

C4.4 Generator Set

Electric Power



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

Image shown may not reflect actual configuration

Specifications

Generator Set Specifications	
Rating	100 ekW (125 kVA)
Voltage	480 Volts
Frequency	60 Hz
Speed	1800 rpm

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

Engine Specifications		
Engine Model	C4.4 Vertical In-line 4, 4-cycle diesel	
Bore	105.0 mm	4.13 in
Displacement	4.4 L	268.5 in ³
Stroke	127.0 mm	5.0 in
Compression Ratio	16.7:1	
Aspiration	Turbocharged Air-to-Air Aftercooled	
Governor Type	Electronic	
Fuel System	Common Rail	

Package Dimensions*		
Length	2362 mm	93 in
Width	1110 mm	44 in
Height	1304 mm	51 in
Weight†	1166 kg	2570 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
- IBC certification requires that the anchoring system used is reviewed and approved by a professional engineer
- Seismic certification per applicable building codes: IBC 2006, IBC 2009, IBC 2012, IBC 2015

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•SSM program cost effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products.

Standard Equipment

Air Inlet

- Single element Air filter

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 – ADEM™ A4

Control Panels

- EMCP 4.2 Series generator set controller

Mounting

- Rubber vibration isolators

Starting/Charging

- 12 volt starting motor
- Battery 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 heaters
- 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

100 ekW/ 125 kVA/ 60 Hz/ 1800 rpm/ 480V/ 0.8 Power Factor

Rating Type: STANDBY

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



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**D100-8
100 ekW/ 125 kVA
60Hz/ 1800 rpm/ 480V**

Package Performance

Generator Set Power Rating with Fan @ 0.8 Power Factor	100 ekW
Generator Set Power Rating	125 kVA

Fuel Consumption

100% Load With Fan	28.8 L/hr	7.6 gal/hr
75% Load With Fan	23.2 L/hr	6.1 gal/hr
50% Load With Fan	17.2 L/hr	4.5 gal/hr

Cooling System¹

Engine Coolant Capacity	7.0 L	1.8 gal
Radiator Coolant Capacity	10.0 L	2.6 gal
Engine Coolant Capacity with Radiator/Exp Tank	17.0 L	4.5 gal
Air Flow Restriction (System)	0.12 kPa	0.48 in. water

Inlet Air

Combustion Air Inlet Flow Rate	8.82 m ³ /min	311 cfm
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Exhaust System

Exhaust Stack Gas Temperature	659°C	1218°F
Exhaust Gas Flow Rate	20.2 m ³ /min	712 cfm
Exhaust System Backpressure (maximum allowable)	15.0 kPa	60.2 in. water
Exhaust Flange Size (internal diameter)	64.0 mm	2.5 in

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Heat Rejection		
Heat Rejection to Coolant (total)	54.9 kW	3122 Btu/min
Heat Rejection to Exhaust (total)	91.3 kW	5192 Btu/min
Heat Rejection to Atmosphere from Engine	15.6 kW	887 Btu/min
Heat Rejection to Atmosphere from Generator	8.3 kW	472 Btu/min

Alternator²		
Motor Starting Capability @ 30% Voltage Dip	215 skVA	
Frame	LC3114D	
Temperature Rise	150°C	270°F
Excitation	Self Excited	

Lube System		
Sump Refill with Filter	8.4 L	2.2 gal

Emissions (Nominal)³		
NOx + HC	3.6 g/kW-hr	
CO	0.9 g/kW-hr	
PM	0.12 g/kW-hr	

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

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

³ 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.

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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.: P4514A
Feature Code: NAC223P
Generator Arrangement: 4518416
Date: 09/12/2016
Source Country: U.S.

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The International System of Units (SI) is used in this publication.

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