

# DIESEL GENERATOR SET



## DE50E2

EU stage II emissions compliant.

Image shown may not reflect actual package

Output Ratings		
Generator Set Model - 3 Phase	Prime*	Standby*
400/230 V, 50 Hz	45.0 kVA 36.0 kW	50.0 kVA 40.0 kW
	-	-
	-	-

\* Refer to ratings definitions on page 4.  
Ratings at 0.8 power factor.

Technical Data		
Engine Make & Model:	Cat® C3.3	
Generator Model:	LC1514L	
Control Panel:	EMCP 4.1	
Base Frame Type:	Heavy Duty Fabricated Steel	
Circuit Breaker Type:	3 Pole MCB	
Frequency:	50 Hz	60 Hz
Engine Speed: RPM	1500	-
Fuel Tank Capacity: litres (US gal)	219 (57.9)	
Fuel Consumption, Prime: l/hr (US gal/hr)	10.6 (2.8)	-
Fuel Consumption, Standby : l/hr (US gal/hr)	11.9 (3.1)	-

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## Engine Technical Data

Physical Data	
<b>Manufacturer:</b>	Caterpillar
<b>Model:</b>	C3.3
<b>No. of Cylinders/Alignment:</b>	3 / In Line
<b>Cycle:</b>	4 Stroke
<b>Induction:</b>	Turbocharged
<b>Cooling Method:</b>	Water
<b>Governing Type:</b>	Mechanical
<b>Governing Class:</b>	ISO 8528 G2
<b>Compression Ratio:</b>	18.23:1
<b>Displacement: l (cu.in)</b>	3.3 (201.4)
<b>Bore/Stroke: mm (in)</b>	105.0 (4.1)/127.0 (5.0)
<b>Moment of Inertia: kg m<sup>2</sup> (lb. in<sup>2</sup>)</b>	1.14 (3896)
<b>Engine Electrical System:</b>	
-Voltage/Ground:	12/Negative
-Battery Charger Amps:	65
<b>Weight: kg (lb) - Dry:</b>	341 (752)
- Wet:	348 (767)

Air System	50 Hz	60 Hz
<b>Air Filter Type:</b>	Replaceable Element	
<b>Combustion Air Flow:</b>		
m <sup>3</sup> /min (cfm)		
-Standby:	3.1 (109)	-
-Prime:	2.9 (102)	-
<b>Max. Combustion Air Intake</b>		
<b>Restriction: kPa (in H<sub>2</sub>O)</b>	5.0 (20.1)	-
<b>Radiator Cooling Air Flow:</b>		
m <sup>3</sup> /min (cfm)	62.4 (2204)	-
<b>External Restriction to</b>		
<b>Cooling Air Flow: Pa (in H<sub>2</sub>O)</b>	125 (0.5)	-

Cooling System	50 Hz	60 Hz
<b>Cooling System Capacity:</b>		
l (US gal)	10.2 (2.7)	-
<b>Water Pump Type:</b>	Centrifugal	
<b>Heat Rejected to Water &amp; Lube Oil: kW (Btu/min)</b>		
-Standby:	29.0 (1649)	-
-Prime:	26.4 (1501)	-
<b>Heat Radiation to Room:</b> Heat radiated from engine and alternator		
kW (Btu/min)		
-Standby:	13.7 (779)	-
-Prime:	12.1 (688)	-
<b>Radiator Fan Load: kW (hp)</b>	1.0 (1.3)	-
Cooling system designed to operate in ambient conditions up to 50°C (122°F). Contact your local Cat dealer for power ratings at specific site conditions.		

Lubrication System	
<b>Oil Filter Type:</b>	Spin-On, Full Flow
<b>Total Oil Capacity l (US gal):</b>	8.3 (2.2)
<b>Oil Pan l (US gal):</b>	7.8 (2.1)
<b>Oil Type:</b>	API CG4 / CH4 15W-40
<b>Cooling Method:</b>	Water

Performance	50 Hz	60 Hz
<b>Engine Speed: RPM</b>	1500	-
<b>Gross Engine Power: kW (hp)</b>		
-Standby:	46.5 (62.0)	-
-Prime:	41.9 (56.0)	-
<b>BMEP: kPa (psi)</b>		
-Standby:	1127.0 (163.5)	-
-Prime:	1016.0 (147.4)	-
<b>Regenerative Power: kW</b>	0.0	-

Fuel System				
<b>Fuel Filter Type:</b>	Replaceable Element			
<b>Recommended Fuel:</b>	Class A2 Diesel or BSEN590			
<b>Fuel Consumption: l/hr (US gal/hr)</b>				
	<b>110% Load</b>	<b>100% Load</b>	<b>75% Load</b>	<b>50% Load</b>
<b>Prime</b>				
50 Hz	11.9 (3.1)	10.6 (2.8)	8.0 (2.1)	5.7 (1.5)
60 Hz	-	-	-	-
<b>Standby</b>				
50 Hz		11.9 (3.1)	8.9 (2.4)	6.2 (1.6)
60 Hz		-	-	-
(based on diesel fuel with a specific gravity of 0.85 and conforming to BS2869, Class A2)				

Exhaust System	50 Hz	60 Hz
<b>Silencer Type:</b>	Industrial	
<b>Silencer Model &amp; Quantity:</b>	EXSY1 (1)	
<b>Pressure Drop Across</b>		
<b>Silencer System: kPa (in Hg)</b>	1.14 (0.337)	-
<b>Silencer Noise Reduction</b>		
<b>Level: dB</b>	15	-
<b>Max. Allowable Back</b>		
<b>Pressure: kPa (in. Hg)</b>	12.0 (3.5)	-
<b>Exhaust Gas Flow:</b>		
m <sup>3</sup> /min (cfm)		
-Standby:	7.7 (272)	-
-Prime:	7.0 (247)	-
<b>Exhaust Gas Temperature: °C (°F)</b>		
-Standby:	660 (1220)	-
-Prime:	610 (1130)	-

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## Generator Performance Data

Data Item	50 Hz				60 Hz				
	415/240V	400/230V	380/220V						
Motor Starting Capability* kVA	109	104	96	-	-	-	-	-	-
Short Circuit Capacity** %	300	300	300	-	-	-	-	-	-
Reactances: Per Unit									
Xd	2.583	2.780	3.080	-	-	-	-	-	-
X'd	0.140	0.150	0.166	-	-	-	-	-	-
X''d	0.070	0.075	0.083	-	-	-	-	-	-

Reactances shown are applicable to prime ratings.

\*Based on 30% voltage dip at 0.6 power factor and SHUNT excitation system.

\*\* With optional Permanent Magnet generator

## Generator Technical Data

Physical Data	
LC Series	
Model:	LC1514L
No. of Bearings:	1
Insulation Class:	H
Winding Pitch - Code:	2/3 - 6
Wires:	12
Ingress Protection Rating:	IP23
Excitation System:	SHUNT
AVR Model:	R220

Operating Data	
Overspeed: RPM	2250
Voltage Regulation: (steady state)	+/- 1.0%
Wave Form NEMA = TIF:	50
Wave Form IEC = THF:	2.0%
Total Harmonic Content LL/LN:	2.0%
Radio Interference:	Suppression is in line with European Standard EN61000-6
Radiant Heat: kW (Btu/min)	
-50 Hz:	5.2 (296)
-60 Hz:	-

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## Technical Data

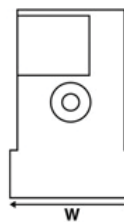
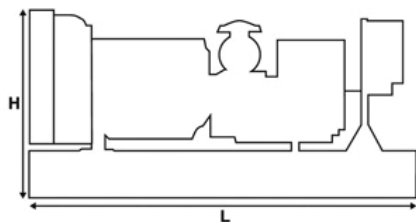
Voltage 50 Hz	Prime		Standby	
	kVA	kW	kVA	kW
415/240V	45.0	36.0	50.0	40.0
400/230V	45.0	36.0	50.0	40.0
380/220V	45.0	36.0	50.0	40.0

Voltage 60 Hz	Prime		Standby	
	kVA	kW	kVA	kW

## Weights & Dimensions

Weights: kg (lb)	
Net (+ lube oil)	850 (1873)
Wet (+ lube oil & coolant)	863 (1903)
Fuel, lube oil & coolant	1048 (2312)

Dimensions: mm (in)	
Length	1925 (75.8)
Width	1120 (44.1)
Height	1361 (53.6)



**Note:** General configuration not to be used for installation. See general dimension drawings for detail.

## Definitions

### Standby Rating

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 Rating

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 kW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year.

### Standard Reference Conditions

Note: Standard reference conditions 25°C (77°F) air inlet temp, 100m (328ft) A.S.L. 30% relative humidity. Fuel consumption data at full load with diesel fuel with specific gravity of 0.85 and conforming to BS2869: 1998, Class A2.

## General Data

### Documents

A full set of operation and maintenance manuals and circuit wiring diagrams.

### Quality Standards

The equipment meets the following standards: IEC60034-1, IEC60034-22, ISO3046, ISO8528, NEMA MG 1-32, NEMA MG 1-33, 2004/108/EC, 2006/42/EC, 2006/95/EC.

Performance No.: P3348B, P2574B

Feature Code: C03DE29, C03DE30, C03DE63, C03DE64

Gen. Arr. Number: 459-4401

Source: European or China Sourced

LEHE0694-00 (08/14)

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