

Cat® C7.1

Diesel Generator Sets



Standby & Prime: 50 Hz & 60 Hz



Image shown might not reflect actual configuration.

Engine Model	Cat® C7.1 Inline 4-stroke Diesel
Bore x Stroke	105.0 mm x 135.0 mm (4.1 in x 5.3 in)
Displacement	7.0 L (427.8 in³)
Compression Ratio	16.0:1
Aspiration	Turbocharged Air To Air Charge Cooled
Fuel Injection System	Inline
Governor	Mechanical

Model	Standby		Prime		Emission Strategy
	50 Hz	60 Hz	50 Hz	60 Hz	
DE165E0	165.0 kVA (132.0 kW)	187.5 kVA (150.0 kW)	150.0 kVA (120.0 kW)	168.8 kVA (135.0 kW)	Low BSFC

PACKAGE PERFORMANCE

Performance	Standby		Prime	
Frequency	50 Hz	60 Hz	50 Hz	60 Hz
Genset Power Rating	165.0 kVA	187.5 kVA	150.0 kVA	168.8 kVA
Genset power rating with fan @ 0.8 power factor	132.0 kW	150.0 kW	120.0 kW	135.0 kW
Emissions	Low BSFC			
Performance Number	P4200A	P4202A	P4200A	P4202A
Fuel Consumption				
Fuel Tank Capacity, litres (US gal)	349 (92.2)			
100% load with fan, L/hr (gal/hr)	35.1 (9.3)	41.1 (10.9)	32.4 (8.6)	37.5 (9.9)
75% load with fan, L/hr (gal/hr)	27.2 (7.2)	31.9 (8.4)	24.9 (6.6)	28.9 (7.6)
50% load with fan, L/hr (gal/hr)	18.3 (4.8)	21.8 (5.8)	16.6 (4.4)	19.7 (5.2)
Cooling System¹				
Radiator air flow, m³/min (CFM)	259.2 (9154)	316.2 (11167)	259.2 (9154)	316.2 (11167)
Total coolant capacity, L (gal)	21.0 (5.5)			
Inlet Air				
Max. Combustion Air Intake Restriction, kPa (in water)	3.0 (12.0)			
Combustion air inlet flow rate, m³/min (CFM)	10.7 (377)	15.0 (529)	10.0 (354)	14.4 (509)
Max. Allowable Combustion Air Inlet Temp, °C (°F)	50 (122)			
Exhaust System				
Exhaust stack gas temperature, °C (°F)	484 (903)	407 (765)	484 (903)	407 (765)
Exhaust gas flow rate, m³/min (CFM)	25.5 (902)	32.2 (1137)	23.9 (843)	31.9 (1125)
Exhaust system backpressure (maximum allowable), kPa (in water)	6.0 (24.1)	15.0 (60.2)	18.0 (72.3)	15.0 (60.2)
Heat Rejection				
Heat rejection to jacket water, kW (BTU/min)	75.7 (4305)	80.1 (4555)	69.1 (3930)	73.5 (4180)
Heat rejection to alternator, kW (BTU/min)	10.2 (580)	11.1 (631)	10.2 (580)	11.1 (631)
Heat rejection to atmosphere from engine, kW (BTU/min)	22.4 (1274)	23.4 (1331)	19.9 (1132)	20.8 (1183)

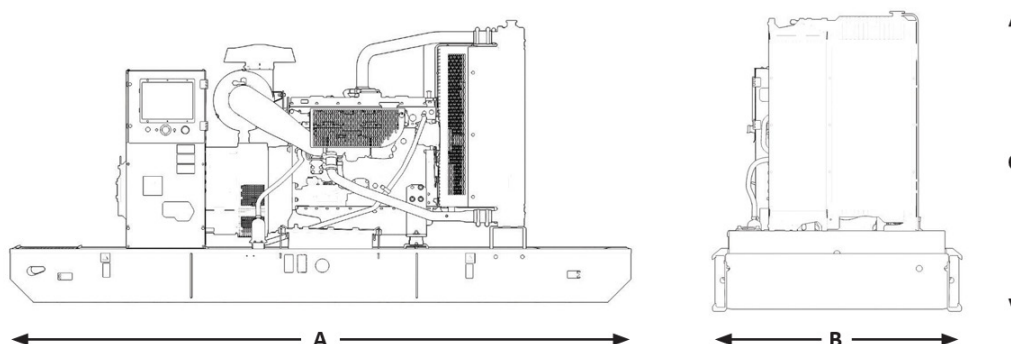
C7.1 Diesel Generator Sets Electric Power



Alternator ²		50 Hz											
Duty Cycle		Standby						Prime					
Phase		3-Phase						3-Phase					
Voltages, V		200/115	220/110	230/115	380/220	400/230	415/240	200/115	220/110	230/115	380/220	400/230	415/240
Current, Amps		476	433	414	251	238	230	433	394	377	228	217	209
Frame: LC3114J Excitation: SE	Temperature Rise @ 40°C	163	163	163	163	163	163	125	125	125	125	125	125
	Motor Starting Capability @ 30% Voltage Dip, skVA	390	360	388	358	390	414	390	360	388	358	390	414
Frame: M2256L4 Excitation: PMG/SE	Temperature Rise @ 40°C	163				163	163	125				125	125
	Motor Starting Capability @ 30% Voltage Dip, skVA	140				281	299	59				281	299

Alternator ²		60 Hz											
Duty Cycle		Standby						Prime					
Phase		3-Phase						3-Phase					
Voltages, V		208/120	220/127	240/139	240/120	440/254	480/277	208/120	220/127	240/139	240/120	440/254	480/277
Current, Amps		520.4	492.1	451.1	451.1	246	225.5	468.4	442.9	405.9	405.9	221.4	203
Frame: LC3114H Excitation: SE	Temperature Rise, @ 40°C	150	150	130	150	150	130	125	125	105	125	125	105
	Motor Starting Capability @ 30% Voltage Dip, skVA	358	393	452	358	393	452	358	393	452	358	393	452
Frame: M2256L4 Excitation: PMG/SE	Temperature Rise, @ 40°C		163	150		150	130		125			125	105
	Motor Starting Capability @ 30% Voltage Dip, skVA		141	166		493	568		60			220	257

WEIGHTS & DIMENSIONS



Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Dry Weight kg (lb)
2500 (98.4)	1120 (44.1)	1528 (60.2)	1610 (3549)

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

APPLICABLE CODES AND STANDARDS:

AS1359, IEC60034-1, ISO 3046, ISO 8528, NEMA MG1-33, EAC, CE, UKCA.

Note: Codes may not be available in all model configurations. Please consult your Cat dealer for availability.

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.

RATINGS: Ratings are based on SAE J1349 standard conditions. These ratings also apply at ISO 3046 standard conditions.

DEFINITIONS AND CONDITIONS

¹ For ambient and altitude capabilities consult your Cat dealer. Air flow restriction (system) is added to existing restriction from factory.

² Generator temperature rise is based on a 40°C ambient per IEC60034-1.

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The International System of Units (SI) is used in this publication.

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