

Cat® C13

Diesel Generator Sets



Standby & Prime: 50 Hz



Image shown might not reflect actual configuration.

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

Model	Standby	Prime	Emission Strategy
DE450E0	450 kVA, (264 ekW)	400 kVA, (320 ekW)	Non-Certified Emissions

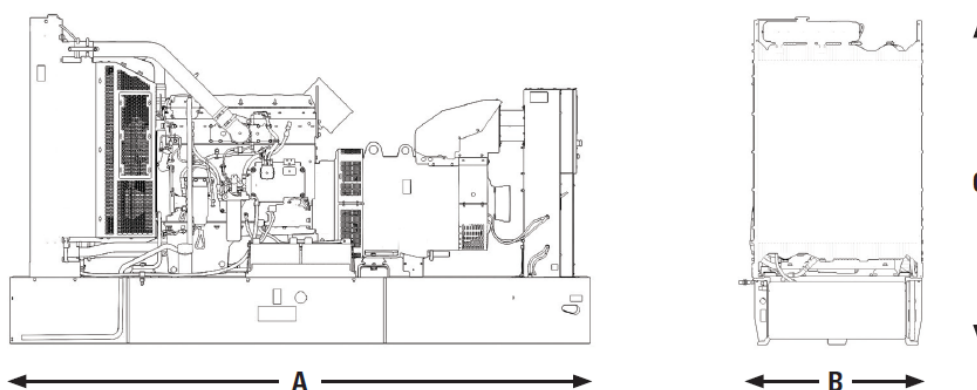
PACKAGE PERFORMANCE

Performance	Standby	Prime
Frequency	50 Hz	
Genset Power Rating	450 kVA	400 kVA
Genset power rating with fan @ 0.8 power factor	360 ekW	320 ekW
Emissions	Non-Certified Emissions	
Performance Number	EM0426	EM0432
Fuel Consumption		
100% load with fan, L/hr (gal/hr)	93.9 (24.8)	82.9 (21.9)
75% load with fan, L/hr (gal/hr)	69.9 (18.5)	62.2 (16.4)
50% load with fan, L/hr (gal/hr)	48.0 (12.7)	43.3 (11.4)
25% load with fan, L/hr (gal/hr)	28.1 (7.4)	25.8 (6.8)
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)	13.9 (3.7)	13.9 (3.7)
Radiator coolant capacity, L (gal)	43 (11.5)	43 (11.5)
Total coolant capacity, L (gal)	56.9 (15.2)	56.9 (15.2)
Inlet Air		
Combustion air inlet flow rate, m³/min (CFM)	24.7 (872)	22.9 (807.9)
Max. Allowable Combustion Air Inlet Temp, °C (°F)	48 (118)	44 (111)
Exhaust System		
Exhaust stack gas temperature, °C (°F)	531.1 (988)	507.8 (946.0)
Exhaust gas flow rate, m³/min (CFM)	70.4 (2486)	70.4 (2486)
Exhaust system backpressure (maximum allowable), kPa (in water)	10.0 (40.0)	10.0 (40.0)
Heat Rejection		
Heat rejection to jacket water, kW (BTU/min)	137 (7775)	125 (7100)
Heat rejection to exhaust (total) kW (BTU/min)	326 (18562)	288 (16381)
Heat rejection to aftercooler, kW (BTU/min)	71 (4014)	58 (3302)
Heat rejection to atmosphere from engine, kW (BTU/min)	56 (3177)	48 (2712)
Emissions (Nominal)²		
NO _x , mg/Nm³ (g/hp-hr)	2503.4 (4.9)	2605.3 (5.1)
CO, mg/Nm³ (g/hp-hr)	702.2 (1.4)	705.8 (1.4)
HC, mg/Nm³ (g/hp-hr)	3.1 (0.0)	2.7 (0.0)

Alternator³

Voltages	415V	400V	380V
Motor starting capability @ 30% Voltage Dip	1202 skVA	891 skVA	1005 skVA
Current	Standby: 626A, Prime: 556A	Standby: 650A, Prime: 577A	Standby: 664A, Prime: 577A
Frame Size	A2955L4	A2955L4	A2955L4
Excitation	SE	SE	SE
Temperature Rise	Standby: 163°C, Prime: 125°C	Standby: 163°C, Prime: 125°C	Standby: 163°C, Prime: 125°C

WEIGHTS & DIMENSIONS



Dim "A" mm (in)	Dim "B" mm (in)	Dim "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 ISO 8178-1 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 ISO 8528-5. Consult your local Cat dealer for configuration and site specific transient performance classification.