

# DIESEL GENERATOR SET



## DE88E0

Image shown may not reflect actual package

O p e r a t i n g		
Ge n e r a t o r S e M d e - 3 P a s e	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.

T e c n i c a l D a t a		
E n g i n e M a e & M d e :	Cat® C4.4	
Ge n e r a t o r M d e :	LC3114D	
C o n t r o l P a n e l :	EMCP 4.1	
B a s e F a b r i c a t e d :	Heavy Duty Fabricated Steel	
C o n t r o l B e a k e r T y p e :	3 Pole MCCB	
F u e l C a p a c i t y :	<b>50 H</b>	<b>60 H</b>
E n g i n e S p e e d: RPM	1500	1800
F u e l T a n k C a p a c i t y : litres (US gal)	219 (57.9)	
F u e l C o n s u m p t i o n , P r i m e: l/hr (US gal/hr)	18.0 (4.8)	21.0 (5.5)
F u e l C o n s u m p t i o n , S t a n d b y : l/hr (US gal/hr)	19.8 (5.2)	23.3 (6.2)

# DIESEL GENERATOR SET



## Engine Technical Data

Physical Data	
Manufacturer:	Caterpillar
Model:	C4.4
Nominal Capacity / Arrangement:	4 / In Line
Cycle:	4 Stroke
Induction:	Turbocharged
Cooling Medium:	Water
Generator Type:	Mechanical
Generator 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 <sup>3</sup> (lb. in <sup>2</sup> )	1.14 (3896)
Engine Electrical System:	
-Voltage/Generator:	12/Negative
-Battery Charge Amperage:	65
Weight: kg (lb) - Dry:	463 (1021)
- Wet:	485 (1069)

Air Flow	50 H	60 H
Replaceable Element		
Capacity: m <sup>3</sup> /min (cfm)		
-S a db:	5.1 (180)	6.5 (230)
-P <sub>1</sub> e:	4.8 (170)	6.2 (219)
Maximum Air Flow		
Resistance: kPa (in H <sub>2</sub> O)	8.0 (32.1)	8.0 (32.1)
Rated Air Flow: m <sup>3</sup> /min (cfm)	121.2 (4280)	140.4 (4958)
Exhaust Resistance		
Capacity: Pa (in H <sub>2</sub> O)	120 (0.5)	120 (0.5)

Cooling System	50 H	60 H
Capacity: l (US gal)	13.0 (3.4)	13.0 (3.4)
Water Pump Type:	Centrifugal	
Heat Rejected Water & Lubrication: kW (Btu/min)		
-S a db:	51.0 (2900)	57.0 (3242)
-P <sub>1</sub> e:	46.0 (2616)	53.0 (3014)
Heat Radiated: kW (Btu/min)		
-S a db:	20.7 (1177)	22.1 (1257)
-P <sub>1</sub> e:	18.9 (1075)	20.1 (1143)
Radiated Fuel: 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 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 H	60 H
Engine Speed: RPM	1500	1800
Generator Power: kW (hp)		
-S a db:	80.7 (108.0)	93.0 (125.0)
-P <sub>1</sub> e:	73.4 (98.0)	84.5 (113.0)
BMEP: kPa (psi)		
-S a db:	1468.0 (212.9)	1409.0 (204.4)
-P <sub>1</sub> e:	1335.0 (193.6)	1280.0 (185.7)
Regeneration Power: kW	7.0	9.0

Fuel System				
Filter Type:	Replaceable Element			
Recommended Fuel:	Class A2 Diesel or BSEN590			
Flow Capacity: 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)
S a db				
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 H	60 H
Service Type:	Industrial	
Service Model & Quantity:	EXSY1 (1)	
Pressure Drop: 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)
Exhaust Gas Flow: m <sup>3</sup> /min (cfm)		
-S a db:	13.3 (470)	15.9 (560)
-P <sub>1</sub> e:	12.5 (441)	15.0 (530)
Exhaust Gas Temperature: °C (°F)		
-S a db:	580 (1076)	560 (1040)
-P <sub>1</sub> e:	555 (1031)	535 (995)

# DIESEL GENERATOR SET



## Generator Performance Data

Data Item	50 H				60 H				
	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 Capacity, * VA	196	184	168	217	215	143	168	-	185
Service Capacity, ** %	300	300	300	300	300	300	300	-	300
Reactance: Per U									
Xd	2.535	2.728	3.023	2.255	2.558	4.081	3.405	-	3.044
X <sub>r</sub> d	0.110	0.118	0.131	0.097	0.111	0.176	0.147	-	0.132
X <sub>rr</sub> 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
NEMA Frame:	1
Installation Category:	H
Winding Protection Code:	2/3 - 6
Weight:	12
Insulation Protection Rating:	IP23
Excitation System:	SHUNT
AVR Model:	R250

Operational Data	
Operating Speed: RPM	2250
Voltage Regulation: (Load Range)	+/- 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 Heat: W (B / )	
-50 Hz:	6.7 (381)
-60 Hz:	7.1 (404)

# DIESEL GENERATOR SET



## Tec ca Da a

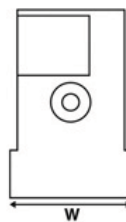
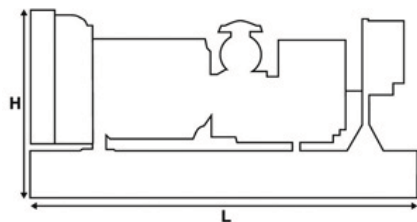
V oltagge 50 H	P ote		S a dh	
	VA	W	VA	W
415/240V	80.0	64.0	88.0	70.4
400/230V	80.0	64.0	88.0	70.4
380/220V	80.0	64.0	88.0	70.4
230/115V	80.0	64.0	88.0	70.4
220/127V	80.0	64.0	88.0	70.4
220/110V	80.0	64.0	88.0	70.4
200/115V	80.0	64.0	88.0	70.4

V oltagge 60 H	P ote		S a dh	
	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

## W eigh & D e

W eigh : kg (lb)	
Ne (+ be )	1058 (2332)
We (+ be & c a )	1071 (2361)
Fe, be & c a	1256 (2770)

D e : mm (in)	
Le gh	1925 (75.8)
W d	1120 (44.1)
He gh	1361 (53.6)



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

## Def

### S a dh Ra gh

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.

### P ote Ra gh

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.

### S a dh Refe e ce C d

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.

## Ge e a Da a

### D c e

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

### Q a , S a da d

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)

www.Cat-ElectricPower.com

© 2014 Caterpillar  
All rights reserved.

Materials and specifications are subject to change without notice. The International System of Units (SI) is used in this publication. CAT, CATERPILLAR, their respective logos, "Caterpillar Yellow," the "Power Edge" trade dress, as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.