

Standby & Prime: 50Hz & 60 Hz, 230/400V, 277/480V; 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 ³)
Compression Ratio	16.0:1
Aspiration	Turbocharged Water cooled
Governor	Mechanical
Emission Strategy	Non-Certified Emissions

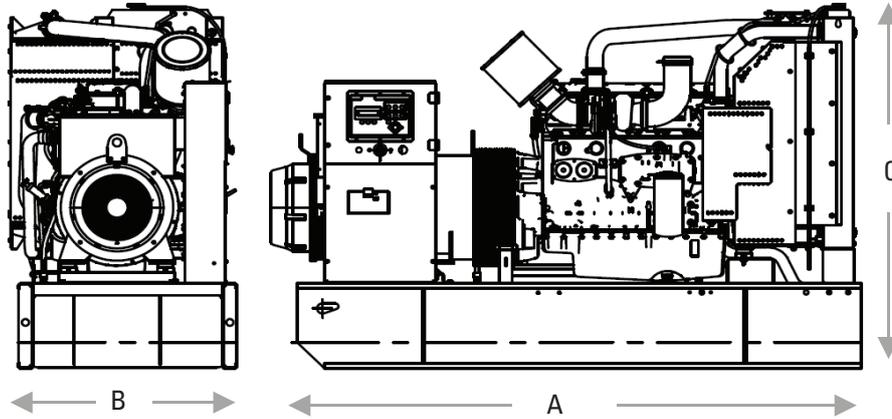
Model	Voltage/Frequency	Standby	Prime
DE165E0	400/230 V, 50 Hz	165 kVA, 132 ekW	150 kVA, 120 ekW
	480/277 V, 60 Hz	187.5 kVA, 150 ekW	168.8 kVA, 135 ekW

PACKAGE PERFORMANCE

Technical Data	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 System¹ : L/hr (US gal/hr)				
110% Load	-NA-	35.1 (9.3)	-NA-	41.6 (11.0)
100% Load	35.1 (9.3)	32.4 (8.6)	41.6 (11.0)	37.9 (10.0)
75% Load	27.3 (7.2)	25.0 (6.6)	32.1 (8.5)	29.2 (7.7)
50% Load	18.4 (4.9)	16.7 (4.4)	22.0 (5.8)	19.9 (5.3)
Fuel Filter Type	Replaceable Element			
Recommended Fuel	Class A2 Diesel or BSEN590			
Air System				
Combustion Air Flow: m ³ /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 H ₂ O)	3.0 (12.0)		3.0 (12.0)	
Radiator Cooling Air flow: m ³ /min (cfm)	303.4 (10714)		239.4 (8454)	
External Restriction to Cooling Air Flow: Pa (in H ₂ O)	125 (0.5)		125 (0.5)	
Cooling System²				
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)		21.0 (5.5)	
Radiator Fan Load: kW (hp)	4.5 (6.0)		8.0 (10.7)	
Water Pump Type	Centrifugal			

Exhaust System		50 Hz				60 Hz			
		Standby		Prime		Standby		Prime	
Exhaust Gas Flow: m ³ /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		EXSY2 (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 Data ³		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		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: 10.1 (574) 60 Hz: 12.7 (722)	
Capacities									
50 Hz					60 Hz				
Voltage	Prime		Standby		Voltage	Prime		Standby	
	kVA	kW	kVA	kW		kVA	kW	kVA	kW
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	185.0	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	Width, B	Height, C
1707 (3763)	1728 (3810)	2024 (4461)	2500 (98.4)	1120 (44.1)	1528 (60.2)



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:

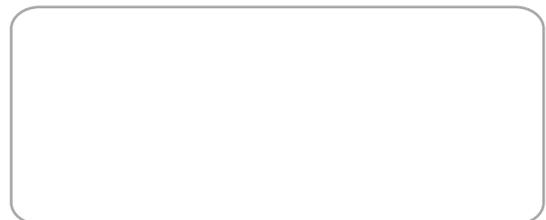
STANDBY: Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

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.

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