

# Cat<sup>®</sup> D500 GC

## Diesel Generator Sets



Standby: 60 Hz, 480V & 600V



Image shown might not reflect actual configuration.

Engine Model	Cat <sup>®</sup> C15 In-line 6, 4-cycle diesel
Bore x Stroke	137mm x 171mm (5.4in x 6.8in)
Displacement	15.2 L (928 in <sup>3</sup> )
Compression Ratio	16.1:1
Aspiration	Turbocharged Air-to-Air Aftercooled
Fuel Injection System	MEUI
Governor	Electronic ADEM <sup>™</sup> A4

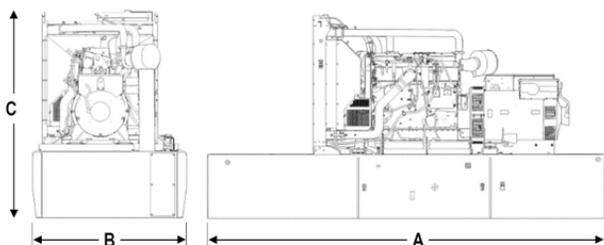
Standby	Performance Strategies
500 ekW, 625 kVA	EPA Certified for Stationary Emergency Application

### PACKAGE PERFORMANCE

Performance	Standby	
Frequency	60 Hz	
Genset Power Rating	625 kVA	
Gen set power rating with fan @ 0.8 power factor	500 ekW	
Emissions	EPA TIER 2	
Performance Number	DM8155	
Fuel Consumption		
100% load with fan	135.2 L/hr	35.7 gal/hr
75% load with fan	109.1 L/hr	28.8 gal/hr
50% load with fan	70.4 L/hr	18.6 gal/hr
25% load with fan	41.3 L/hr	10.9 gal/hr
Cooling System <sup>1</sup>		
Radiator air flow restriction (system)	0.12 kPa	0.48 in. Water
Radiator air flow	720 m <sup>3</sup> /min	25426 cfm
Engine coolant capacity	20.8 L	5.5 gal
Radiator coolant capacity	54 L	14 gal
Total coolant capacity	75 L	20 gal
Inlet Air		
Combustion air inlet flow rate	38.2 m <sup>3</sup> /min	1347.7 cfm
Maximum allowable combustion air inlet temperature	49°C	120° F
Exhaust System		
Exhaust stack gas temperature	531.1° C	988.0 ° F
Exhaust gas flow rate	102.1 m <sup>3</sup> /min	3605.5 cfm
Exhaust system backpressure (maximum allowable)	10.0 kPa	40.0 in. water
Heat Rejection		
Heat rejection to jacket water	182 kW	10375 Btu/min
Heat rejection to exhaust (total)	493 kW	28039 Btu/min
Heat rejection to aftercooler	121 kW	6860 Btu/min
Heat rejection to atmosphere from engine	91 kW	5182 Btu/min
Heat rejection from alternator	29 kW	1655 Btu/min

Emissions(Nominal) <sup>2</sup>	Standby	
NOx	2129.1 mg/Nm <sup>3</sup>	4.6 g/hp-hr
CO	301.5 mg/Nm <sup>3</sup>	0.6 g/hp-hr
HC	8.8 mg/Nm <sup>3</sup>	0.03 g/hp-hr
PM	9.5 mg/Nm <sup>3</sup>	0.03 g/hp-hr
Alternator <sup>3</sup>		
Voltages	<b>480V</b>	<b>600V</b>
Motor starting capability @ 30% voltage dip	1019	1103
Current	751.8	601.4
Frame size	M3154L4	M3136L4
Excitation	S.E	AREP
Temperature rise	105°C	130°C

### Weights & Dimensions – Open Set



### Fuel Tank Capacity

Tank Design	Total Capacity		Useable Capacity	
	Litre	Gallon	Litre	Gallon
Integral	3671	969.7	3323	877.8

Base	Dim A mm (in)	Dim B mm (in)	Dim C mm (in)	Generator Set Weight kg (lb)
Skid (Wide Base)	4815 (189.6)	1630 (64.2)	2034 (80.1)	3756 (8280.6)
Integral Tank Base	4815 (189.6)	1630 (64.2)	2584 (101.7)	4693 (10346.3)

### DEFINITIONS AND CONDITIONS

<sup>1</sup> For ambient and altitude capabilities consult your Cat dealer. Air flow restriction (system) is added to existing restriction from factory.

<sup>2</sup> Emissions data measurement procedures are consistent with those described in EPA CFR 40 Part 89, Subpart D & E and ISO 8178-1 for measuring HC, CO, PM,

NOx. Data shown is based on steady state operating conditions of 77° F, 28.42 in HG and number 2 diesel fuel with 35° API and LHV of 18,390 BTU /lb. The nominal emissions data shown is subject to instrumentation, measurement, facility and engine to engine variations. Emissions data is based on 100% load and thus cannot be used to compare to EPA regulations which use values based on a weighted cycle.

<sup>3</sup> UL 2200 Listed packages may have oversized generators with a different temperature rise and motor starting characteristics. Generator temperature rise is based on a 40° C ambient per NEMA MG1-32.

### APPLICABLE CODES AND STANDARDS:

AS1359, CSA C22.2 No100-04, UL142, UL489, UL869, UL2200, NFPA37, NFPA70, NFPA99, NFPA110, IBC, IEC60034-1, ISO3046, ISO8528, NEMA MG1-22, NEMA MG1-33, 2006/95/EC, 2006/42/EC, 2004/108/EC.

**Note:** Codes may not be available in all model configurations. Please consult your local Cat Dealer representative for availability.

**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.

**RATINGS:** Ratings are based on SAE J1349 standard conditions. These ratings also apply at ISO3046 standard conditions.

Fuel Rates are based on fuel oil of 35° API [16° C (60° F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29° C (85° F) and weighing 838.9 g/litre (7.001 lbs/U.S. gal.). Additional ratings may be available for specific customer requirements, contact your Caterpillar representative for details. For information regarding Low Sulfur fuel and Biodiesel capability, please consult your Cat dealer.

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