



**DE220E0** 

Image shown may not reflect actual package

Output Ratings				
Generator Set Model - 3 Phase	Prime*	Standby*		
400/230 V, 50 Hz	200.0 kVA 160.0 kW	218.0 kVA 174.4 kW		
	-	-		

<sup>\*</sup> Refer to ratings definitions on page 4. Ratings at 0.8 power factor.

Technical Data				
Engine Make & Model:	Cat® C7.1			
Generator Model:	LC5014F			
Control Panel:	EMCP 4.1			
Base Frame Type:	Heavy Duty Fabricated Steel	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)	418 (1	418 (110.4)		
Fuel Consumption, Prime: I/hr (US gal/hr)	45.4 (12.0)	-		
Fuel Consumption, Standby : I/hr (US gal/hr)	49.5 (13.1)	-		



# **Engine Technical Data**

Physical Data	
Manufacturer:	Caterpillar
Model:	C7.1
No. of Cylinders/Alignment:	6 / In Line
Cycle:	4 Stroke
Induction:	Turbocharged Air To Air Charge Cooled
Cooling Method:	Water
Governing Type:	Electronic
Governing Class:	ISO 8528 G2
Compression Ratio:	16.0:1
Displacement: I (cu.in)	7.0 (427.8)
Bore/Stroke: mm (in)	105.0 (4.1)/135.0 (5.3)
Moment of Inertia: kg m² (lb. in²)	1.26 (4306)
Engine Electrical System:	
-Voltage/Ground:	12/Negative
-Battery Charger Amps:	85
Weight: kg (lb) - Dry:	788 (1737)
- Wet:	822 (1812)

Air System		50 Hz	60 Hz
Air Filter Type:		Paper Element	
Combustion Air Fl	ow:		
m³/min (cfm)	-Standby:	13.2 (466)	-
	-Prime:	12.6 (445)	-
Max. Combustion	Air Intake		
Restriction: kPa (in H <sub>2</sub> O)		8.0 (32.1)	-
Radiator Cooling	Air Flow:		
m³/min (cfm)		307.2 (10849)	-
<b>External Restrictio</b>	n to		
Cooling Air Flow	: Pa (in H <sub>2</sub> O)	125 (0.5)	-

Cooling System	1	50 Hz	60 Hz	
Cooling System Ca	pacity:			
I (US gal)		27.0 (7.1)	-	
Water Pump Type:		Centrif	fugal	
Heat Rejected to V	/ater &			
Lube Oil: kW (Btu	ı/min)			
	-Standby:	81.0 (4606)	-	
	-Prime:	78.2 (4447)	-	
Heat Radiation to F	Room: Heat radiate	ed from engine and alte	rnator	
kW (Btu/min)	-Standby:	28.3 (1609)		
	-Prime:	26.0 (1479)		
Radiator Fan Load: kW (hp)		6.3 (8.5)	-	
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.				

Lub	ricati	on S	ysten	1

 Oil Filter Type:
 Spin-On, Full Flow

 Total Oil Capacity I (US gal):
 16.5 (4.4)

 Oil Pan I (US gal):
 14.9 (3.9)

 Oil Type:
 API Cl4 15W-40

 Cooling Method:
 Water

Performance	50 Hz	60 Hz	
Engine Speed: RPM	1500	-	
Gross Engine Power: kW (hp)			
-Standby:	196.3 (263.0)	-	
-Prime:	178.9 (240.0)	-	
BMEP: kPa (psi)			
-Standby:	2239.0 (324.7)	-	
-Prime:	2041.0 (296.0)	-	
Regenerative Power: kW	9.3	-	

Fuel S	ystem			
Fuel Filter Type: Recommended Fuel: Fuel Consumption: I/hr			)	
	110% Load	100% Load	75% Load	50% Load
Prime				
50 Hz	49.5 (13.1)	45.4 (12.0)	34.7 (9.2)	23.4 (6.2)
60 Hz	-	-	-	-
Standb	y			
50 Hz		49.5 (13.1)	38.0 (10.0)	25.7 (6.8)
60 Hz		-	-	-
(based on diesel fuel with a specific gravity of 0.85 and conforming to BS2869, Class A2)				

Exhaust Systen	า	50 Hz	60 Hz
Silencer Type:		Industr	rial
Silencer Model & Q	uantity:	EXSY1	(1)
Pressure Drop Acro	ss		
Silencer System:	kPa (in Hg)	3.50 (1.034)	-
Silencer Noise Redu	uction		
Level: dB		10	-
Max. Allowable Bad	ck		
Pressure: kPa (in. Hg)		15.0 (4.4)	-
Exhaust Gas Flow:			
m³/min (cfm)	-Standby:	36.8 (1300)	-
	-Prime:	34.9 (1232)	-
Exhaust Gas Tempe	erature: °C (°F)		
	-Standby:	580 (1076)	-
	-Prime:	527 (981)	-

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# **Generator Performance Data**

50 Hz				60 Hz					
Data Item	415/240V	400/230V 230/115V 200/115V	380/220V 220/110V	220/127V					
Motor Starting Capability* kVA	414	389	356	457	-	-	-	-	-
Short Circuit Capacity** %	300	300	300	300	1	1	-	1	-
Reactances: Per Unit									
Xd	2.794	3.008	3.330	2.237	-	-	-	-	-
X'd	0.137	0.148	0.163	0.110	-	-	-	-	-
X''d	0.082	0.089	0.098	0.066	-	-	-	-	-

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:	LC5014F
No. of Bearings:	1
Insulation Class:	Н
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	+/- 0.5%			
Wave Form NEMA = TIF:	50			
Wave Form IEC = THF:	2.0%			
Total Harmonic Content LL/L	<b>N</b> : 4.0%			
Radio Interference: Suppression is in line with European Standard EN61000-6				
Radiant Heat: kW (Btu/min)				
-50 Hz:	15.1 (859)			
-60 Hz:	-			



## **Technical Data**

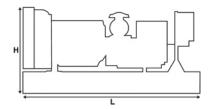
Voltage 50 Hz	Prime		Stand	lby
	kVA	kW	kVA	kW
415/240V	200.0	160.0	220.0	176.0
400/230V	200.0	160.0	218.0	174.4
380/220V	200.0	160.0	219.8	175.8
230/115V	200.0	160.0	218.0	174.4
220/127V	180.0	144.0	200.0	160.0
220/110V	200.0	160.0	219.8	175.8
200/115V	200.0	160.0	218.0	174.4

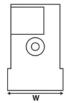
Voltage 60 Hz	Prime		Standby	
	kVA	kW	kVA	kW

# Weights & Dimensions

Weights: kg (lb)		
Net (+ lube oil)	1731 (3816)	
Wet (+ lube oil & coolant)	1758 (3876)	
Fuel, lube oil & coolant	2112 (4656)	

Dimensions: mm (in)		
Length	2500 (98.4)	
Width	1320 (52.0)	
Height	1626 (64.0)	





**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 ekW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload opeation 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.

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Performance No.: P3692B Feature Code: C07DE12, C07DE16

Gen. Arr. Number: 459-4435, 459-4436, 459-4437

Source: European or China Sourced

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