

Cat® C15 DIESEL GENERATOR SETS



Standby & Prime: 50Hz; 380, 400V & 415V



Image shown might not reflect actual configuration

Engine Model	Cat® C15 ACERT In-line 6, 4-cycle diesel
Bore x Stroke	137mm x 171mm (5.4in x 6.8in)
Displacement	15.2 L (928 in³)
Compression Ratio	16.1:1
Aspiration	Turbocharged Air-to-Air Aftercooled
Fuel Injection System	MEUI
Governor	Electronic ADEM™ A4

PACKAGE PERFORMANCE

Model	Standby	Prime	Emission Strategy
DE550E0	550 kVA, 440 ekW	500 kVA, 400 ekW	Non-Certified Emissions

Performance	Standby	Prime
Frequency	50 Hz	50 Hz
Genset Power Rating	550 kVA	500 kVA
Gen set power rating with fan @ 0.8 power factor	440 ekW	400 ekW
Fuelling strategy	Non-Certified Emissions	Non-Certified Emissions
Performance Number	DM8495	DM8494
Fuel Consumption		
100% load with fan	112.5 L/hr, 29.7 gal/hr	102.0 L/hr, 26.9 gal/hr
75% load with fan	84.1 L/hr, 22.2 gal/hr	76.2 L/hr, 20.1 gal/hr
50% load with fan	59.1 L/hr, 15.6 gal/hr	54.0 L/hr, 14.3 gal/hr
25% load with fan	35.6 L/hr, 9.4 gal/hr	32.7 L/hr, 8.6 gal/hr
Cooling System¹		
Radiator air flow restriction (system)	0.12 kPa, 0.48 in. Water	0.12 kPa, 0.48 in. Water
Radiator air flow	476 m³/min, 16810 cfm	476 m³/min, 16810 cfm
Engine coolant capacity	20.8 L, 5.5 gal	20.8 L, 5.5 gal
Radiator coolant capacity	27 L, 7.1 gal	27 L, 7.1 gal
Total coolant capacity	47.8 L, 12.6 gal	47.8 L, 12.6 gal
Inlet Air		
Combustion air inlet flow rate	29.9 m³/min, 1056.8 cfm	28.1 m³/min, 992.2 cfm
Max. Allowable Combustion Air Inlet Temp	48 ° C, 118 ° F	40 ° C, 105 ° F
Exhaust System		
Exhaust stack gas temperature	527.0 ° C 980.5 ° F	511.3 ° C 952.4 ° F
Exhaust gas flow rate	86.0 m³/min, 3037.7 cfm	79.2 m³/min 2797.7 cfm
Exhaust system backpressure (maximum allowable)	10.0 kPa, 40.0 in. water	10.0 kPa, 40.0 in. water
Heat Rejection		
Heat rejection to jacket water	166 kW, 9441 Btu/min	149 kW, 8458 Btu/min
Heat rejection to exhaust (total)	398 kW, 22635 Btu/min	360 kW, 20485 Btu/min
Heat rejection to aftercooler	83 kW, 4715 Btu/min	75 kW, 4272 Btu/min
Heat rejection to atmosphere from engine	70 kW, 3975 Btu/min	46 kW, 2605 Btu/min
Heat Rejection to Atmosphere from Generator	29 kW, 1649 Btu/min	23 kW, 1308 Btu/min

Emissions (Nominal) ²						
NOx	3689.6 mg/Nm³, 7.3 g/hp-hr			3438.4 mg/Nm³, 6.8 g/hp-hr		
CO	168.2 mg/Nm³, 0.3 g/hp-hr			170.2 mg/Nm³, 0.3 g/hp-hr		
HC	5.8 mg/Nm³, 0.0 g/hp-hr			5.3 mg/Nm³, 0.0 g/hp-hr		
PM	7.0 mg/Nm³, 0.0 g/hp-hr			7.9 mg/Nm³, 0.0 g/hp-hr		
Alternator ³						
Voltages	415V		400V		380V	
Motor Starting Capability @ 30% Voltage Dip	1391 skVA		1033 skVA		1165 skVA	
Current	Standby: 765A Prime: 696A		Standby: 794A Prime: 722A		Standby: 830A Prime: 722A	
Frame Size	A2985L4		A2985L4		A2985L4	
Excitation	SE		SE		SE	
Temperature Rise	SB:163°C, 325°F	PP: 125°C, 257°F	SB:163°C, 325°F	PP: 125°C, 257°F	SB:163°C, 325°F	PP: 125°C, 257°F

SB: Standby PP: Prime Power

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, NOx. 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.

APPLICABLE CODES AND STANDARDS:

AS1359, CSA C22.2 No100-04, UL142, UL489, UL869, UL2200, NFPA37, NFPA70, NFPA99, NFPA110, IBC, IEC60034-1, ISO3046, ISO8528, 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 ISO3046 standard conditions.

Fuel Rates are based on fuel oil of 35° API [16° C (60° F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29° C (85° F) and weighing 838.9 g/litre (7.001 lbs/U.S. gal.). Additional ratings may be available for specific customer requirements, contact your Caterpillar representative for details. For information regarding Low Sulfur fuel and Biodiesel capability, please consult your Cat dealer.

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C15 Sound Attenuated Enclosures

50 Hz / 60 Hz

These sound attenuated, factory installed enclosures incorporate internally mounted super critical level silencers, designed for safety and aesthetic value on integral fuel tank base or optional dual wall integral fuel tank base for total fluid containment. These enclosures are of extremely rugged construction to withstand exposure to the elements and provide weather protection.

Features

Robust / Highly Corrosion Resistant Construction

- Factory installed on integral fuel tank base
- Environmentally friendly, polyester powder baked paint
- 1.6 mm (0.063 in) galvanized steel
- All round overhanging base to protect enclosure
- High-grade engineering thermoplastic corner posts for protection
- Integral lifting frame
- Compression door latches giving solid door seal
- Zinc plated or black coated stainless steel fasteners
- Internally mounted super critical exhaust silencing system

Excellent Access

- Large cable entry area for installation ease
- Accommodates rear mounted breaker and control panel
- Double doors on both sides
- Vertically hinged doors with solid bar door stays to hold doors open at 135° rotation
- Lube oil and coolant drains pipes to exterior of enclosure and terminated drain valves
- Radiator fill cover

Security and Safety

- Lockable access doors which give full access to control panel and breaker
- Cooling fan and battery charging alternator fully guarded
- Fuel fill, oil fill and battery can only be reached via lockable access
- Externally mounted emergency stop button
- Designed for spreader-bar lifting to ensure safety
- Control panel viewing window
- Stub-up area is rodent proof

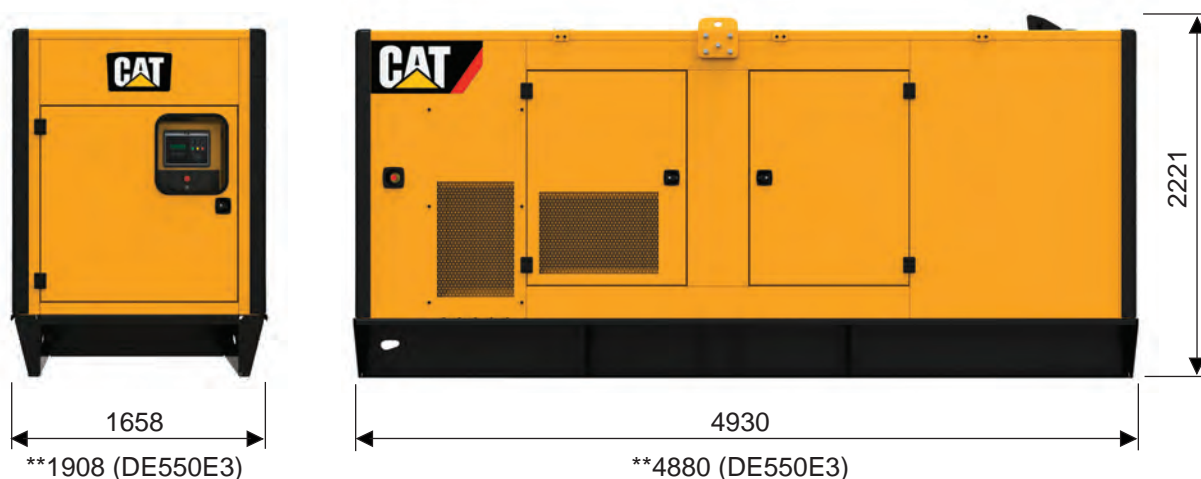
Options

- Caterpillar yellow or white paint
- Integral dual wall fuel tank base for total fluid containment (fuel, oil and coolant)

Enclosure Package Operating Characteristics

Model	kVA	ekW	SB/PP	LWA	Sound Pressure Levels dBA				Air Flow Rate		Ambient Capability at 100% Load*	
					1m (3.3 ft)		7m (23 ft)				°C	°F
					75% Load	100% Load	75% Load	100% Load	m³/s	cfm		
50 Hz												
DE500E0	455	364	PP	98	79	79	69	70	5.7	12078	44	111
	500	400	SB	98	79	80	69	70	5.7	12078	45	113
DE550E0	500	400	PP	98	79	80	69	70	5.7	12078	40	104
	550	440	SB	98	79	80	70	71	5.7	12078	41	106
DE550E3	500	400	PP	–	82	83	73	74	6.1	12925	54	129
	550	440	SB	–	83	84	73	75	6.1	12925	52	126
60 Hz												
DE450SE0	513	410	PP	–	81	82	71	72	6.3	13349	47	117
	563	450	SB	–	82	83	71	73	6.3	13349	49	120
DE500SE0	569	455	PP	–	82	83	71	73	6.3	13349	43	109
	625	500	SB	–	82	83	72	73	6.3	13349	45	113

*Ambient capability measured with the Cat extended life coolant at sea level.



Approximate weight of enclosure package: 5071 kg (11180 lb), **5300 kg (11685 lb) DE550E3. Exact weight is dependent on options. Enclosure weight includes: sound attenuated enclosure, exhaust system, base and generator set.

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