

# DIESEL GENERATOR SET



## DE55E0

Image shown may not reflect actual package

Output Ratings		
Generator Set Model - 3 Phase	Prime*	Standby*
400/230 V, 50 Hz	50.0 kVA 40.0 kW	55.0 kVA 44.0 kW
480V, 60 Hz	56.3 kVA 45.0 kW	62.5 kVA 50.0 kW

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

Technical Data		
Engine Make & Model:	Cat® C3.3	
Generator Model:	LC1514N	
Control Panel:	EMCP 4.1	
Base Frame Type:	Heavy Duty Fabricated Steel	
Circuit Breaker Type:	3 Pole MCB / 3 Pole MCCB	
Frequency:	50 Hz	60 Hz
Engine Speed: RPM	1500	1800
Fuel Tank Capacity: litres (US gal)	219 (57.9)	
Fuel Consumption, Prime: l/hr (US gal/hr)	11.5 (3.0)	13.6 (3.6)
Fuel Consumption, Standby : l/hr (US gal/hr)	12.7 (3.4)	15.1 (4.0)

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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>	17.25:1
<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>	420 (926)
- Wet:	438 (966)

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:	3.9 (138)	4.9 (173)
-Prime:	3.8 (134)	4.7 (166)
<b>Max. Combustion Air Intake</b>		
<b>Restriction: kPa (in H<sub>2</sub>O)</b>	8.0 (32.1)	8.0 (32.1)
<b>Radiator Cooling Air Flow:</b>		
m <sup>3</sup> /min (cfm)	110.4 (3899)	145.8 (5149)
<b>External Restriction to</b>		
<b>Cooling Air Flow: Pa (in H<sub>2</sub>O)</b>	120 (0.5)	120 (0.5)

Cooling System	50 Hz	60 Hz
<b>Cooling System Capacity:</b>		
l (US gal)	10.2 (2.7)	10.2 (2.7)
<b>Water Pump Type:</b>	Centrifugal	
<b>Heat Rejected to Water &amp; Lube Oil: kW (Btu/min)</b>		
-Standby:	38.0 (2161)	43.0 (2445)
-Prime:	35.0 (1990)	41.0 (2332)
<b>Heat Radiation to Room:</b> Heat radiated from engine and alternator		
kW (Btu/min)		
-Standby:	16.4 (933)	16.9 (961)
-Prime:	14.6 (830)	16.0 (910)
<b>Radiator Fan Load: kW (hp)</b>	1.0 (1.3)	1.7 (2.3)
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	1800
<b>Gross Engine Power: kW (hp)</b>		
-Standby:	60.5 (81.0)	69.6 (93.0)
-Prime:	55.0 (74.0)	63.3 (85.0)
<b>BMEP: kPa (psi)</b>		
-Standby:	1467.0 (212.8)	1407.0 (204.0)
-Prime:	1333.0 (193.4)	1279.0 (185.5)
<b>Regenerative Power: kW</b>	7.0	9.0

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	12.7 (3.4)	11.5 (3.0)	8.7 (2.3)	6.2 (1.6)
60 Hz	15.1 (4.0)	13.6 (3.6)	10.4 (2.7)	7.6 (2.0)
<b>Standby</b>				
50 Hz		12.7 (3.4)	9.5 (2.5)	6.7 (1.8)
60 Hz		15.1 (4.0)	11.4 (3.0)	8.2 (2.2)
(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>	0.82 (0.242)	1.08 (0.319)
<b>Silencer Noise Reduction</b>		
<b>Level: dB</b>	16	18
<b>Max. Allowable Back</b>		
<b>Pressure: kPa (in. Hg)</b>	10.0 (3.0)	15.0 (4.4)
<b>Exhaust Gas Flow:</b>		
m <sup>3</sup> /min (cfm)		
-Standby:	8.8 (311)	10.6 (374)
-Prime:	8.4 (297)	9.8 (346)
<b>Exhaust Gas Temperature: °C (°F)</b>		
-Standby:	483 (901)	477 (891)
-Prime:	464 (867)	445 (833)


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## Technical Data

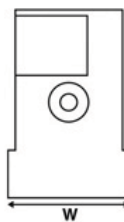
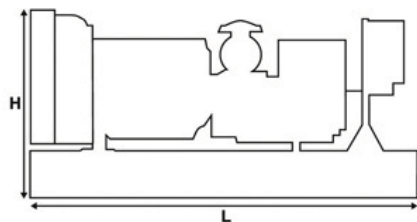
Voltage 50 Hz	Prime		Standby	
	kVA	kW	kVA	kW
415/240V	50.0	40.0	55.0	44.0
400/230V	50.0	40.0	55.0	44.0
380/220V	50.0	40.0	55.0	44.0
230/115V	50.0	40.0	55.0	44.0
220/127V	43.0	34.4	47.3	37.8
220/110V	50.0	40.0	55.0	44.0
200/115V	50.0	40.0	55.0	44.0

Voltage 60 Hz	Prime		Standby	
	kVA	kW	kVA	kW
480/277V	56.3	45.0	62.5	50.0
220/127V	56.3	45.0	62.5	50.0
380/220V	51.5	41.2	56.7	45.4
240/120V	56.3	45.0	62.5	50.0
440/254V	56.3	45.0	62.5	50.0
220/110V	51.5	41.2	56.7	45.4
208/120V	56.3	45.0	62.5	50.0
240/139V	56.3	45.0	62.5	50.0

## Weights & Dimensions

Weights: kg (lb)	
Net (+ lube oil)	863 (1902)
Wet (+ lube oil & coolant)	876 (1931)
Fuel, lube oil & coolant	1061 (2340)

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: P2506A, P2506B P2620A, P2620B

Feature Code: C03DE35, C03DE36, C03DE37, C03DE38, C03DE69,

C03DE70, C03DE71, C03DE72

Gen. Arr. Number: 459-4403

Source: European or China Sourced

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