

DIESEL GENERATOR SET



DE88E0

Image shown may not reflect actual package

Output Rating		
Generator Model - 3 Phase	Prime*	Standby*
400/230 V, 50 Hz	80.0 kVA 64.0 kW	88.0 kVA 70.4 kW
480V, 60 Hz	90.0 kVA 72.0 kW	100.0 kVA 80.0 kW

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

Technical Data		
Engine Make & Model:	Cat® C4.4	
Generator Model:	LC3114D	
Control Panel:	EMCP 4.1	
Base Frame Type:	Heavy Duty Fabricated Steel	
Circuit Breaker Type:	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)	18.0 (4.8)	21.0 (5.5)
Fuel Consumption, Standby: l/hr (US gal/hr)	19.8 (5.2)	23.3 (6.2)

DIESEL GENERATOR SET



Engine Technical Data

Product Data	
Manufacturer:	Caterpillar
Model:	C4.4
Configuration / Application:	4 / In Line
Cycle:	4 Stroke
Layout:	Turbocharged
Cooling Medium:	Water
Drive Type:	Mechanical
Drive Class:	ISO 8528 G2
Compression Ratio:	17.25:1
Displacement: l (cu.in)	4.4 (268.5)
Bore/Stroke: mm (in)	105.0 (4.1)/127.0 (5.0)
Maximum Fuel Consumption: kg m ³ (lb. in ²)	1.14 (3896)
Engine Exhaust System:	
-Voltage/Ground:	12/Negative
-Batteries Charge Amperage:	65
Weight: kg (lb) - Dry:	463 (1021)
-Wet:	485 (1069)

Accessory	50 Hz	60 Hz
Accessory Type:	Replaceable Element	
Capacity Air Flow:		
m ³ /min (cfm)	-Standard: 5.1 (180)	6.5 (230)
	-Power: 4.8 (170)	6.2 (219)
Maximum Capacity Air Flow:		
Reference: kPa (in H ₂ O)	8.0 (32.1)	8.0 (32.1)
Rated Capacity Air Flow:		
m ³ /min (cfm)	121.2 (4280)	140.4 (4958)
Reference Pressure:		
Capacity Air Flow: Pa (in H ₂ O)	120 (0.5)	120 (0.5)

Cooling System	50 Hz	60 Hz
Cooling System Capacity:		
l (US gal)	13.0 (3.4)	13.0 (3.4)
Water Pump Type:	Centrifugal	
Heat Rejection Water & Lubrication:		
Load: kW (Btu/min)		
	-Standard: 51.0 (2900)	57.0 (3242)
	-Power: 46.0 (2616)	53.0 (3014)
Heat Radiation Rating: Heat radiated from engine and alternator		
kW (Btu/min)	-Standard: 20.7 (1177)	22.1 (1257)
	-Power: 18.9 (1075)	20.1 (1143)
Radiation Factor Load: kW (hp)	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	
Oil Filter Type:	Spin-On, Full Flow
Total Oil Capacity l (US gal):	8.0 (2.1)
Oil Pan (US gal):	7.0 (1.8)
Oil Type:	API CG4 / CH4 15W-40
Cooling Medium:	Water

Performance	50 Hz	60 Hz
Engine Speed: RPM	1500	1800
Generator Power: kW (hp)		
	-Standard: 80.7 (108.0)	93.0 (125.0)
	-Power: 73.4 (98.0)	84.5 (113.0)
BMEP: kPa (psi)		
	-Standard: 1468.0 (212.9)	1409.0 (204.4)
	-Power: 1335.0 (193.6)	1280.0 (185.7)
Regeneration Power: kW	7.0	9.0

Filter				
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
Power:				
50 Hz	19.8 (5.2)	18.0 (4.8)	13.6 (3.6)	9.5 (2.5)
60 Hz	23.3 (6.2)	21.0 (5.5)	16.1 (4.3)	11.6 (3.1)
Standard:				
50 Hz	19.8 (5.2)	14.9 (3.9)	10.3 (2.7)	
60 Hz	23.3 (6.2)	17.7 (4.7)	12.5 (3.3)	

(based on diesel fuel with a specific gravity of 0.85 and conforming to BS2869, Class A2)

Electrical System	50 Hz	60 Hz
Service Type:	Industrial	
Service Model & Quantity:	EXSY1 (1)	
Pressure Differential:		
Service System: kPa (in Hg)	1.17 (0.345)	1.97 (0.581)
Service Noise Reduction:		
Level: dB	16	16
Maximum Allowable Back Pressure: kPa (in. Hg)	10.0 (3.0)	15.0 (4.4)
Electrical Generator:		
m ³ /min (cfm)	-Standard: 13.3 (470)	15.9 (560)
	-Power: 12.5 (441)	15.0 (530)
Electrical Generator Temperature: °C (°F)		
	-Standard: 580 (1076)	560 (1040)
	-Power: 555 (1031)	535 (995)

DIESEL GENERATOR SET



Generator Performance Data

Data Item	50 Hz				60 Hz				
	415/240V	400/230V 230/115V 200/115V	380/220V 220/110V	220/127V	480/277V 240/139V	380/220V 220/110V	240/120V 208/120V		440/254V 220/127V
Maximum Output Capacity * VA	196	184	168	217	215	143	168	-	185
Short Circuit Capacity ** %	300	300	300	300	300	300	300	-	300
Reactance: Per Unit									
Xd	2.535	2.728	3.023	2.255	2.558	4.081	3.405	-	3.044
X _r d	0.110	0.118	0.131	0.097	0.111	0.176	0.147	-	0.132
X _{rr} d	0.066	0.071	0.078	0.058	0.066	0.106	0.088	-	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:	LC3114D
Number of Bearings:	1
Insulation Class:	H
Winding Protection Code:	2/3 - 6
Weight:	12
Insulation Protection Rating:	IP23
Excitation System:	SHUNT
AVR Model:	R250

Operating Data	
Operating Speed: RPM	2250
Voltage Regulation: (load change)	+/- 0.5%
Wave Factor NEMA = TIF:	50
Wave Factor IEC = THF:	2.0%
Total Harmonic Content LL/LN:	2.0%
Radio Interference:	Suppression is in line with European Standard EN61000-6
Radio Interference: W (dB/μV)	
-50 Hz:	6.7 (381)
-60 Hz:	7.1 (404)

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Technical Data

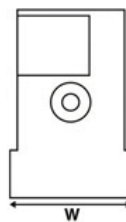
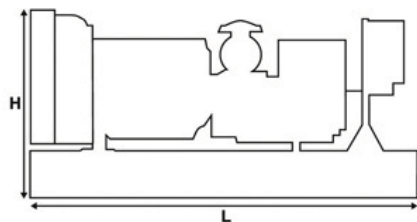
Voltage 50 Hz	Prime		Standby	
	VA	W	VA	W
415/240V	80.0	64.0	88.0	70.4
400/230V	80.0	64.0	88.0	70.4
380/220V	80.0	64.0	88.0	70.4
230/115V	80.0	64.0	88.0	70.4
220/127V	80.0	64.0	88.0	70.4
220/110V	80.0	64.0	88.0	70.4
200/115V	80.0	64.0	88.0	70.4

Voltage 60 Hz	Prime		Standby	
	VA	W	VA	W
480/277V	90.0	72.0	100.0	80.0
220/127V	90.0	72.0	100.0	80.0
380/220V	90.0	72.0	100.0	80.0
240/120V	90.0	72.0	100.0	80.0
440/254V	90.0	72.0	100.0	80.0
220/110V	90.0	72.0	100.0	80.0
208/120V	90.0	72.0	100.0	80.0
240/139V	90.0	72.0	100.0	80.0

Weight & Dimensions

Weight : kg (lb)	
Net (+ base)	1058 (2332)
Net (+ base & cabinet)	1071 (2361)
Gross base & cabinet	1256 (2770)

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.

Definition

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 Standard

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.: P2516A, P2516B

Feature Code: C04DE23, C04DE24, C04DE25, C04DE26, C04DE42,

C04DE43, C04DE44, C04DE45

Gen. Arr. Number: 448-4943

Source: European or China Sourced

LEHE0704-00 (08/14)

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