



DIESEL GENERATOR SET



Engine Technical Data

Physical Data		Lubrication System	
Manufacturer:	Caterpillar	Oil Filter Type:	Spin-On, Full Flow
Model:	C3.3	Total Oil Capacity I (US gal):	8.3 (2.2)
No. of Cylinders/Alignment:	3 / In Line	Oil Pan I (US gal):	7.8 (2.1)
Cycle:	4 Stroke	Oil Type:	API CG4 / CH4 15W-40
Induction:	Naturally Aspirated	Cooling Method:	Water
Cooling Method:	Water		
Governing Type:	Mechanical		
Governing Class:	ISO 8528 G2		
Compression Ratio:	19.25:1		
Displacement: I (cu.in)	3.3 (201.4)		
Bore/Stroke: mm (in)	105.0 (4.1)/127.0 (5.0)		
Moment of Inertia: kg m² (lb. in²)	1.14 (3896)		
Engine Electrical System:			
-Voltage/Ground:	12/Negative		
-Battery Charger Amps:	65		
Weight: kg (lb) - Dry:	412 (908)		
- Wet:	430 (948)		
Air System		Performance	
		50 Hz	60 Hz
Air Filter Type:	Replaceable Element	Engine Speed: RPM	1500 -
Combustion Air Flow:		Gross Engine Power: kW (hp)	
m ³ /min (cfm)	-Standby: 2.2 (76) -	-Standby:	31.0 (42.0) -
	-Prime: 2.1 (75) -	-Prime:	28.2 (38.0) -
Max. Combustion Air Intake		BMEP: kPa (psi)	
Restriction: kPa (in H₂O)	6.5 (26.1) -	-Standby:	752.0 (109.0) -
Radiator Cooling Air Flow:		-Prime:	684.0 (99.2) -
m ³ /min (cfm)	62.6 (2211) -	Regenerative Power: kW	7.0 -
External Restriction to			
Cooling Air Flow: Pa (in H₂O)	125 (0.5) -		
Cooling System		Fuel System	
		50 Hz	60 Hz
Cooling System Capacity:		Fuel Filter Type:	Replaceable Element
I (US gal)	10.2 (2.7) -	Recommended Fuel:	Class A2 Diesel or BSEN590
Water Pump Type:	Centrifugal	Fuel Consumption: l/hr (US gal/hr)	
Heat Rejected to Water & Lube Oil: kW (Btu/min)			
-Standby:	16.0 (910) -	110% Load	100% Load
-Prime:	18.0 (1024) -	75% Load	50% Load
Heat Radiation to Room: Heat radiated from engine and alternator		Prime	
kW (Btu/min)	-Standby: 8.8 (500) -	50 Hz	7.5 (2.0) 6.9 (1.8) 5.2 (1.4) 3.8 (1.0)
	-Prime: 7.5 (427) -	60 Hz	- - - -
Radiator Fan Load: kW (hp)	0.3 (0.4) -	Standby	
		50 Hz	7.5 (2.0) 5.6 (1.5) 4.0 (1.1)
		60 Hz	- - - -
		(based on diesel fuel with a specific gravity of 0.85 and conforming to BS2869, Class A2)	
Exhaust System		Exhaust System	
		50 Hz	60 Hz
Silencer Type:	Industrial	Silencer Type:	Industrial
Silencer Model & Quantity:	EXSY1 (1)	Silencer Model & Quantity:	EXSY1 (1)
Pressure Drop Across		Pressure Drop Across	
Silencer System: kPa (in Hg)	1.80 (0.532) -	Silencer System: kPa (in Hg)	1.80 (0.532) -
Silencer Noise Reduction		Silencer Noise Reduction	
Level: dB	20 -	Level: dB	20 -
Max. Allowable Back		Max. Allowable Back	
Pressure: kPa (in. Hg)	8.0 (2.4) -	Pressure: kPa (in. Hg)	8.0 (2.4) -
Exhaust Gas Flow:		Exhaust Gas Flow:	
m ³ /min (cfm)	-Standby: 6.0 (212) -	m ³ /min (cfm)	-Standby: 6.0 (212) -
	-Prime: 6.0 (212) -		-Prime: 6.0 (212) -
Exhaust Gas Temperature: °C (°F)		Exhaust Gas Temperature: °C (°F)	
-Standby:	512 (954) -	-Standby:	512 (954) -
-Prime:	500 (932) -	-Prime:	500 (932) -

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Generator Performance Data

Data Item	50 Hz				60 Hz				
	240V	230V	220V						
Motor Starting Capability* kVA	59	57	54	-	-	-	-	-	-
Short Circuit Capacity %	-	-	-	-	-	-	-	-	-
Reactances: Per Unit									
Xd	1.496	1.629	1.781	-	-	-	-	-	-
X'd	0.165	0.180	0.196	-	-	-	-	-	-
X''d	0.083	0.090	0.098	-	-	-	-	-	-

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:	LCB1514J
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

Operating Data	
Overspeed: RPM	2250
Voltage Regulation: (steady state)	+/- 1.0%
Wave Form NEMA = TIF:	50
Wave Form IEC = THF:	2.0%
Total Harmonic Content LL/LN:	4.0%
Radio Interference:	Suppression is in line with European Standard EN61000-6
Radiant Heat: kW (Btu/min)	
-50 Hz:	2.8 (159)
-60 Hz:	-

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Technical Data

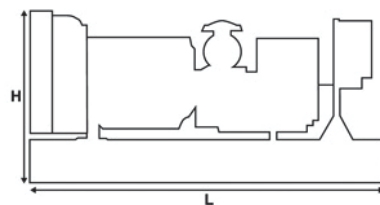
Voltage 50 Hz	Prime		Standby	
	kVA	kW	kVA	kW
240V	24.0	24.0	26.0	26.0
230V	24.0	24.0	26.0	26.0
220V	24.0	24.0	26.0	26.0

Voltage 60 Hz	Prime		Standby	
	kVA	kW	kVA	kW

Weights & Dimensions

Weights: kg (lb)	
Net (+ lube oil)	827 (1823)
Wet (+ lube oil & coolant)	840 (1852)
Fuel, lube oil & coolant	976 (2153)

Dimensions: mm (in)	
Length	1540 (60.6)
Width	970 (38.2)
Height	1361 (53.6)



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.**

Performance No.: P2490A, P2490B

Feature Code: C03DE43, C03DE77, C03DE44, C03DE78

Gen. Arr. Number: 459-4408

Source: European or China Sourced

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