



Image shown may not reflect actual configuration

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

## Specifications

Generator Set Specifications	
Rating	50 ekW 50 kVA
Voltage	240 Volts
Frequency	60 Hz
Speed	1800 rpm

Generator Set Configurations	
Emissions/Fuel Strategy	U.S. EPA Certified for Stationary Emergency Use Only (Tier 3 Nonroad Equivalent Emission Standards)

Engine Specifications		
Engine Model	C4.4 In-line 4, 4-cycle diesel	
Bore	105 mm	4.13 in
Displacement	4.4 L	268.5 in <sup>3</sup>
Stroke	127 mm	5.0 in
Compression Ratio	18.2:1	
Aspiration	Turbocharged	
Governor Type	Electronic	
Fuel System	Common Rail	

Package Dimensions*		
Length	1932 mm	76 in
Width	1110 mm	44 in
Height	1767 mm	46 in
Weight†	1005 kg	2216 lb

\*Note: For reference only – do not use for installation design. Please contact your local dealer for exact weight and dimensions.

†Weight includes: Oversize generator, skid base, circuit breaker, oil and coolant.

## Benefits & Features

### Cat Diesel Engine

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

### Generator

- Matched to the performance and output characteristics of Cat® engines
- Industry-leading mechanical and electrical design
- Industry-leading motor starting capabilities
- High efficiency

### Cat EMCP Control Panel

The EMCP controller features the reliability and durability you have come to expect from your Cat equipment. 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.

### Seismic Certification

- Seismic Certification available
- Anchoring details are site specific, and are dependent on many factors such as generator set size, weight, and concrete strength. BC Certification requires that the anchoring system used is reviewed and approved by a Professional Engineer
- Seismic Certification per Applicable Building codes:  
IBC 2000, IBC 2003, IBC 2006, IBC 2009, IBC 2012, CBC 2007, CBC 2010

### Design Criteria

- The generator set accepts 100% rated load in one step per NFPA 110 and meets ISO 8528-5 transient response.
- Cooling system designed to operate in 50°C / 122°F ambient temperatures with an air flow restriction of 0.5 in. water

### UL 2200 / CSA – Optional

- UL 2200 Listed
- CSA Certified

Certain restrictions may apply. Consult with your Cat® Dealer.

### Single-Source Supplier

Fully prototype tested with certified torsional vibration analysis.

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

## **Standard Equipment**

### **Air Inlet**

- Dry replaceable paper element type with restriction indicator

### **Cooling**

- Radiator and cooling fan complete with protective guards
- Standard ambient temperatures up to 50°C (122°F)

### **Exhaust**

- Exhaust flange outlet

### **Fuel**

- Primary and secondary fuel filters
- Fuel priming pump
- Flexible fuel lines

### **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
- Integrated Voltage Regulation

### **Governor**

- Electronic governor

### **Control Panels**

- EMCP 4.2 Series generator set controller

### **Mounting**

- Rubber vibration isolators

### **Starting/Charging**

- 12 volt starting motor
- Batteries with rack and cables

### **General**

- Paint – Caterpillar Yellow except rails and radiators gloss black

## **Optional Equipment**

### **Exhaust**

- Industrial, Residential, Critical Mufflers

### **Generator**

- Excitation: [ ] Permanent Magnet Excited (PM) [ ] Internally Excited (IE)
- Anti-condensation heater
- Oversize and premium generators

### **Starting/Charging**

- Battery charger – UL 10 amp
- Battery disconnect switch
- Jacket water heater

### **General**

- UL 2200
- CSA Certification
- Enclosures: sound attenuated, weather protective
- Sub-base dual wall UL listed fuel tanks
- Automatic transfer switches (ATS)

C4.4

50 ekW/ 50 kVA/ 60 Hz/ 1800 rpm/ 240V/ 1.0 Power Factor

Rating Type: STANDBY

Emissions: U.S. EPA Certified for Stationary Emergency Use Only  
 (Tier 3 Nonroad Equivalent Emission Standards)



**D50-6S**  
**50 ekW / 50 kVA**  
**60 Hz / 1800 rpm / 240V**

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	Metric	English
<b>Package Performance</b>		
Generator Set Power Rating with Fan @ 1.0 Power Factor	50 ekW	
Generator Set Power Rating	50 kVA	

<b>Fuel Consumption</b>		
100% Load With Fan	16.4 L/hr	4.3 g/hr
75% Load With Fan	12.4 L/hr	3.3 g/hr
50% Load With Fan	9.0 L/hr	2.4 g/hr

<b>Cooling System<sup>1</sup></b>		
Engine Coolant Capacity	7.0 L	1.8 gal
Radiator Coolant Capacity	9.5 L	2.5 gal
Engine Coolant Capacity with Radiator/Exp Tank	16.5 L	4.3 gal
Air Flow Restriction (System)	0.12 kPa	0.48 in water

<b>Inlet Air</b>		
Combustion Air Inlet Flow Rate	5.3 m <sup>3</sup> /min	187.2 cm

<b>Exhaust System</b>		
Exhaust Stack Gas Temperature	571°C	1060°F
Exhaust Gas Flow Rate	13.7 m <sup>3</sup> /min	484 cfm
Exhaust System Back Pressure (maximum allowable)	15.0 kPa	60.2 in water
Exhaust Flange Size (internal diameter)	63.5 mm	2.5 in



C4.4

50 ekW/ 50 kVA/ 60 Hz /1800 rpm/ 240V/ 1.0 Power Factor

Rating Type: STANDBY

Emissions: U.S. EPA Certified for Stationary Emergency Use Only  
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Heat Rejection		
Heat Rejection to Coolant (total)	46.1 kw	2622 Btu/min
Heat Rejection to Exhaust (total)	66.9 kw	3805 Btu/min
Heat Rejection to Atmosphere from Engine	14.9 kw	847.3 Btu/min
Heat Rejection to Atmosphere from Generator	5.1 kw	290.0 Btu/min

Alternator <sup>2</sup>		
Motor Starting Capability @ 30% Voltage Dip	114 skVA	
Frame	LCB1514P	
Temperature Rise	130°C	234°F
Excitation	Self Excited	

Lube System		
Sump Refill with Filter	8.4 L	2.2 gal

Emissions (Nominal) <sup>3</sup>	
NOx + HC	4.42 g/kWhr
CO	1.02 g/kWhr
PM	0.18 g/kWhr

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

<sup>2</sup> Generator temperature rise is based on a 40°C (104°F) ambient per NEMA MG1-32.

<sup>3</sup> The nominal emissions data shown is subject to instrumentation, measurement, facility and engine to engine variations. Emissions data is based on 100% Prime load. This information should not be used for permitting purposes and is subject to change without notice. Contact your Cat dealer for further details.



**Rating Type: STANDBY**

**Emissions: U.S. EPA Certified for Stationary Emergency Use Only  
(Tier 3 Nonroad Equivalent Emission Standards)**

## **DEFINITIONS AND CONDITIONS**

### **Applicable Codes and Standards:**

AS1359, CSA C22.2 No 100-04, UL142, UL489, UL601, UL869, UL2200, NFPA 37, NFPA 70, NFPA 99, NFPA 110, IBC, IEC60034-1, ISO3046, ISO8528, NEMA MG 1-22, NEMA MG 1-33, 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.

**Fuel Rates** are based on fuel oil to specification EPA 2D 89.330-96 with a density of 0.845 – 0.850 kg/L (7.052 – 7.094 lbs/U.S. gal.) @ 15°C (59°F) and fuel inlet temperature 40°C (104°F).

Additional ratings may be available for specific customer requirements, contact your Cat representative for details.

Performance No.: P3454A-00  
Feature Code: NAC171P  
Generator Arrangement: 4568045  
07/30/2015  
Source Country: U.S.

[www.Cat-ElectricPower.com](http://www.Cat-ElectricPower.com)

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