



Image shown may not reflect actual configuration

## 500 kVA – 550 kVA

450 ekW – 500 ekW

50/60 Hz

	Standby	Prime
DE500E0	500 kVA	450 kVA
DE550E0	550 kVA	500 kVA
DE550E3	550 kVA	500 kVA
DE450SE0	450 ekW	410 ekW
DE500SE0	500 ekW	455 ekW

## BENEFITS & FEATURES

### CAT<sup>®</sup> GENERATOR SET PACKAGE

Cat<sup>®</sup> generator set packages have been fully prototype tested and certified torsional vibration analysis reports are available. The packages are designed to meet the NFPA 110 requirement for loading, conform to the ISO 8528-5 steady state and fill transient response requirements.

### CAT DIESEL ENGINES

The four-cycle Cat diesel engine combines consistent performance with excellent fuel economy and transient response that meets or exceeds ISO 8528-5. The engines feature a reliable, rugged, and durable design that has been field proven in thousands of applications worldwide in emergency standby installations.

### COOLING SYSTEM

The cooling system has been designed and tested to ensure proper generator set cooling, and includes the radiator, fan, belts, and all guarding installed as standard. Contact your Cat dealer for specific ambient and altitude capabilities.

### GENERATORS

The generators used on Cat packages have been designed and tested to work with the Cat engine. The generators are built with robust Class H insulation and provide industry-leading motor starting capability and altitude capabilities.

### EMCP CONTROL PANELS

The EMCP controller features the reliability and durability you have to come to expect from your Cat equipment. The EMCP 4 is a scalable control platform designed to ensure reliable generator set operation, providing extensive information about power output and engine operation. EMCP 4 systems can be further customized to meet your needs through programming and expansion modules.

## SPECIFICATIONS

### ENGINE SPECIFICATIONS

Engine Model	Cat <sup>®</sup> C15 ACERT In-line 6, 4-cycle diesel
Bore x Stroke	137mm x 171mm (5.4in x 6.8in)
Displacement	15.2 L (928 in <sup>3</sup> )
Compression Ratio	16.1:1
Aspiration	Turbocharged Air-to-Air Aftercooled
Fuel Injection System	MEUI
Governor	Electronic ADEM <sup>™</sup> A4
Emission Certifications	EU Stage IIIA, Low Fuel Consumption, China Non-road III

### GENERATOR SET SPECIFICATIONS

Alternator Design	Brushless Single Bearing, 4 Pole
Stator	2/3 Pitch
No. of Leads	12
Available Voltages	220V/240V/380V/440V/480V
Frequency	50Hz or 60 Hz
Alternator Voltage	24V
Alternator Insulation & IP	Class H; IP21; IP23 (Optional)
Standard Temperature Rise	125/130 Deg C
Available Excitation Types	Self-Excited, PMG
Voltage Regulation, Steady State+/-	≤1%

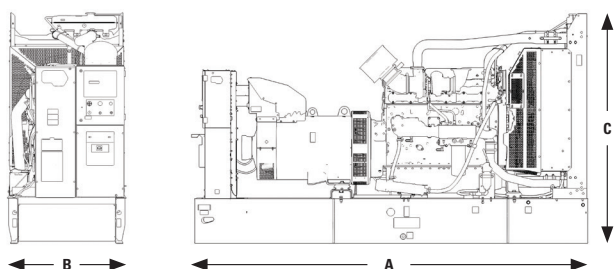
## STANDARD EQUIPMENT

Air inlet system	Air cleaner- Non-Canister disposable paper filter
Control panels	EMCP4.2 control panel
Cooling system	Radiator and cooling fan with guard
	Coolant drain line with valve
	Fan drive, battery charging alternator drive- Caterpillar Extended Life Coolant
Fuel Storage	Standard open set fuel tank/base supplied
	Base, formed steel with single wall integral 8-hour fuel tank
Fuel system	Primary fuel filter w/integral water separator & secondary filter-Fuel cooler
	Fuel priming pump
	Flexible fuel lines
	Engine fuel transfer pump
Generators and generator attachments	12/6 leads
	A frame generator - IP21 Protection
	Optional LC frame generator - IP23 Protection
	Integrated Voltage Regulator
	Power centre-IP22
	Segregated low voltage (AC/DC) wiring panel
Mandatory Option circuit breaker, IEC, 3- pole, mounted in power centre	
Governing system	Cat Electronic Governor (ADEM A4)
Lube system	Oil cooler
	Oil drain valves
Mounting system	Captive linear vibration isolators between base and engine-generator
	Includes lifting provisions and termination points for coolant and lube oil drain lines
Starting/charging system	24V battery with rack and cables
General	Engine and alternator pre-paint, Caterpillar Yellow

## OPTIONAL EQUIPMENT

Air inlet system	Single Element Air Cleaner
	Dual Element Air Cleaner
Control panels	EMCP 4.4 Control Panel
	Local & Remote Annunciator
Circuit Breakers	3 & 4 Pole Circuit Breakers: 800, 1250, 1600,  2000 Amps
	3 & 4 Pole Motorised Circuit Breakers: 800, 1250, 1600, 2000 Amps
Enclosures	Sound Attenuated (SA)
	High ambient SA enclosure
Cooling system	Radiator duct flange
	Stone guards
Exhaust system	10, 25, 35 dBA Attenuation Mufflers
Fuel storage	Integral Dual wall
Fuel System	Manual Fuel transfer pump
	Fuel transfer system with controls
Generators and generator attachments	Permanent magnet Alternators (PMG)
	Ingress protection cover plates
	Coastal Ingress Protection Generator
	Space heater controls
Lube system	Manual sump pump
Jacket Water Heater	240vAC Heater
Mounting system	Narrow Skid Base
Starting/charging system	5 Amp, 220-240vAC, Control panel mounted Battery charger
General	Tool Set

## WEIGHTS & DIMENSIONS



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

Genset Package	Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Generator Set Weight kg (lb)
<b>Open</b>	3830 (151)	1130 (45)	2215 (87)	3700 (8157)



Image shown may not reflect actual configuration

## FEATURES

- Tank design provides capacity for thermal expansion of fuel.
- Integral diesel fuel tank is incorporated into the generator set base frame.
- Direct reading fuel level gauge | Fuel supply dip tubes positioned so as not to pick up fuel sediment.
- Fuel return and supply dip tubes are separated by an internal baffle to prevent recirculation of heated return fuel.
- Fuel fill – 76.2 mm (3 in), lockable flip top cap | Tanks are leak tested at 31 kPa (4.5 psi) minimum
- Heavy gauge steel gussets suitable for lifting package
- Polyester powder coating – Gloss black textured finish
- Primary tanks are equipped with customer connections for remote fuel transfer, return and vent
- Sloped top tank plate to front to contain accidental coolant, oil and fuel spillages
- Sloped bottom tank plate to middle for fuel drainage
- Rear stub-up access

## SINGLE WALL TANKS

- Single wall design | Heavy construction 6 mm (0.24 in) steel plate side channels and 4 mm (0.16 in) sheet steel tank design.
- Standard offering for open and enclosed (High Ambient and Sound Attenuated) generator sets.

## DUAL WALL TANKS

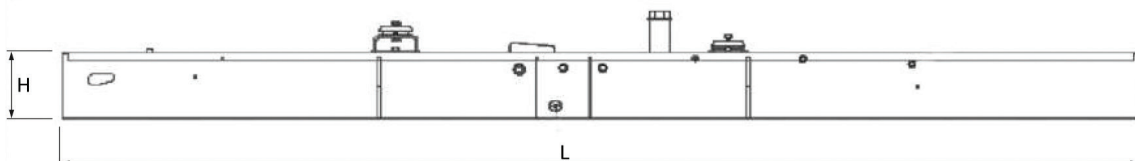
- Secondary containment – Open top design | Welded steel basin designed to contain a minimum of 110% of primary tank capacity (total fluid containment) | Heavy construction 6 mm (0.24 in) steel plate side channels and 4 mm (0.16 in) sheet steel tank design
- Option for enclosed (High Ambient and Sound Attenuated) generator sets.

## Capacities & Dimensions

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

Configuration	Single/Dual Wall	Width		Length 'L'		Height 'H'		Package Height	
		mm	in	mm	in	mm	in	mm	in
Open	Single	1110	43.7	3800	149.6	430	16.9	2156	84.9
Enclosed*	Single	1620	63.8	4930	194.1	340	13.4	2317	91.2
Enclosed*	Dual	1620	63.8	4930	194.1	390	15.4	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."



## SOUND ATTENUATED & HIGH AMBIENT ENCLOSURES

50 Hz/60 Hz

*Image shown may not reflect actual configuration*

These Sound Attenuated & High Ambient, factory installed enclosures incorporate internally mounted super critical level silencers and residential level silencers respectively, 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

kVA	ekW	SB/PP	Sound Pressure Levels dBA						Air Flow Rate		Ambient Capability @100% Load*	
			1m (3.3ft)		1.5m (4.9ft)		7m (23ft)		m <sup>3</sup> /s	cfm	°C	°F
			75% Load	100% Load	75% Load	100% Load	75% Load	100% Load				
<b>50 Hz Sound Attenuated</b>												
410	328	PP	76	77	76	77	69	70	5.7	12078	49	120
450	360	SB	76	77	76	77	69	70	5.7	12078	50	122
455	364	PP	76	77	76	77	69	70	5.7	12078	44	111
500	400	SB	77	78	77	78	69	70	5.7	12078	45	113
500	400	PP	77	78	77	78	69	70	5.7	12078	48	118
550	440	SB	77	78	77	78	70	71	5.7	12078	49	120
<b>50 Hz High Ambient</b>												
455	364	PP	86	86	-	-	77	78	7.0	14762	52	126
500	400	SB	86	86	-	-	77	78	7.0	14762	54	129
500	400	PP	86	86	-	-	77	78	7.0	14762	49	120
550	440	SB	86	86	-	-	77	78	7.0	14762	50	122

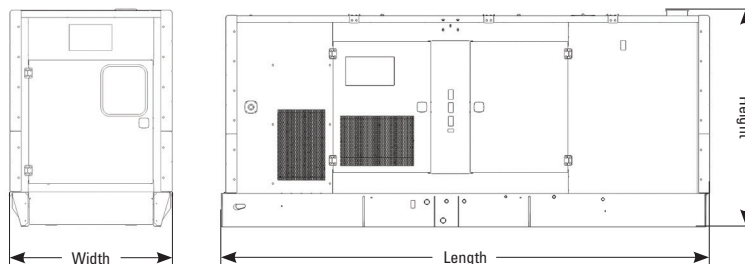
kVA	ekW	SB/PP	Sound Pressure Levels dBA						Air Flow Rate		Ambient Capability @100% Load*	
			1m (3.3ft)		1.5m (4.9ft)		7m (23ft)		m <sup>3</sup> /s	cfm	°C	°F
			75% Load	100% Load	75% Load	100% Load	75% Load	100% Load				
<b>60 Hz Sound Attenuated</b>												
456	365	PP	81	82	79	80	71	72	6.3	13349	52	126
500	400	SB	81	82	79	80	71	72	6.3	13349	54	129
513	410	PP	81	82	79	80	71	72	6.3	13349	48	118
563	450	SB	82	83	79	81	71	73	6.3	13349	49	120
569	455	PP	82	83	79	81	71	73	6.3	13349	43	109
625	500	SB	82	83	80	81	72	73	6.3	13349	45	113
<b>60 Hz High Ambient</b>												
513	410	PP	81	82	-	-	71	72	9.0	18999	47	117
563	450	SB	82	83	-	-	71	73	9.0	18999	49	120
569	455	PP	82	83	-	-	71	73	9.0	18999	43	109
625	500	SB	82	83	-	-	72	73	9.0	18999	45	113

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

## WEIGHTS & DIMENSIONS

Approximate weight of enclosure package: 5071 kg (11,138 lb).  
Exact weight is dependent on options.

Enclosure weight includes: high ambient enclosure, exhaust system, base and generator set.



## EMCP 4 CONTROL KEY FEATURES

### EMCP 4 control features

- Run/Auto/Stop Control
- Speed and Voltage Adjust
- Engine Cycle Crank
- 24-volt DC operation
- Environmental sealed front face
- Text alarm/event descriptions

### Digital indication for:

- RPM
- DC volts
- Operating hours
- Oil pressure (psi, kPa or bar)
- Coolant temperature
- Volts (L-L & L-N), frequency (Hz)
- Amps (per phase & average)
- kW, kVA, kVAR, kW-hr, %kW, PF (4.2 only)

### Warning/shutdown with common LED indication of:

- Low oil pressure
- High coolant temperature
- Overspeed
- Emergency Stop
- Failure to start (overcrank)
- Low coolant temperature
- Low coolant level



### Programmable protective relaying functions:

- Generator phase sequence
- Over/Under voltage (27/59)
- Over/Under Frequency (81 o/u)
- Reverse Power (kW) (32) (4.2 only)
- Reverse reactive power (kVAR) (32RV)
- Overcurrent (50/51)

### Communications:

- 4 digital inputs & 4 relay outputs (4.1)
- 6 digital inputs & 8 relay outputs (4.2)
- 12 digital inputs & 8 relay outputs (4.4)
- Customer data link (Modbus RTU) (4.2 only)
- Accessory module data link (4.2 only)
- Serial annunciator module data link (4.2 only)
- Emergency stop pushbutton

### Compatible with the following:

- Digital I/O module
- Local Annunciator
- Remote CAN annunciator
- Remote serial annunciator

## FINANCING

Caterpillar offers an array of financial products to help you succeed through financial service excellence. Options include loans, finance lease, operating lease, working capital, and revolving line of credit. Contact your local Cat dealer for availability in your region.

## WORLDWIDE PRODUCT SUPPORT

Cat dealers provide extensive post-sale support including maintenance and repair agreements. Cat dealers have over 1,800 dealer branch stores operating in 200 countries. The Caterpillar<sup>®</sup> SOS<sup>SM</sup> program effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products.

# LET'S DO THE WORK.™

LEHE1636-02 (06/20)

www.Cat.com/electricpower  
All rights reserved.

Materials and specifications are subject to change without notice. The International System of Units (SI) is used in this publication.  
© 2020 Caterpillar. All Rights Reserved. CAT, CATERPILLAR, LET'S DO THE WORK, their respective logos, "Caterpillar Corporate Yellow", the "Power Edge" and Cat "Modern Hex" trade dress as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission