

DIESEL GENERATOR SET



DE16E3S

EU stage IIIA emissions compliant.
Suitable for Mobile Applications in the European Community.

Image shown may not reflect actual package

Output Ratings		
Generator Set Model - 1 Phase	Prime*	Standby*
230V, 50Hz	15.0 kVA	16.5 kVA
	15.0 kW	16.5 kW
240/120V, 60 Hz	17.6 kVA	19.4 kVA
	17.6 kW	19.4 kW

* Refer to ratings definitions on page 4.
Ratings at 1.0 power factor.

Technical Data		
Engine Make & Model:	Cat® C2.2	
Generator Model:	LCB1114M	
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	1800
Fuel Tank Capacity: litres (US gal)	66 (17.4)	
Fuel Consumption, Prime: l/hr (US gal/hr)	4.9 (1.3)	5.7 (1.5)
Fuel Consumption, Standby : l/hr (US gal/hr)	5.5 (1.5)	6.3 (1.7)



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Engine Technical Data

Physical Data		50 Hz		60 Hz	
Manufacturer:	Caterpillar				
Model:	C2.2				
No. of Cylinders/Alignment:	4 / In Line				
Cycle:	4 Stroke				
Induction:	Naturally Aspirated				
Cooling Method:	Water				
Governing Type:	Mechanical				
Governing Class:	ISO 8528				
Compression Ratio:	23.3:1				
Displacement: l (cu.in)	2.2 (135.2)				
Bore/Stroke: mm (in)	84.0 (3.3)/100.0 (3.9)				
Moment of Inertia: kg m² (lb. in²)	2.72 (9308)				
Engine Electrical System:					
-Voltage/Ground:	12/Negative				
-Battery Charger Amps:	65				
Weight: kg (lb) - Dry:	242 (534)				
- Wet:	251 (554)				
Air System		50 Hz		60 Hz	
Air Filter Type:	Replaceable Element				
Combustion Air Flow:					
m ³ /min (cfm)					
-Standby:		1.5 (51)		1.7 (61)	
-Prime:		1.5 (51)		1.7 (61)	
Max. Combustion Air Intake					
Restriction: kPa (in H₂O)		3.0 (12.0)		3.0 (12.0)	
Radiator Cooling Air Flow:					
m ³ /min (cfm)		33.0 (1165)		41.4 (1462)	
External Restriction to					
Cooling Air Flow: Pa (in H₂O)		125 (0.5)		125 (0.5)	
Cooling System		50 Hz		60 Hz	
Cooling System Capacity:					
l (US gal)		6.5 (1.7)		6.5 (1.7)	
Water Pump Type:	Centrifugal				
Heat Rejected to Water & Lube Oil: kW (Btu/min)					
-Standby:		19.6 (1115)		22.2 (1262)	
-Prime:		17.0 (967)		19.9 (1132)	
Heat Radiation to Room: Heat radiated from engine and alternator					
kW (Btu/min)					
-Standby:		6.9 (392)		7.7 (438)	
-Prime:		5.4 (307)		6.4 (364)	
Radiator Fan Load: kW (hp)		0.2 (0.3)		0.4 (0.5)	
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					
Oil Filter Type:	Spin-On, Full Flow				
Total Oil Capacity l (US gal):	10.6 (2.8)				
Oil Pan l (US gal):	8.9 (2.4)				
Oil Type:	API CH4 15W-40				
Cooling Method:	N/A				
Performance		50 Hz		60 Hz	
Engine Speed: RPM		1500		1800	
Gross Engine Power: kW (hp)					
-Standby:		20.6 (28.0)		24.3 (33.0)	
-Prime:		18.7 (25.0)		22.0 (30.0)	
BMEP: kPa (psi)					
-Standby:		743.0 (107.8)		731.0 (106.0)	
-Prime:		675.0 (97.9)		662.0 (96.0)	
Regenerative Power: kW		5.6		7.2	
Fuel System					
Fuel Filter Type:	Replaceable Element				
Recommended Fuel:	Class A2 Diesel or BSEN590				
Fuel Consumption: l/hr (US gal/hr)					
		110% Load	100% Load	75% Load	50% Load
Prime					
50 Hz	5.5 (1.5)	4.9 (1.3)	3.7 (1.0)	2.7 (0.7)	
60 Hz	6.3 (1.7)	5.7 (1.5)	4.4 (1.2)	3.3 (0.9)	
Standby					
50 Hz		5.5 (1.5)	4.0 (1.1)	2.9 (0.8)	
60 Hz		6.3 (1.7)	4.8 (1.3)	3.5 (0.9)	
(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)		0.57 (0.168)		1.56 (0.461)	
Silencer Noise Reduction					
Level: dB		18.7		11.5	
Max. Allowable Back					
Pressure: kPa (in. Hg)		10.2 (3.0)		10.2 (3.0)	
Exhaust Gas Flow:					
m ³ /min (cfm)					
-Standby:		3.9 (139)		4.8 (168)	
-Prime:		3.6 (129)		4.3 (153)	
Exhaust Gas Temperature: °C (°F)					
-Standby:		505 (941)		510 (950)	
-Prime:		445 (833)		440 (824)	

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Generator Performance Data

Data Item	50 Hz				60 Hz				
	240V	230V	220V			220V/110V	240V/120V		
Motor Starting Capability* kVA	41	39	37	-	-	32	37	-	-
Short Circuit Capacity %	-	-	-	-	-	-	-	-	-
Reactances: Per Unit									
Xd	1.460	1.590	1.740	-	-	2.440	2.050	-	-
X'd	0.210	0.230	0.250	-	-	0.360	0.300	-	-
X''d	0.107	0.116	0.127	-	-	0.179	0.150	-	-

Reactances shown are applicable to prime ratings.
*Based on 30% voltage dip at 0.9 power factor.

Generator Technical Data

Physical Data	
LC Series	
Model:	LCB1114M
No. of Bearings:	1
Insulation Class:	H
Winding Pitch - Code:	2/3 - M
Wires:	4
Ingress Protection Rating:	IP23
Excitation System:	SHUNT
AVR Model:	R220/R221

Operating Data	
Overspeed: RPM	2250
Voltage Regulation: (steady state)	+/- 1.0%
Wave Form NEMA = TIF:	100
Wave Form IEC = THF:	3.0%
Total Harmonic Content LL/LN:	5.0%
Radio Interference:	Suppression is in line with European Standard EN61000-6
Radiant Heat: kW (Btu/min)	
-50 Hz:	2.5 (142)
-60 Hz:	3.1 (176)

