

## Standby & Prime: 50Hz



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

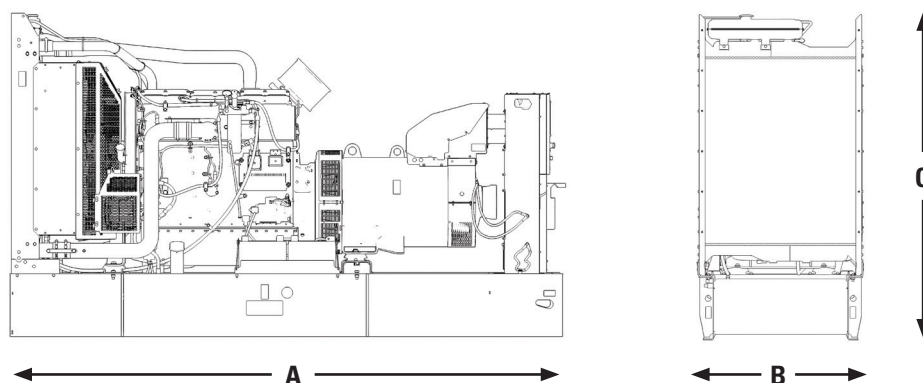
Model	Standby	Prime	Emission Strategy
DE550E0	550 kVA, 440 ekW	500 kVA, 400 ekW	Non-Certified Emissions

## PACKAGE PERFORMANCE

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

Emissions (Nominal) <sup>2</sup>	Standby		Prime
NOx, mg/Nm³ (g/hp-hr)	3689.6 (7.3)		3438.4 (6.8)
CO, mg/Nm³ (g/hp-hr)	168.2 (0.3)		170.2 (0.3)
HC, mg/Nm³ (g/hp-hr)	5.8 (0.0)		5.3 (0.0)
PM, mg/Nm³ (g/hp-hr)	7.0 (0.0)		7.9 (0.0)
Alternator <sup>3</sup>			
Voltages	415V	400V	380V
Motor starting capability @ 30% Voltage Dip	1391 skVA	1033 skVA	1165 skVA
Current	Standby: 765A, Prime: 626A	Standby: 794A, Prime: 722A	Standby: 830A, Prime: 722A
Frame Size	A2985L4	A2985L4	A2985L4
Excitation	SE	SE	SE
Temperature Rise	SB: 163°C, PP: 125°C	SB: 163°C, PP: 125°C	SB: 163°C, PP: 125°C

## WEIGHTS & DIMENSIONS



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

Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Dry Weight kg (lb)
3830 (151)	1130 (44)	2255 (89)	3700 (8157)

## 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.

## DEFINITIONS AND CONDITIONS

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

<sup>2</sup> 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.

<sup>3</sup> 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.

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*Image shown may not represent actual configuration*

## 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

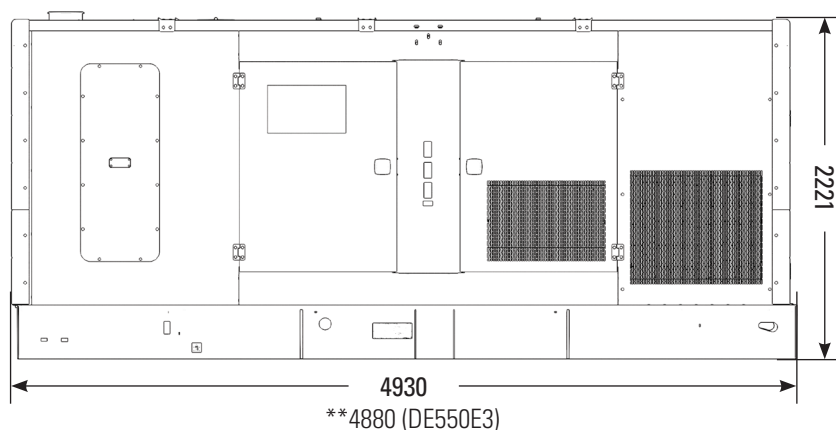
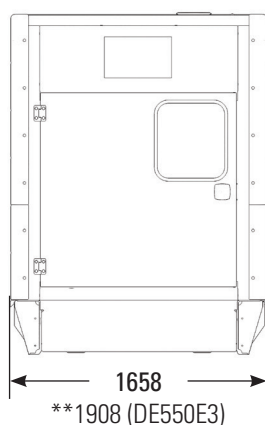
### Options

- 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 (3.3ft)		7m (23ft)		m³/s	cfm	°C	°F
					75% Load	100% Load	75% Load	100% Load				
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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# A-Frame Alternators



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## A Frame

### Standby Power

50 Hz 33-715 kVA	1500 rpm
60 Hz 30-600 ekW	1800 rpm

### Prime Power

50 Hz 30-650 kVA	1500 rpm
60 Hz 26-545 ekW	1800 rpm

## DETAILS

### Main components

#### Housing

- Rigid frame, rugged welded steel fabrication

#### Insulation

- Class H

#### Shaft

- Single bearing generator: cylindrical shaft with key
- Made in carbon steel and obtained by lamination.
- Shaft material for diameters of 230 mm and above is 40Cr steel (GB/T 3077-1999).
- All rotors are dynamically balanced at factory before delivery

#### Automatic Voltage Regulator

- GRTA-2D (Analog) / GRT7-TH4E (Analog)

#### Main Terminal Box

- Top mounted
- Made of Q235-A(GB/T 700-2006))

#### Fan

- Fan for alternators, 26.4<44 ekW is made of plastic
- Fan for alternators >44 ekW is made of aluminum alloy ZL104 (GBT 1173).

### Construction

- Enclosure - ODP - Open Drip Proof
- Cooling System - IC 01 as per IEC60034-6
- Degree of protection - IP 21 as per IEC60034-5

### Certificates and testing

- Generators are designed in compliance with:
  - IEC EN 60034 – 1
  - IEC EN 60034-22
  - BS4999-5000
  - NEMA MG1-22
  - VDE 0530
  - GB755-2008
  - CCS GB12975
  - GB/T7060
  - Operating conditions
- THD (Total Harmonic Distortion) less than 3%
- TIF<50 & THF<2%
- 2/3 pitch winding to eliminate third harmonic content

### Vibration

- Vibration level is in accordance with GB/T6075 equals to ISO 10186.
- Follows GB10068 (equal to IEC60034-14).

# ATTACHMENTS

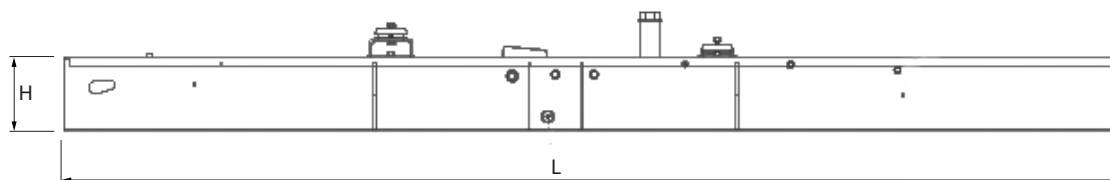


## C13/C15 FUEL TANKS BASE (INTEGRAL) DIMENSIONS AND CAPACITIES

Configuration	Single / Dual Wall	Fillable Capacity		Usable Capacity		Weight (Dry)	
		Litres	Gallons	Litres	Gallons	kg	lb
Open (Standard)	Single	888	235	839	222	524	1155
Enclosed* (Standard)	Single	887	234	842	222	810	1786
Enclosed* (Option)	Dual	873	231	827	218	1021	2251

Configuration	Single / Dual Wall	Width		Length 'L'		Height 'H'		Package Height C13		Package Height C15	
		mm	in	mm	in	mm	in	mm	in	mm	in
Open (Standard)	Single	1110	43.7	3800	149.6	430	16.9	2156	84.9	2215	87.2
Enclosed* (Standard)	Single	1620	63.8	4930	194.1	340	13.4	2317	91.2	2317	91.2
Enclosed* (Option)	Dual	1620	63.8	4930	194.1	390	15.4	2367	93.2	2367	93.2

\*Available for both Sound Attenuated and High Ambient Enclosed Generator Sets.



The heights listed above do not include lumber used during manufacturing and shipping.  
Weight is for tank only. Does not include additions or removals required by price list.  
All fuel tanks are shipped "installed."

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