Cat® DE450 GC
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	15.8:1
Aspiration	Turbocharged Air-to-Air Aftercooled
Fuel Injection System	EUI
Governor	Electronic ADEM™ A4 – G3 Class* capable

Model	Standby	Prime	Emission Strategy
DE450 GC	450 kVA	400 kVA	Low BSFC

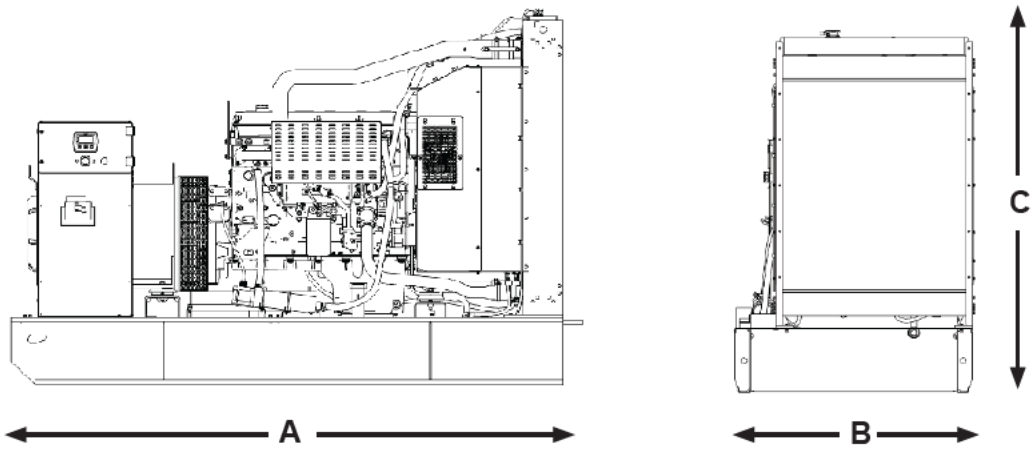
PACKAGE PERFORMANCE

Performance	Standby	Prime
Genset Power Rating, kVA	450	400
Genset power rating with fan @ 0.8 power factor, ekW	360	320
Emissions	Low BSFC	
Performance Number	EM0426	EM0432
Fuel Consumption		
100% load with fan, L/hr (gal/hr)	91.8 (24.2)	81.0 (21.4)
75% load with fan, L/hr (gal/hr)	68.3 (18.0)	60.8 (16.1)
50% load with fan, L/hr (gal/hr)	46.9 (12.4)	42.3 (11.2)
25% load with fan, L/hr (gal/hr)	27.5 (7.3)	25.2 (6.7)
Cooling System[1]		
Radiator air flow, m³/min (CFM)	398 (14055)	
Radiator air flow restriction (system), kPa (in. water)	0.12 (0.48)	
Total coolant capacity, L (gal)	47 (12.4)	
Inlet Air		
Combustion air inlet flow rate, m³/min (CFM)	24.7 (872)	22.9 (808)
Max. allowable combustion air inlet temp, °C (°F)	49 (120)	49 (120)
Exhaust System		
Exhaust stack gas temperature, °C (°F)	531.1 (988)	508 (946)
Exhaust gas flow rate, m³/min (CFM)	70.4 (2486)	62.9 (2219.5)
Exhaust system backpressure (maximum allowable), kPa (in. water)	10 (40)	10 (40)

Heat Rejection		
Heat rejection to jacket water, kW (BTU/min)	137 (7775)	125 (7100)
Heat rejection to exhaust (total), kW (BTU/min)	326 (18562)	295 (16770)
Heat rejection to aftercooler, kW (BTU/min)	56 (3177)	58.1 (3302)
Heat rejection to atmosphere from engine, kW (BTU/min)	71 (4014)	40.9 (2323)

Alternator[2]	Standby			Prime		
Voltages	380V	415V	400V	380V	415V	400V
Motor starting capability @ 30% Voltage Dip, skVA	1020	1133	1361	1020	1133	1361
Current, Amps	626	649.5	684	556	577	608
Temperature Rise, °C	163			163		
Frame Size	A2955L41			A2955L41		
Excitation	S.E			S.E		

WEIGHTS & DIMENSIONS



Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Dry Weight kg (lb)
3100 (122.0)	1338 (52.6)	2129 (83.8)	2904 (6402.2)

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 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 ekW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

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

Fuel Rates Fuel rates are based on diesel with a 35 API gravity; a lower heating value is 42,780 kJ/kg (18,390 BTU/lb) when used at 15°C (59°F), where the density is 850 gm/l (7.0936 lbs/gal).

[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 27°C ambient per IEC60034-1.

* Governing Class capability as per ISO 8528-5.Consult your local Cat dealer for configuration and site specific transient performance classification.