(2.90)
HC mg/Nm^3 (g/hp-h)	265.6	(0.57)	171.3	(0.36)	284.2	(0.65)	171.6	(0.39)
PM mg/Nm^3 (g/hp-h)	90.6	(0.19)	88.6	(0.19)	123.8	(0.28)	121.2	(0.28)

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

Package Performance

(60°C SCAC)

Performance	Standby		Prime		Standby		Prime	
Frequency	60 Hz		60 Hz		60 Hz		60 Hz	
Gen set power rating with fan	1400 ekW		1275 ekW		1400 ekW		1275 ekW	
Gen set power rating with fan @ 0.8 power factor	1750 kVA		1593 kVA		1750 kVA		1593 kVA	
Emissions	Low Fuel		Low Fuel		Low Emissions		Low Emissions	
Performance number	DM8183-03		DM8186-02		DM8192-02		DM8195-02	
Fuel Consumption								
100% load with fan – L/hr (gal/hr)	376.7	(99.5)	344.3	(91.0)	396.4	(104.7)	357.0	(94.3)
75% load with fan – L/hr (gal/hr)	281.7	(74.4)	256.1	(67.7)	296.0	(78.2)	270.2	(71.4)
50% load with fan – L/hr (gal/hr)	195.3	(51.6)	181.2	(47.9)	200.0	(52.8)	184.1	(48.6)
25% load with fan – L/hr (gal/hr)	119.2	(31.5)	112.2	(29.6)	120.1	(31.7)	112.8	(29.8)
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)	1671	(59010)	1671	(59010)	1671	(59010)	1671	(59010)
Engine coolant capacity – L (gal)	156.8	(41.4)	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)	149.0	(39.4)
Total coolant capacity – L (gal)	305.8	(80.8)	305.8	(80.8)	305.8	(80.8)	305.8	(80.8)
Inlet Air								
Combustion air inlet flow rate – m^3/min (cfm)	123.9	(4375.0)	118.8	(4194.9)	131.5	(4643.4)	124.9	(4410.3)
Exhaust System								
Exhaust stack gas temperature – °C (°F)	455.1	(851.2)	436.2	(817.2)	469.2	(876.6)	441.1	(826.0)
Exhaust gas flow rate – m^3/min (cfm)	317.7	(11218.4)	296.4	(10466.0)	343.8	(12140.2)	313.5	(11069.8)
Exhaust system backpressure (maximum allowable) – kPa (in. water)	6.7	(27.0)	6.7	(27.0)	6.7	(27.0)	6.7	(27.0)
Heat Rejection								
Heat rejection to jacket water – kW (Btu/min)	599	(34065)	559	(31789)	618	(35146)	578	(32870)
Heat rejection to exhaust (total) – kW (Btu/min)	1398	(79506)	1259	(71597)	1500	(85307)	1356	(77113)
Heat rejection to aftercooler – kW (Btu/min)	363	(20644)	317	(18027)	407	(23147)	358	(20359)
Heat rejection to atmosphere from engine – kW (Btu/min)	134	(7621)	124	(7052)	145	(8246)	133	(7563)
Heat rejection from alternator – kW (Btu/min)	72	(4100)	64	(3657)	72	(4100)	64	(3657)
Emissions* (Nominal)								
NOx mg/Nm^3 (g/hp-h)	3723.9	(7.94)	3362.0	(7.19)	2829.9	(6.36)	2768.8	(6.16)
CO mg/Nm^3 (g/hp-h)	698.5	(1.94)	687.4	(1.47)	659.1	(1.48)	695.6	(1.55)
HC mg/Nm^3 (g/hp-h)	187.9	(1.49)	126.5	(0.27)	216.4	(0.49)	127.9	(0.28)
PM mg/Nm^3 (g/hp-h)	49.2	(0.40)	49.4	(0.11)	57.5	(0.13)	59.8	(0.13)
Emissions* (Potential Site Variation)								
NOx mg/Nm^3 (g/hp-h)	4468.7	(9.53)	4034.4	(8.63)	3395.9	(7.63.)	3322.5	(7.39)
CO mg/Nm^3 (g/hp-h)	1257.3	(2.68)	1237.3	(2.65)	1186.4	(2.67)	1252.1	(2.79)
HC mg/Nm^3 (g/hp-h)	249.9	(0.53)	168.2	(0.36)	287.8	(0.65)	170.1	(0.38)
PM mg/Nm^3 (g/hp-h)	68.9	(0.15)	69.2	(0.15)	80.5	(0.18)	83.7	(0.19)

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

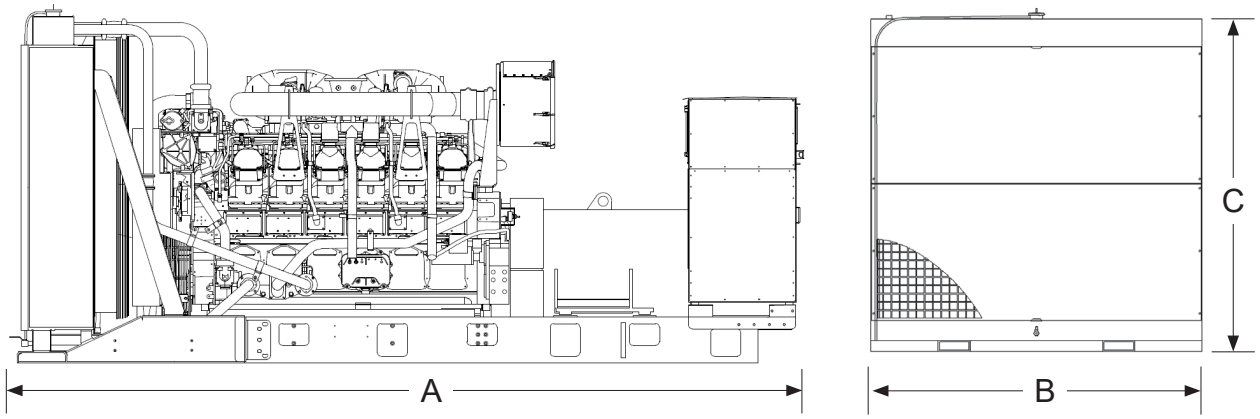
Package Performance

(90°C SCAC)

Performance	Standby		Prime		Standby		Prime	
Frequency	60 Hz		60 Hz		60 Hz		60 Hz	
Gen set power rating with fan	1400 ekW		1275 ekW		1400 ekW		1275 ekW	
Gen set power rating with fan @ 0.8 power factor	1750 kVA		1593 kVA		1750 kVA		1593 kVA	
Emissions	Low Fuel		Low Fuel		Low Emissions		Low Emissions	
Performance number	DM8184-01		DM8187-01		DM8193-01		DM8196-01	
Fuel Consumption								
100% load with fan – L/hr (gal/hr)	384.8	(101.7)	347.3	(91.7)	384.8	(101.7)	346.3	(91.5)
75% load with fan – L/hr (gal/hr)	281.5	(74.4)	256.9	(67.9)	294.9	(77.9)	273.0	(72.1)
50% load with fan – L/hr (gal/hr)	197.5	(52.2)	183.2	(48.4)	211.4	(55.8)	196.0	(51.8)
25% load with fan – L/hr (gal/hr)	120.9	(31.9)	113.9	(30.1)	127.2	(33.6)	119.4	(31.5)
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)	1671	(59010)	1671	(59010)	1671	(59010)	1671	(59010)
Engine coolant capacity – L (gal)	156.8	(41.4)	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)	149.0	(39.4)
Total coolant capacity – L (gal)	305.8	(80.8)	305.8	(80.8)	305.8	(80.8)	305.8	(80.8)
Inlet Air								
Combustion air inlet flow rate – m^3/min (cfm)	122.4	(4322.1)	116.6	(4117.2)	122.4	(4322.1)	116.4	(4110.1)
Exhaust System								
Exhaust stack gas temperature – °C (°F)	485.0	(905.0)	459.9	(859.8)	485.0	(905.0)	457.2	(855.0)
Exhaust gas flow rate – m^3/min (cfm)	327.2	(11554.0)	300.7	(10617.8)	327.2	(11554.0)	299.2	(10564.8)
Exhaust system backpressure (maximum allowable) – kPa (in. water)	6.7	(27.0)	6.7	(27.0)	6.7	(27.0)	6.7	(27.0)
Heat Rejection								
Heat rejection to jacket water – kW (Btu/min)	635	(36113)	591	(33609)	633	(35999)	593	(33723)
Heat rejection to exhaust (total) – kW (Btu/min)	1468	(83487)	1308	(74383)	1456	(82804)	1314	(74725)
Heat rejection to aftercooler – kW (Btu/min)	315	(17915)	269	(15297)	314	(17858)	271	(15411)
Heat rejection to atmosphere from engine – kW (Btu/min)	147	(8360)	136	(7734)	147	(8360)	137	(7791)
Heat rejection from alternator – kW (Btu/min)	72	(4100)	64	(3657)	72	(4100)	64	(3657)
Emissions* (Nominal)								
NOx mg/Nm^3 (g/hp-h)	4386.5	(9.55)	4152.9	(8.97)	4386.6	(9.56)	4290.6	(9.24)
CO mg/Nm^3 (g/hp-h)	659.1	(1.44)	667.4	(1.44)	659.1	(1.44)	668.9	(1.44)
HC mg/Nm^3 (g/hp-h)	191.7	(0.42)	123.1	(0.27)	190.1	(0.41)	123.3	(0.27)
PM mg/Nm^3 (g/hp-h)	44.7	(0.10)	41.8	(0.09)	44.7	(0.10)	42.0	(0.09)
Emissions* (Potential Site Variation)								
NOx mg/Nm^3 (g/hp-h)	5263.8	(11.47)	4983.5	(10.77)	5264.0	(11.47)	5148.8	(11.09)
CO mg/Nm^3 (g/hp-h)	1186.4	(2.58)	1201.3	(2.60)	1186.4	(2.58)	1204.0	(2.59)
HC mg/Nm^3 (g/hp-h)	255.0	(0.56)	163.7	(0.35)	252.8	(0.55)	164.0	(0.35)
PM mg/Nm^3 (g/hp-h)	62.6	(0.14)	58.5	(0.13)	62.6	(0.14)	58.8	(0.13)

**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)
5251 (206.7)	2286 (90.0)	2342 (92.2)	11 080 (24,430)

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

Ratings Definitions

Standby
Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

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.

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 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.)

3512 PGFL
LEHE1247-03 (10/20)