

# DIESEL GENERATOR SET



DE150E0

Image shown may not reflect actual package

Output Ratings		
Generator Set Model - 3 Phase	Prime*	Standby*
400/230 V, 50 Hz	135.0 kVA 108.0 kW	150.0 kVA 120.0 kW
	-	-
	-	-

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

Technical Data		
Engine Make & Model:	Cat® C7.1	
Generator Model:	LC3114H	
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	-
Fuel Tank Capacity: litres (US gal)	349 (92.2)	
Fuel Consumption, Prime : l/hr (US gal/hr)	29.7 (7.8)	-
Fuel Consumption, Standby : l/hr (US gal/hr)	33.2 (8.8)	-

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## Engine Technical Data

Physical Data	
Manufacturer:	Caterpillar
Model:	C7.1
No. of Cylinders/Alignment:	6 / In Line
Cycle:	4 Stroke
Induction:	Turbocharged
Cooling Method:	Water
Governing Type:	Mechanical
Governing Class:	ISO 8528 G2
Compression Ratio:	18.2:1
Displacement: l (cu.in)	7.0 (427.8)
Bore/Stroke : mm (in)	105.0 (4.1)/135.0 (5.3)
Moment of Inertia: kg m <sup>2</sup> (lb. in <sup>2</sup> )	1.40 (4784)
Engine Electrical System:	
-Voltage/Ground:	12/Negative
-Battery Charger Amps:	65
Weight: kg (lb) - Dry:	725 (1598)
- Wet:	748 (1649)

Air System	50 Hz	60 Hz
Air Filter Type:	Paper Element	
Combustion Air Flow:		
m <sup>3</sup> /min (cfm) -Standby:	8.1 (286)	-
-Prime:	7.6 (270)	-
Max. Combustion Air Intake		
Restriction: kPa (in H <sub>2</sub> O)	5.0 (20.1)	-
Radiator Cooling Air Flow:		
m <sup>3</sup> /min (cfm)	264.0 (9323)	-
External Restriction to		
Cooling Air Flow: Pa (in H <sub>2</sub> O)	125 (0.5)	-

Cooling System	50 Hz	60 Hz
Cooling System Capacity:		
l (US gal)	21.0 (5.5)	-
Water Pump Type:	Centrifugal	
Heat Rejected to Water & Lube Oil: kW (Btu/min)		
-Standby:	82.0 (4663)	-
-Prime:	74.9 (4259)	-
Heat Radiation to Room: Heat radiated from engine and alternator		
kW (Btu/min) -Standby:	25.1 (1427)	-
-Prime:	20.9 (1189)	-
Radiator Fan Load: kW (hp)	5.0 (6.7)	-
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):	16.5 (4.4)
Oil Pan l (US gal):	14.9 (3.9)
Oil Type:	API CH4 / CI4 15W-40
Cooling Method:	Water

Performance	50 Hz	60 Hz
Engine Speed: RPM	1500	-
Gross Engine Power: kW (hp)		
-Standby:	136.9 (184.0)	-
-Prime:	123.7 (166.0)	-
BMEP: kPa (psi)		
-Standby:	1562.0 (226.5)	-
-Prime:	1411.0 (204.6)	-
Regenerative Power: kW	6.2	-

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	33.2 (8.8)	29.7 (7.8)	22.4 (5.9)	16.1 (4.3)
60 Hz	-	-	-	-
Standby				
50 Hz		33.2 (8.8)	24.8 (6.6)	17.4 (4.6)
60 Hz		-	-	-
(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)	0.45 (0.133)	-
Silencer Noise Reduction		
Level: dB	10	-
Max. Allowable Back		
Pressure: kPa (in. Hg)	6.0 (1.8)	-
Exhaust Gas Flow:		
m <sup>3</sup> /min (cfm) -Standby:	20.5 (725)	-
-Prime:	18.9 (666)	-
Exhaust Gas Temperature: °C (°F)		
-Standby:	561 (1042)	-
-Prime:	561 (1042)	-

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## Generator Performance Data

Data Item	50 Hz				60 Hz				
	415/240V	400/230V 230/115V 200/115V	380/220V 220/110V	220/127V					
Motor Starting Capability* kVA	373	351	322	409	-	-	-	-	-
Short Circuit Capacity** %	300	300	300	300	-	-	-	-	-
Reactances: Per Unit									
Xd	3.001	3.230	3.579	2.472	-	-	-	-	-
X'd	0.141	0.152	0.168	0.116	-	-	-	-	-
X''d	0.085	0.091	0.101	0.070	-	-	-	-	-

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:	LC3114H
No. of Bearings:	1
Insulation Class:	H
Winding Pitch - Code:	2/3 - 6
Wires:	12
Ingress Protection Rating:	IP23
Excitation System:	SHUNT
AVR Model:	R250

Operating Data	
Overspeed: RPM	2250
Voltage Regulation: (steady state)	+/- 0.5%
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:	9.8 (557)
-60 Hz:	-

## Technical Data

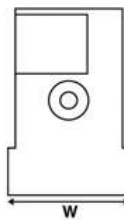
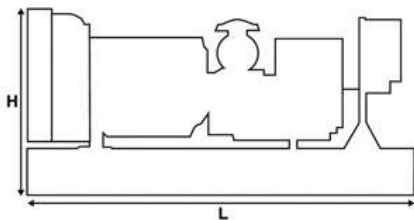
Voltage 50 Hz	Prime		Standby	
	kVA	kW	kVA	kW
415/240V	135.0	108.0	150.0	120.0
400/230V	135.0	108.0	150.0	120.0
380/220V	135.0	108.0	150.0	120.0
230/115V	135.0	108.0	150.0	120.0
220/127V	125.0	100.0	137.5	110.0
220/110V	135.0	108.0	150.0	120.0
200/115V	135.0	108.0	150.0	120.0

Voltage 60 Hz	Prime		Standby	
	kVA	kW	kVA	kW

## Weights & Dimensions

Weights: kg (lb)	
Net (+ lube oil)	1512 (3333)
Wet (+ lube oil & coolant)	1533 (3380)
Fuel, lube oil & coolant	1829 (4031)

Dimensions: mm (in)	
Length	2500 (98.4)
Width	1120 (44.1)
Height	1430 (56.3)



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.