

**Standby & Prime: 50Hz, 400/230V; 3-Ph**



Engine Model	Cat® C7.1 In-line 6, 4-cycle diesel
Bore x Stroke	105 mm x 135 mm (4.1 in x 5.3 in)
Displacement	7.0 L (427.8 in <sup>3</sup> )
Compression Ratio	16.0:1
Aspiration	Turbocharged Water cooled
Governor	Mechanical
Emission Strategy	Non-Certified Emissions

Model	Voltage/Frequency	Standby	Prime
DE220E0	400/230 V, 50 Hz	220 kVA, 176 ekW	200 kVA, 160ekW

## PACKAGE PERFORMANCE

Technical Data	50 Hz	
	Standby	Prime
Engine Speed: RPM	1500	
Gross Engine Power: kW (hp)	196.3 (263.0)	178.9 (240.0)
BMEP: kPa (psi)	2239.0 (324.7)	2041.0 (296.0)
Regenerative Power: kW	9.3	
<b>Fuel System<sup>1</sup> : L/hr (US gal/hr)</b>		
110% Load	-	49.0 (12.9)
100% Load	49.0 (12.9)	45.1 (11.9)
75% Load	37.8 (10.0)	34.6 (9.1)
50% Load	25.6 (6.8)	23.3 (6.2)
Fuel Filter Type	Replaceable Element	
Recommended Fuel	Class A2 Diesel or BSEN590	
<b>Air System</b>		
Combustion Air Flow: m <sup>3</sup> /min (cfm)	13.2 (466)	12.6 (445)
Air Filter Type	Replaceable Element	
Max. Combustion Air intake restriction: kPa (in H <sub>2</sub> O)	8.0 (32.1)	
Radiator Cooling Air flow: m <sup>3</sup> /min (cfm)	307.2 (10849)	
External Restriction to Cooling Air Flow: Pa (in H <sub>2</sub> O)	125 (0.5)	
<b>Cooling System<sup>2</sup></b>		
Heat Rejected to Water & Lube Oil: kW (Btu/min)	81.0 (4606)	78.2 (4447)
Heat Radiated from Engine & Alternator: kW (Btu/min)	26.0 (1479)	24.3 (1382)
Cooling System Capacity: l (US gal)	27.0 (7.1)	
Radiator Fan Load: kW (hp)	5.0 (6.7)	
Water Pump Type	Centrifugal	

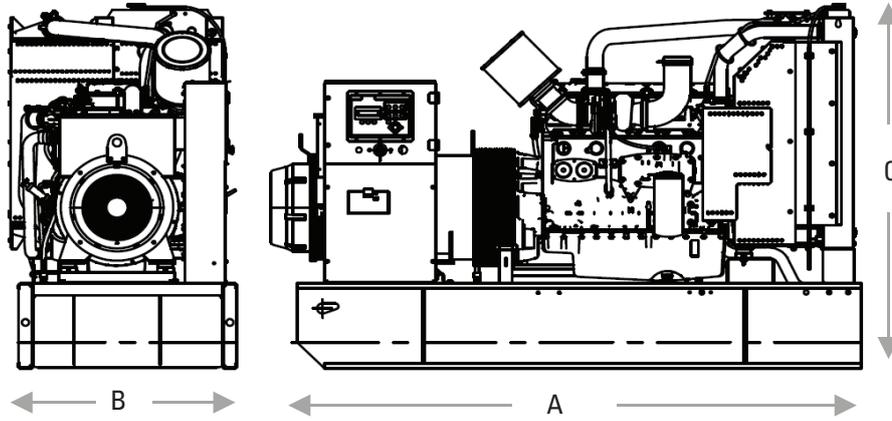
Exhaust System		50 Hz	
	Standby	Prime	
Exhaust Gas Flow: m <sup>3</sup> /min (cfm)	36.8 (1300)	34.9 (1232)	
Exhaust Gas Temperature: °C (°F)	580 (1076)	527 (981)	
Silencer Type	Industrial		
Silencer Model & Quantity	EXSY1 (1)		
Pressure Drop Across Silencer System: kPa (in Hg)	3.50 (1.034)		
Silencer Noise Reduction Level: dB	10		
Max. Allowable Back Pressure: kPa (in. Hg)	15.0 (4.4)		

Generator Performance Data <sup>3</sup>				
Voltage	415/240V 230/115V 200/115V	400/230V 220/110V	380/220V	220/127V
Motor Starting Capability* kVA	311	290	259	367
Short Circuit Capacity** %	300	300	300	
Reactances: Per Unit				
Xd	2.870	3.090	3.430	2.550
X'd	0.240	0.260	0.290	0.220
X''d	0.095	0.102	0.113	0.084

Physical Data		Operating Data	
Frame Model	R2453L4	Overspeed: RPM	2250
No. of Bearings	1	Voltage Regulation: (steady state)	+/- 0.5%
Wires	12	Wave Form NEMA = TIF:	50
IP Rating & Insulation Class	IP23 & H	Wave Form IEC = THF:	2.0%
Winding Pitch-Code	2/3 - M0	Total Harmonic Content LL/LN:	2.0%
Excitation	SHUNT	Radio Interference:	Suppression is in line with European Standard EN61000-6
AVR Model	Mark V	Radiant Heat: kW (Btu/min)	50 Hz: 12.8 (728)

Capacities		50 Hz			
Voltage	Prime		Standby		
	kVA	kW	kVA	kW	
415/240V	200.0	160.0	220.0	176.0	
400/230V	200.0	160.0	220.0	176.0	
380/220V	200.0	160.0	220.0	176.0	
230/115V	200.0	160.0	220.0	176.0	
220/127V	200.0	160.0	220.0	176.0	
220/110V	200.0	160.0	220.0	176.0	
200/115V	200.0	160.0	220.0	176.0	

Weight: kg (lb)			Dimensions: mm (in)		
Net (+ lube oil)	Wet (+ lube oil & coolant)	Fuel, lube oil & coolant	Length, A	Width, B	Height, C
1766 (3893)	1793 (3953)	2147 (4733)	2500 (98.4)	1320 (52.0)	1626 (64.0)



**Notes:**

- <sup>1</sup> Based on diesel fuel with a specific gravity of 0.85 and conforming to BS2869, Class A2.
- <sup>2</sup> 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.
- <sup>3</sup> Reactances shown are applicable to prime ratings. \*Based on 30% voltage dip at 0 power factor and shunt excitation system. \*\*With optional Auxiliary winding.

**DEFINITIONS:**

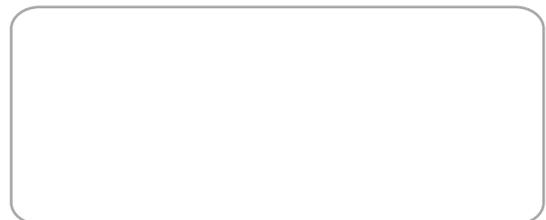
**STANDBY:** Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

**PRIME:** 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.

**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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