

DIESEL GENERATOR SET



DE55E2

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	50.0 kVA 40.0 kW	55.0 kVA 44.0 kW
	-	-
	-	-

* Refer to ratings definitions on page 4.
Ratings at 0,8 power factor.

Technical Data		
Engine Make & Model:	Cat® C4.4	
Generator Model:	LC1514N	
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)	15.7 (4.1)	-
Fuel Consumption, Standby : l/hr (US gal/hr)	17.2 (4.5)	-

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Engine Technical Data

Physical Data		Lubrication System			
Manufacturer:	Caterpillar	Oil Filter Type:	Spin-On, Full Flow		
Model:	C4.4	Total Oil Capacity I (US gal):	8.0 (2.1)		
No. of Cylinders/Alignment:	4 / In Line	Oil Pan I (US gal):	7.0 (1.8)		
Cycle:	4 Stroke	Oil Type:	API CC/SE		
Induction:	Turbocharged	Cooling Method:	Water		
Cooling Method:	Water				
Governing Type:	Mechanical				
Governing Class:	ISO 8528 G2				
Compression Ratio:	18.2:1				
Displacement: I (cu.in)	4.4 (268.5)				
Bore/Stroke: mm (in)	105.0 (4.1)/127.0 (5.0)				
Moment of Inertia: kg m² (lb. in²)	1.14 (3896)				
Engine Electrical System:					
-Voltage/Ground:	12/Negative				
-Battery Charger Amps:	65				
Weight: kg (lb) - Dry:	463 (1021)				
- Wet:	485 (1069)				
Air System		Performance			
		50 Hz	60 Hz		
Air Filter Type:	Replaceable Element	Engine Speed: RPM	1500 -		
Combustion Air Flow:		Gross Engine Power: kW (hp)			
m ³ /min (cfm)	-Standby: 4.4 (156) -	-Standby:	62.5 (84.0) -		
	-Prime: 4.3 (153) -	-Prime:	56.2 (75.0) -		
Max. Combustion Air Intake		BMEP: kPa (psi)			
Restriction: kPa (in H₂O)	8.0 (32.1) -	-Standby:	1137.0 (164.9) -		
Radiator Cooling Air Flow:		-Prime:	1022.0 (148.2) -		
m ³ /min (cfm)	97.8 (3454) -	Regenerative Power: kW	8.1 -		
External Restriction to					
Cooling Air Flow: Pa (in H₂O)	125 (0.5) -				
Cooling System		Fuel System			
		50 Hz	60 Hz		
Cooling System Capacity:		Fuel Filter Type:	Replaceable Element		
I (US gal)	12.6 (3.3) -	Recommended Fuel:	Class A2 Diesel or BSEN590		
Water Pump Type:	Centrifugal	Fuel Consumption: l/hr (US gal/hr)			
Heat Rejected to Water & Lube Oil: kW (Btu/min)					
-Standby:	42.0 (2388) -	110% Load	100% Load		
-Prime:	38.0 (2161) -	75% Load	50% Load		
Heat Radiation to Room: Heat radiated from engine and alternator		Prime			
kW (Btu/min)	-Standby: 18.4 (1046)	50 Hz	17.2 (4.5) 15.7 (4.1) 11.9 (3.1) 8.1 (2.1)		
	-Prime: 14.2 (808)	60 Hz	- - - -		
Radiator Fan Load: kW (hp)	1.0 (1.3) -	Standby			
		50 Hz	17.2 (4.5) 13.1 (3.5) 8.8 (2.3)		
		60 Hz	- - - -		
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.		(based on diesel fuel with a specific gravity of 0.85 and conforming to BS2869, Class A2)			
Exhaust System		50 Hz		60 Hz	
Silencer Type:	Industrial	Silencer Model & Quantity:	EXSY1 (1)		
Pressure Drop Across Silencer System: kPa (in Hg)	3.30 (0.974)	Pressure Drop Across Silencer Noise Reduction Level: dB	19		
Max. Allowable Back Pressure: kPa (in. Hg)	12.0 (3.5)	Exhaust Gas Flow:			
Exhaust Gas Temperature: °C (°F)		m ³ /min (cfm)	-Standby:	10.0 (353)	-
			-Prime:	9.0 (318)	-
			-Standby:	493 (919)	-
			-Prime:	446 (835)	-

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Generator Performance Data

Data Item	50 Hz				60 Hz				
	415/240V	400/230V	380/220V						
Motor Starting Capability* kVA	121	115	107	-	-	-	-	-	-
Short Circuit Capacity** %	300	300	300	-	-	-	-	-	-
Reactances: Per Unit									
Xd	2.480	2.670	2.958	-	-	-	-	-	-
X'd	0.132	0.142	0.157	-	-	-	-	-	-
X''d	0.066	0.071	0.079	-	-	-	-	-	-

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:	LC1514N
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:	5.4 (307)
-60 Hz:	-

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Technical Data

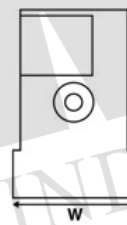
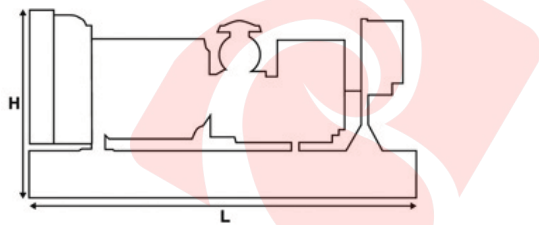
Voltage 50 Hz	Prime		Standby	
	kVA	kW	kVA	kW
415/240V	50.0	40.0	55.0	44.0
400/230V	50.0	40.0	55.0	44.0
380/220V	50.0	40.0	55.0	44.0

Voltage 60 Hz	Prime		Standby	
	kVA	kW	kVA	kW

Weights & Dimensions

Weights: kg (lb)	
Net (+ lube oil)	903 (1990)
Wet (+ lube oil & coolant)	916 (2019)
Fuel, lube oil & coolant	1101 (2428)

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.