



Image shown may not reflect actual package.

## STANDBY 440 kW 550 kVA 50 Hz 1500 rpm 400 Volts

Caterpillar is leading the power generation marketplace with Power Solutions engineered to deliver unmatched flexibility, expandability, reliability, and cost-effectiveness.

### FEATURES

#### FUEL/EMISSIONS STRATEGY

- Low Fuel consumption

#### FULL RANGE OF ATTACHMENTS

- Wide range of bolt-on system expansion attachments, factory designed and tested
- Flexible packaging options for easy and cost effective installation

#### SINGLE-SOURCE SUPPLIER

- Fully prototype tested with certified torsional vibration analysis available

#### 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 Cat® S•O•S<sup>SM</sup> program cost effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products

#### CAT® C15 ATAAC DIESEL ENGINE

- Utilizes ACERT™ Technology
- Reliable, rugged, durable design
- Field-proven in thousands of applications worldwide
- Four-stroke diesel engine combines consistent performance and excellent fuel economy with minimum weight
- Electronic engine control

#### CAT GENERATOR

- Matched to the performance and output characteristics of Cat engines
- Load adjustment module provides engine relief upon load impact and improves load acceptance and recovery time
- UL 1446 Recognized Class H insulation

#### CAT EMCP 4 CONTROL PANELS

- Simple user friendly interface and navigation
- Scalable system to meet a wide range of customer needs
- Integrated Control System and Communications Gateway

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## FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

System	Standard	Optional
Air Inlet	• Air cleaner	
Cooling	• Package mounted radiator	
Exhaust	• Exhaust flange outlet	<input type="checkbox"/> Industrial <input type="checkbox"/> Residential <input type="checkbox"/> Critical Mufflers
Fuel	• Primary fuel filter with integral water separator • Secondary fuel filters • Fuel priming pump	
Generator	• Matched to the performance and output characteristics of Cat engines • Load adjustment module provides engine relief upon load impact and improves load acceptance and recovery time • IP23 protection	<input type="checkbox"/> Oversize and premium generators <input type="checkbox"/> Permanent magnet excitation (PMG) <input type="checkbox"/> Internal excited (IE) <input type="checkbox"/> Anti-condensation space heaters
Power Termination	• Bus bar	<input type="checkbox"/> Circuit breakers, UL listed <input type="checkbox"/> Circuit breakers, IEC compliant
Control Panel	• EMCP 4 Genset Controller	<input type="checkbox"/> EMCP 4.2 <input type="checkbox"/> EMCP 4.3 <input type="checkbox"/> EMCP 4.4 <input type="checkbox"/> Local and remote annunciator modules <input type="checkbox"/> Load share module <input type="checkbox"/> Digital I/O module <input type="checkbox"/> Remote monitoring software
Mounting	• Rubber vibration isolators	
Starting/Charging	• 24 volt starting motor • Batteries	<input type="checkbox"/> Battery chargers <input type="checkbox"/> Oversize batteries <input type="checkbox"/> Jacket water heater <input type="checkbox"/> Heavy duty starting system <input type="checkbox"/> Charging alternator
General	• Paint - Caterpillar Yellow except rails and radiators gloss black	The following options are based on regional and product configuration: <input type="checkbox"/> Seismic Certification per Applicable Building Codes: IBC 2000, IBC 2003, IBC 2006, IBC 2009, CBC 2007 <input type="checkbox"/> UL 2200 package <input type="checkbox"/> EU Certificate of Conformance (CE) <input type="checkbox"/> CSA Certification <input type="checkbox"/> EEC Declaration of Conformity <input type="checkbox"/> Narrow, wide or skid base <input type="checkbox"/> Sound attenuated, weather protective or high ambient weather protective enclosures <input type="checkbox"/> Single or dual wall integral fuel tanks <input type="checkbox"/> Single or dual wall sub-base fuel tanks <input type="checkbox"/> Integral & sub-base UL listed dual wall fuel tanks <input type="checkbox"/> Automatic transfer switches (ATS)

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## SPECIFICATIONS

### CAT GENERATOR

Frame size.....LC6114F  
Excitation..... Self Excitation  
Pitch..... 0.6667  
Number of poles..... 4  
Number of bearings..... Single bearing  
Number of Leads..... 012  
Insulation..... UL 1446 Recognized Class H with tropicalization and antiabrasion  
- Consult your Caterpillar dealer for available voltages  
IP Rating.....Drip Proof IP23  
Alignment..... Pilot Shaft  
Overspeed capability..... 150  
Wave form Deviation (Line to Line)..... 2%  
Voltage regulator..... Single Phase Sensing  
Voltage regulation.....Less than +/- 1/2% (steady state)  
Less than +/- ½% (w/ 3% speed change)

### CAT DIESEL ENGINE

C15 ATAAC, I-6, 4-Stroke Water-cooled Diesel  
Bore..... 137.20 mm (5.4 in)  
Stroke..... 171.40 mm (6.75 in)  
Displacement..... 15.20 L (927.56 in<sup>3</sup>)  
Compression Ratio..... 16.1:1  
Aspiration..... Air-to-Air Aftercooled  
Fuel System..... MEUI  
Governor Type..... Caterpillar ADEM control system

### CAT EMCP 4 SERIES CONTROLS

EMCP 4 controls including:

- 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)
- ekW, 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 (kVA) (32RV)
- Overcurrent (50/51)

Communications:

- Four digital inputs (4.1)
- Six digital inputs (4.2 only)
- Four relay outputs (Form A)
- Two relay outputs (Form C)
- Two digital outputs
- 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

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## TECHNICAL DATA

Open Generator Set - - 1500 rpm/50 Hz/400 Volts	DM8495	
<b>Low BSFC</b>		
<b>Generator Set Package Performance</b> Genset Power rating @ 0.8 pf Genset Power rating with fan	550 kVA 440 ekW	
<b>Fuel Consumption</b> 100% load with fan 75% load with fan 50% load with fan	111.8 L/hr 83.6 L/hr 58.7 L/hr	29.5 Gal/hr 22.1 Gal/hr 15.5 Gal/hr
<b>Cooling System<sup>1</sup></b> Air flow restriction (system) Air flow (max @ rated speed for radiator arrangement) Engine Coolant capacity with radiator/exp. tank Engine coolant capacity Radiator coolant capacity	0.12 kPa 476 m <sup>3</sup> /min 47.8 L 20.8 L 27.0 L	0.48 in. water 16810 cfm 12.6 gal 5.5 gal 7.1 gal
<b>Inlet Air</b> Combustion air inlet flow rate	30.7 m <sup>3</sup> /min	1084.2 cfm
<b>Exhaust System</b> Exhaust stack gas temperature Exhaust gas flow rate Exhaust flange size (internal diameter) Exhaust system backpressure (maximum allowable)	528.4 ° C 87.2 m <sup>3</sup> /min 152.4 mm 10.0 kPa	983.1 ° F 3079.4 cfm 6.0 in 40.2 in. water
<b>Heat Rejection</b> Heat rejection to coolant (total) Heat rejection to exhaust (total) Heat rejection to atmosphere from engine Heat rejection to atmosphere from generator	166 kW 398 kW 70 kW 26.6 kW	9440 Btu/min 22634 Btu/min 3981 Btu/min 1512.7 Btu/min
<b>Alternator<sup>2</sup></b> Motor starting capability @ 30% voltage dip Frame Temperature Rise	1213 skVA LC6114F 163 ° C	293 ° F
<b>Emissions (Nominal)<sup>3</sup></b> NOx mg/nm <sup>3</sup> CO mg/nm <sup>3</sup> HC mg/nm <sup>3</sup> PM mg/nm <sup>3</sup>	3689.4 mg/nm <sup>3</sup> 168.2 mg/nm <sup>3</sup> 5.8 mg/nm <sup>3</sup> 7 mg/nm <sup>3</sup>	

<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> Generator temperature rise is based on a 40° C (104° F) ambient per NEMA MG1-32. Some packages may have oversized generators with a different temperature rise and motor starting characteristics.

<sup>3</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.

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## RATING DEFINITIONS AND CONDITIONS

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**Meets or Exceeds International Specifications:** AS1359, CSA, IEC60034-1, ISO3046, ISO8528, NEMA MG 1-22, NEMA MG 1-33, UL508A, 72/23/EEC, 98/37/EC, 2004/108/EC

**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.

**Ratings** are based on SAE J1349 standard conditions. These ratings also apply at ISO3046 standard conditions.

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## DIMENSIONS

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Package Dimensions		
Length	3830.0 mm	150.79 in
Width	1130.6 mm	44.51 in
Height	2215.0 mm	87.2 in

NOTE: For reference only - do not use for installation design. Please contact your local dealer for exact weight and dimensions. (General Dimension Drawing #3930333).

Performance No.: DM8495

Feature Code: C15DF1W

Gen. Arr. Number: 3921379

Source: European Sourced

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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.

Picture shown may not represent actual package

## Features

### ROBUST/HIGHLY CORROSION RESISTANT CONSTRUCTION

- Factory installed on integral fuel tank base
- Environmentally friendly, polyester powder baked paint
- 1.6mm (0.063in) 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)

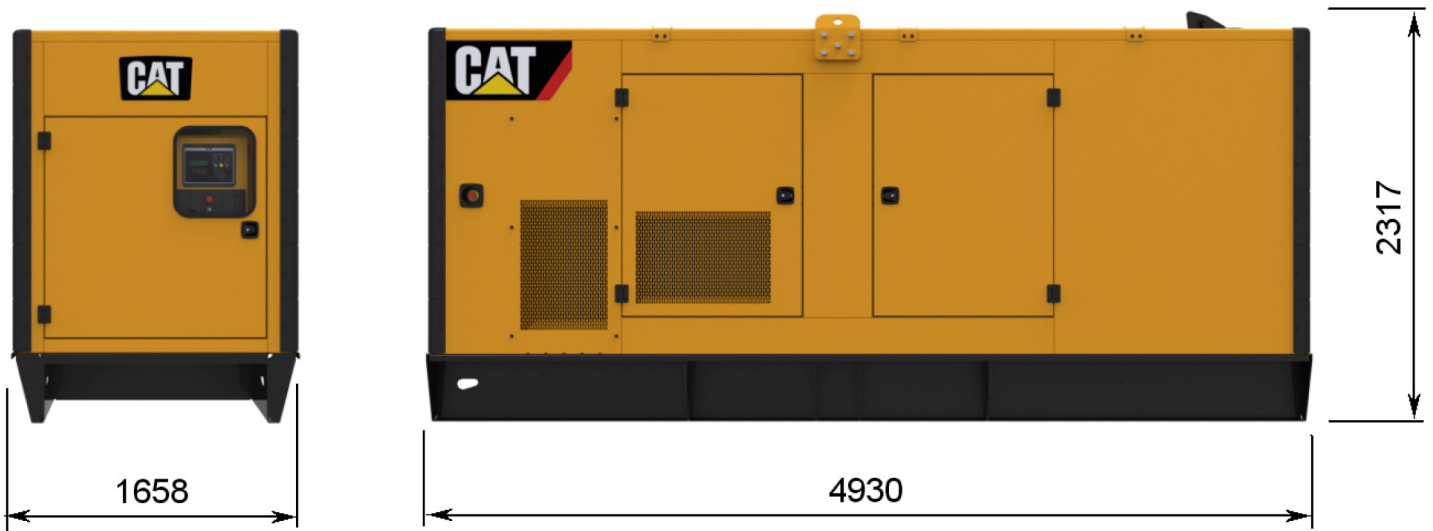
## SOUND ATTENUATED ENCLOSURE OPERATING CHARACTERISTICS

60 Hz SA Enclosure (Low BSFC)			Ambient Capability*		Airflow Rate		Sound Pressure Levels dBA @ Full Load			Exhaust Back Pressure	
ekW	kVA	PP/SB	°C	°F	m³/s	cfm	1m	7m	15m	in H <sub>2</sub> O	kPa
500	625.0	SB	45	113	6.3	13349	83.5	73.3	67.3	16.0	4.1
455	468.8	PP	43	109	6.3	13349	82.9	72.7	66.7	14.3	3.6
450	462.5	SB	49	120	6.3	13349	82.9	72.6	66.6	14.1	3.5
410	412.5	PP	48	118	6.3	13349	82.4	72.1	66.1	12.5	3.1
400	500.0	SB	54	129	6.3	13349	82.3	72.0	66.0	12.2	3.0
365	456.3	PP	52	126	6.3	13349	82.0	71.6	65.6	10.9	2.7

\*Ambient measured with Caterpillar Extended Life Coolant

50 Hz SA Enclosure (Low BSFC)			Ambient Capability*		Airflow Rate		Sound Pressure Levels dBA @ Full Load			Exhaust Back Pressure	
ekW	kVA	PP/SB	°C	°F	m³/s	cfm	1m	7m	15m	in H <sub>2</sub> O	kPa
440	550	SB	41	106	5.7	12078	80.7	70.6	64.6	10.8	2.7
400	500	PP	40	104	5.7	12078	80.3	70.2	64.2	9.6	2.4
400	500	SB	46	115	5.7	12078	80.3	70.2	64.2	9.6	2.4
364	455	PP	45	113	5.7	12078	80.0	69.9	63.9	8.0	2.0
360	450	SB	51	124	5.7	12078	80.0	69.9	63.9	7.9	2.0
328	410	PP	51	124	5.7	12078	79.7	69.6	63.6	6.5	1.6

\*Ambient measured with Caterpillar Extended Life Coolant



Approximate weight of enclosure package: 5280 kg (11,640 lb). Exact weight is dependent on options. Enclosure weight includes: sound attenuated enclosure, exhaust system, base and generator set. Generator set enclosure also available in white. (Caterpillar yellow is standard colour)

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