

# DIESEL GENERATOR SET



## DE200E3

EU stage IIIA emissions compliant.  
Suitable for Mobile Applications in the European Community.

Image shown may not reflect actual package

Output Ratings		
Generator Set Model - 3 Phase	Prime*	Standby*
400/230V, 50 Hz	180.0 kVA 144.0 kW	200.0 kVA 160.0 kW
	-	-
	-	-

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

Technical Data		
Engine Make & Model:	Cat® C7.1	
Generator Model:	R2455L4	
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)	394 (104.1)	
Fuel Consumption, Prime: l/hr (US gal/hr)	41.3 (10.9)	-
Fuel Consumption, Standby : l/hr (US gal/hr)	45.2 (11.9)	-

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## Engine Technical Data

Physical Data	
<b>Manufacturer:</b>	Caterpillar
<b>Model:</b>	C7.1
<b>No. of Cylinders/Alignment:</b>	6 / In Line
<b>Cycle:</b>	4 Stroke
<b>Induction:</b>	Turbocharged Air To Air Charge Cooled
<b>Cooling Method:</b>	Water
<b>Governing Type:</b>	Electronic
<b>Governing Class:</b>	ISO 8528 G2
<b>Compression Ratio:</b>	16.8:1
<b>Displacement:</b> l (cu.in)	7.0 (427.8)
<b>Bore/Stroke:</b> mm (in)	105.0 (4.1)/135.0 (5.3)
<b>Moment of Inertia:</b> kg m <sup>2</sup> (lb. in <sup>2</sup> )	1.53 (5228)
<b>Engine Electrical System:</b>	
-Voltage/Ground:	12/Negative
-Battery Charger Amps:	65
<b>Weight:</b> kg (lb) - Dry:	788 (1737)
- Wet:	822 (1812)

Air System	50 Hz	60 Hz
<b>Air Filter Type:</b>	Replaceable Element	
<b>Combustion Air Flow:</b>		
m <sup>3</sup> /min (cfm)	<b>-Standby:</b> 13.2 (466)	-
	<b>-Prime:</b> 12.8 (452)	-
<b>Max. Combustion Air Intake</b>		
<b>Restriction:</b> kPa (in H <sub>2</sub> O)	8.0 (32.1)	-
<b>Radiator Cooling Air Flow:</b>		
m <sup>3</sup> /min (cfm)	328.0 (11583)	-
<b>External Restriction to</b>		
<b>Cooling Air Flow:</b> Pa (in H <sub>2</sub> O)	125 (0.5)	-

Cooling System	50 Hz	60 Hz
<b>Cooling System Capacity:</b>		
l (US gal)	27.0 (7.1)	-
<b>Water Pump Type:</b>	Centrifugal	
<b>Heat Rejected to Water &amp; Lube Oil:</b> kW (Btu/min)		
<b>-Standby:</b>	80.8 (4595)	-
<b>-Prime:</b>	72.7 (4134)	-
<b>Heat Radiation to Room:</b> Heat radiated from engine and alternator		
kW (Btu/min)	<b>-Standby:</b> 42.0 (2388)	-
	<b>-Prime:</b> 38.7 (2201)	-
<b>Radiator Fan Load:</b> 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.		

Lubrication System	
<b>Oil Filter Type:</b>	Spin-On, Full Flow
<b>Total Oil Capacity I (US gal):</b>	17.5 (4.6)
<b>Oil Pan I (US gal):</b>	15.5 (4.1)
<b>Oil Type:</b>	API CH4 / CI4 15W-40
<b>Cooling Method:</b>	Water

Performance	50 Hz	60 Hz
<b>Engine Speed:</b> RPM	1500	-
<b>Gross Engine Power:</b> kW (hp)		
<b>-Standby:</b>	188.7 (253.0)	-
<b>-Prime:</b>	171.5 (230.0)	-
<b>BMEP:</b> kPa (psi)		
<b>-Standby:</b>	2153.0 (312.2)	-
<b>-Prime:</b>	1956.0 (283.7)	-
<b>Regenerative Power:</b> kW	14.5	-

Fuel System				
<b>Fuel Filter Type:</b>	Replaceable Element			
<b>Recommended Fuel:</b>	Class A2 Diesel or BSEN590			
<b>Fuel Consumption:</b> l/hr (US gal/hr)				
	<b>110% Load</b>	<b>100% Load</b>	<b>75% Load</b>	<b>50% Load</b>
<b>Prime</b>				
50 Hz	45.2 (11.9)	41.3 (10.9)	32.6 (8.6)	23.7 (6.3)
60 Hz	-	-	-	-
<b>Standby</b>				
50 Hz		45.2 (11.9)	35.5 (9.4)	25.7 (6.8)
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
<b>Silencer Type:</b>	Industrial	
<b>Silencer Model &amp; Quantity:</b>	EXSY1 (1)	
<b>Pressure Drop Across</b>		
<b>Silencer System:</b> kPa (in Hg)	0.24 (0.071)	-
<b>Silencer Noise Reduction</b>		
<b>Level:</b> dB	10	-
<b>Max. Allowable Back</b>		
<b>Pressure:</b> kPa (in. Hg)	15.0 (4.4)	-
<b>Exhaust Gas Flow:</b>		
m <sup>3</sup> /min (cfm)	<b>-Standby:</b> 31.7 (1119)	-
	<b>-Prime:</b> 30.2 (1067)	-
<b>Exhaust Gas Temperature:</b> °C (°F)		
<b>-Standby:</b>	530 (986)	-
<b>-Prime:</b>	530 (986)	-

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## Generator Performance Data

Data Item	50 Hz				60 Hz				
	415/240V	400/230V	380/220V						
Motor Starting Capability* kVA	238	221	199						
Short Circuit Capacity** %	300	300	300						
Reactances: Per Unit									
Xd	3.037	3.269	3.622						
X'd	0.259	0.279	0.309						
X''d	0.104	0.112	0.124						

Reactances shown are applicable to prime ratings.

\*Based on 30% voltage dip at 0.6 power factor and SHUNT excitation system.

\*\* With optional auxiliary winding.

## Generator Technical Data

Physical Data	
R Frame	
Model:	R2455L4
No. of Bearings:	1
Insulation Class:	H
Winding Pitch - Code:	2/3 - M0
Wires:	12
Ingress Protection Rating:	IP23
Excitation System:	SHUNT
AVR Model:	Mark V

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:	12.2 (694)
-60 Hz:	-

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## Technical Data

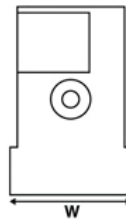
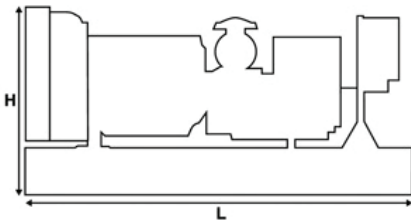
Voltage 50 Hz	Prime		Standby	
	kVA	kW	kVA	kW
415/240V	180.0	144.0	200.0	160.0
400/230V	180.0	144.0	200.0	160.0
380/220V	180.0	144.0	200.0	160.0

Voltage 60 Hz	Prime		Standby	
	kVA	kW	kVA	kW

## Weights & Dimensions

Weights: kg (lb)	
Net (+ lube oil)	1597 (3521)
Wet (+ lube oil & coolant)	1624 (3580)
Fuel, lube oil & coolant	1978 (4361)

Dimensions: mm (in)	
Length	2510 (98.8)
Width	1010 (39.8)
Height	1640 (64.6)



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

## Definitions

### Standby Rating

These ratings are applicable for supplying continuous electrical power (at variable load) in the event of a utility power failure. No overload is permitted on these ratings. The alternator on this model is peak continuous rated (as defined in ISO 8528-3).

### 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.**

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Price List: C7.1PGBI, C7.1PGBT

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Source: European or China

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