

Cat® C13

Diesel Generator Sets



Standby & Prime: 50 Hz



Engine Model	Cat® C13, In-line 6, 4-cycle diesel
Bore x Stroke	130 mm x 157 mm (5.1 in x 6.2 in)
Displacement	12.5 L (763 in³)
Compression Ratio	16.3:1
Aspiration	Turbocharged Air-to-Air Aftercooled
Fuel Injection System	MEUI
Governor	Electronic ADEM™ A4 – G3 Class* capable

Image shown might not reflect actual configuration.

Model	Standby	Prime	Emission Strategy
DE450E3	450 kVA, 360 ekW	400 kVA, 320 ekW	EU III Certified Emissions

PACKAGE PERFORMANCE

Performance	Standby	Prime
Frequency	50 Hz	
Genset Power Rating	450 kVA	400 kVA
Gen set power rating with fan @ 0.8 power factor	360 ekW	320 ekW
Fuelling strategy	EU III Certified Emissions	
Performance Number	EM1443	EM0552
Fuel Consumption		
100% load with fan, L/hr (gal/hr)	96.9 (25.6)	86.8 (22.9)
75% load with fan, L/hr (gal/hr)	75.8 (20.0)	69.5 (18.3)
50% load with fan, L/hr (gal/hr)	55.5 (14.7)	50.4 (13.3)
25% load with fan, L/hr (gal/hr)	32.4 (8.6)	27.9 (7.4)
Cooling System¹		
Radiator air flow restriction (system), kPa (in. water)	0.12 (0.48)	0.12 (0.48)
Radiator air flow, m³/min (CFM)	398 (14055)	398 (14055)
Engine coolant capacity, L (gal)	14.2 (3.8)	14.2 (3.8)
Radiator coolant capacity, L (gal)	43 (11.5)	43 (11.5)
Total coolant capacity, L (gal)	57.2 (15.3)	57.2 (15.3)
Inlet Air		
Combustion air inlet flow rate, m³/min (CFM)	26.4 (931.9)	25.5 (899.7)
Max. Allowable Combustion Air Inlet Temp, °C (°F)	48 (118)	46 (114)
Exhaust System		
Exhaust stack gas temperature, °C (°F)	516.7 (962.1)	502.0 (935.6)
Exhaust gas flow rate, m³/min (CFM)	74.1 (2616.3)	69.7 (2461.3)
Exhaust system backpressure (maximum allowable), kPa (in. water)	10.0 (40.0)	10.0 (40.0)
Exhaust System		
Heat rejection to jacket water, kW (BTU/min)	135 (7660)	122 (6946)
Heat rejection to exhaust (total), kW (BTU/min)	333 (18943)	300 (17055)
Heat rejection to aftercooler, kW (BTU/min)	80 (4561)	73 (4133)
Heat rejection to atmosphere from engine, kW (BTU/min)	75 (4260)	67 (3786)
Heat rejection to atmosphere from generator kW (BTU/min)	28 (1609)	24 (1348)

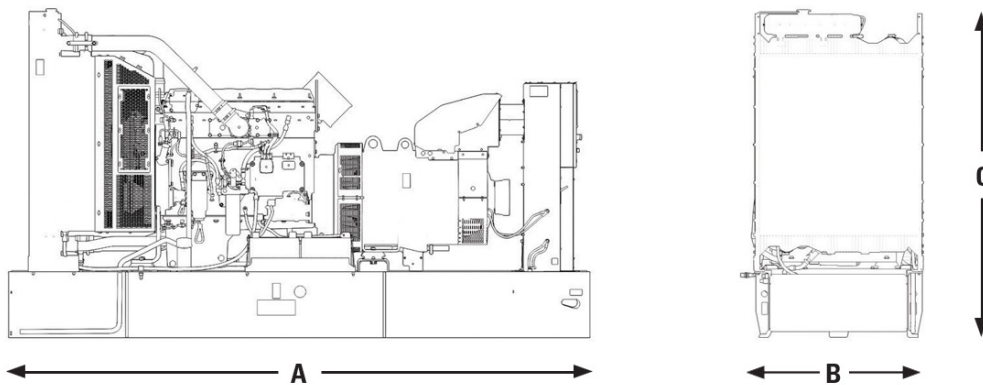
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Emissions (Nominal) ²			
NO _x , mg/Nm ³ (g/hp-hr)		1669.7 (3.5)	1316.8 (2.8)
CO, mg/Nm ³ (g/hp-hr)		483.2 (1.0)	431.2 (0.9)
HC, mg/Nm ³ (g/hp-hr)		4.4 (0.0)	4.2 (0.0)
PM, mg/Nm ³ (g/hp-hr)		22.9 (0.1)	27.5 (0.1)
Alternator ³			
Voltages	415V	400V	380V
Motor Starting Capability @ 30% Voltage Dip	1202 skVA	793 skVA	888 skVA
Current, amps	Standby: 626A Prime: 556A	Standby: 650A Prime: 577A	Standby: 664A Prime: 577A
Frame Size	A2955L4	A2955L4	A2955L4
Excitation	SE	SE	SE
Temperature Rise, °C (°F)	Standby: 163°C, Prime: 125°C	Standby: 163°C, Prime: 125°C	Standby: 163°C, Prime: 125°C

WEIGHTS & DIMENSIONS



Length "A" mm (in)	Width "B" mm (in)	Height "C" mm (in)	Dry Weight kg (lb)
3830 (151)	1130 (44)	2156 (85)	3253 (7172)

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

APPLICABLE CODES AND STANDARDS:

AS1359, CSA C22.2 No100-04, UL142, UL489, UL869, UL2200, NFPA37, NFPA70, NFPA99, NFPA110, IBC, IEC60034-1, ISO 3046, ISO 8528, NEMA MG1-22, NEMA MG1-33, 2006/95/EC, 2006/42/EC, 2004/108/EC.

Note: Codes may not be available in all model configurations. Please consult your local Cat Dealer representative 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 Emissions data measurement procedures are consistent with those described in EPA CFR 40 Part 89, Subpart D & E and ISO8178-1 for measuring HC, CO, PM, NO_x. Data shown is based on steady state operating conditions of 77° F, 28.42 in HG and number 2 diesel fuel with 35° API and LHV of 18,390 BTU/lb. The nominal emissions data shown is subject to instrumentation, measurement, facility and engine to engine variations. Emissions data is based on 100% load and thus cannot be used to compare to EPA regulations which use values based on a weighted cycle.

³ UL 2200 Listed packages may have oversized generators with a different temperature rise and motor starting characteristics. Generator temperature rise is based on a 40° C ambient per NEMA MG1-32.

* Governing Class capability as per ISO8528-5. Consult your local Cat dealer for configuration and site specific transient performance classification.

www.cat.com/electricpower

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