

Standby & Prime: 50Hz & 60 Hz, 230/400V, 277/480V; 3-Ph



Image shown might not reflect actual configuration

Engine Model	Cat® C7.1 Inline 4-stroke Diesel
Bore x Stroke	105.0mm x 135.0mm (4.1 in x 5.3 in)
Displacement	7.0 L (427.8 in³)
Compression Ratio	16.0:1
Aspiration	Turbocharged Water cooled
Governor	Mechanical
Emission Strategy	Non-Certified Emissions

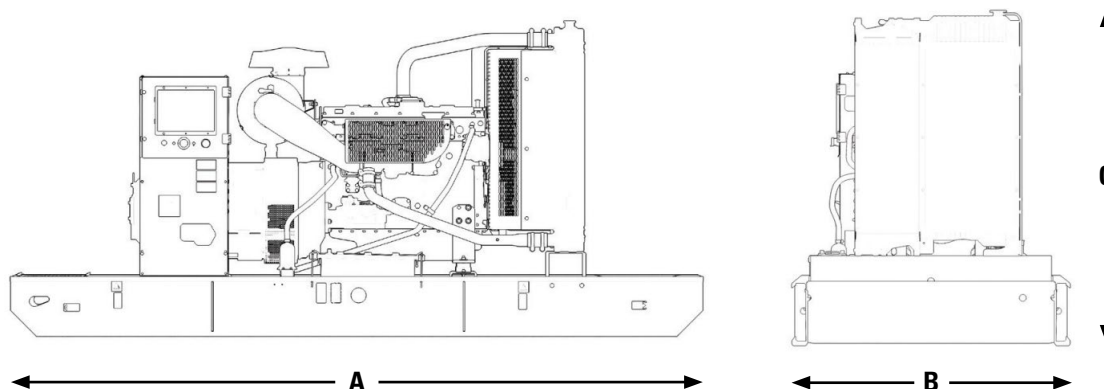
Model	Voltage/Frequency	Standby	Prime
DE165E0	400/230 V, 50 Hz	165 kVA, 132 ekW	150 kVA, 120 ekW
	480/277 V, 60 Hz	187.5 kVA, 150 ekW	168.8 kVA, 135 ekW

PACKAGE PERFORMANCE

Performance	50 Hz		60 Hz	
	Standby	Prime	Standby	Prime
Engine Speed: RPM	1500		1800	
Gross Engine Power: kW (hp)	149.1 (200.0)	136.0 (182.0)	171.8 (230.0)	155.4 (208.0)
BMEP: kPa (psi)	1701.0 (246.7)	1551.0 (225.0)	1633.0 (236.8)	1477.0 (214.2)
Regenerative Power: kW	6.7		7.7	
Fuel System ¹ : L/hr (US gal/hr)				
110% Load	NA	34.0 (9.0)	NA	40.3 (10.6)
100% load	34.0 (9.0)	31.4 (8.3)	40.3 (10.6)	36.7 (9.7)
75% load	26.4 (7.0)	24.2 (6.4)	31.1 (8.2)	28.3 (7.5)
50% load	17.8 (4.7)	16.2 (4.3)	21.3 (5.6)	19.3 (5.1)
Fuel Filter Type	Replaceable Element			
Recommended Fuel	Class A2 Diesel or BSEN590			
Air System				
Combustion Air Flow: m³/min (cfm)	10.7 (377)	10.0 (354)	15.0 (529)	14.4 (509)
Air Filter Type	Paper Element			
Max. Combustion Air intake restriction: kPa (in H2O)	3.0 (12.0)			
Radiator Cooling Air flow: m³/min (cfm)	303.4 (10714)		239.4 (8454)	
External Restriction to Cooling Air Flow: Pa (in H2O)	125 (0.5)			
Cooling System ²				
Heat Rejected to Water & Lube Oil: kW (Btu/min)	75.7 (4305)	69.1 (3930)	80.1 (4555)	73.5 (4180)
Heat Radiated from Engine & Alternator: kW (Btu/min)	22.3 (1268)	20.0 (1137)	25.0 (1422)	22.6 (1285)
Cooling System Capacity: l (US gal)	21.0 (5.5)			
Radiator Fan Load: kW (hp)				
Water Pump Type	Centrifugal			

Exhaust System			50 Hz				60 Hz				
			Standby		Prime		Standby		Prime		
Exhaust Gas Flow: m³/min (cfm)			25.5 (902)		23.9 (843)		32.2 (1137)		31.9 (1125)		
Exhaust Gas Temperature: °C (°F)			484 (903)		484 (903)		407 (765)		407 (765)		
Silencer Type			Industrial								
Silencer Model & Quantity			EXSY1 (1)								
Pressure Drop Across Silencer System: kPa (in Hg)			-				-				
Silencer Noise Reduction Level: dB			-				-				
Max. Allowable Back Pressure: kPa (in. Hg)			6.0 (1.8)				6.0 (1.8)				
Generator Performance Data³			50 Hz				60 Hz				
Voltage			415/240V	400/230V 230/115V 200/115V	380/220V 220/110V	220/127V	480/277V 240/139V	380/220V 220/110V	240/120V 208/120V	440/254V 220/127V	
Motor Starting Capability* kVA			232	218	194	261	211	161	187	195	
Short Circuit Capacity** %			300	300	300	300	300	300	300	300	
Reactances: Per Unit											
Xd			2.750	2.960	3.280	2.450	2.780	3.350	3.700	3.310	
X'd			0.240	0.260	0.290	0.210	0.240	0.390	0.320	0.290	
X''d			0.101	0.109	0.121	0.090	0.102	0.163	0.136	0.122	
Generator Technical Data											
Physical Data			Operating Data								
Frame Model		R2273L4			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: 10.1 (574) 60 Hz: 12.7 (722)			
Capacities											
50 Hz					60 Hz						
Voltage		Prime		Standby		Voltage		Prime		Standby	
		kVA	kVA	kVA	kVA	480/277V		kVA	kVA	kVA	kVA
415/240V		150.0	120.0	165.0	132.0	480/277V		168.8	135.0	187.5	150.0
400/230V		150.0	120.0	165.0	132.0	220/127V		168.8	135.0	187.5	150.0
380/220V		150.0	120.0	165.0	132.0	380/220V		168.8	135.0	187.5	150.0
230/115V		150.0	120.0	165.0	132.0	240/120V		168.8	135.0	187.5	150.0
220/127V		150.0	120.0	165.0	132.0	220/110V		168.8	135.0	187.5	148.0
220/110V		150.0	120.0	165.0	132.0	208/120V		168.8	135.0	187.5	150.0
200/115V		150.0	120.0	165.0	132.0	240/139V		168.8	135.0	187.5	150.0

Weight: kg (lb)			Dimensions: mm (in)		
Net (+ lube oil)	Wet (+ lube oil & coolant)	Fuel, lube oil & coolant	Length, A	Length, B	Length, C
1707 (3763)	1728 (3810)	2024 (4461)	2500 (98.4)	1120 (44.1)	1528 (60.2)



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

NOTES:

¹ Based on diesel fuel with a specific gravity of 0.85 and conforming to BS2869, Class A2.

² 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.

³ 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.

FUEL RATES: Fuel consumption reported in accordance with ISO3046-1.

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