



Image shown may not reflect actual package.

STANDBY

**2400 kW 3000 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 field validation

WORLDWIDE PRODUCT SUPPORT

- Cat dealers provide extensive post sale support including maintenance and repair agreements
- Cat dealers have over 1,600 dealer branch stores operating in 200 countries
- The Cat® S•O•SSM program cost effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products

CAT C175-16 DIESEL ENGINE

- Reliable and durable
- Four-stroke diesel engine combines superior performance with excellent fuel economy
- Advanced electronic engine control
- Low installation and operating cost

CAT SR5 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 3 SERIES 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	<ul style="list-style-type: none"> • Air cleaner, 4 x single element canister with service indicator(s) • Plug group for air inlet shut-off 	<input type="checkbox"/> Air cleaner, 4 x dual element with service indicator(s) <input type="checkbox"/> Air inlet adapters
Circuit Breakers		<input type="checkbox"/> Circuit breakers, UL 100% rated, 3 pole with shunt trip <input type="checkbox"/> Circuit breakers, IEC rated, 3 or 4 pole with shunt
Cooling	<ul style="list-style-type: none"> • SCAC cooling • Jacket water and AC inlet/outlet flanges 	<input type="checkbox"/> Remote horizontal SCAC radiator <input type="checkbox"/> Remote fuel cooler <input type="checkbox"/> Low coolant level sensor (for remote radiators)
Crankcase Systems	<ul style="list-style-type: none"> • Open crankcase ventilation 	<input type="checkbox"/> Crankcase explosion relief valve
Exhaust	<ul style="list-style-type: none"> • Dry exhaust manifold • Bolted flange (ANSI 6" & DIN 150) with bellow for each turbo (qty 4) 	<input type="checkbox"/> Engine Exhaust Temperature Module <input type="checkbox"/> Mufflers (15 dBA, 25 dBA, or 40 dBA) <input type="checkbox"/> Dual 16" or single 20" vertical exhaust collector <input type="checkbox"/> Weld flange ANSI 20"
Fuel	<ul style="list-style-type: none"> • Primary fuel filter with water separator • Secondary fuel filters (engine mounted) 	
Generator SR5	<ul style="list-style-type: none"> • 3 phase brushless, salient pole • IEC platinum stator RTD's • Cat digital voltage regulator (CDVR) 	<input type="checkbox"/> Space heater kit <input type="checkbox"/> Oversize generators <input type="checkbox"/> Power connection arrangement
Governor	<ul style="list-style-type: none"> • ADEM™ A4 	<input type="checkbox"/> Redundant shutdown
Control Panels	<ul style="list-style-type: none"> • EMCP3.1 Genset Controller 	<input type="checkbox"/> EMCP 3.2 ... <input type="checkbox"/> EMCP 3.3 <input type="checkbox"/> Local & remote annunciator modules <input type="checkbox"/> Discrete I/O module <input type="checkbox"/> Generator temperature monitoring & protection <input type="checkbox"/> Remote monitoring <input type="checkbox"/> Load share module
Lube	<ul style="list-style-type: none"> • Lubricating oil • Oil filter, filler and dipstick • Oil drain line with valves • Fumes disposal • Gear type lube oil pump • Integral lube oil cooler 	<input type="checkbox"/> Electric prelube pumps (standard for Prime and Continuous only)
Mounting	<ul style="list-style-type: none"> • Rails-engine / generator • Rubber anti-vibration mounts (shipped loose) 	<input type="checkbox"/> Spring type linear vibration isolators <input type="checkbox"/> IBC vibration isolators
Starting/Charging	<ul style="list-style-type: none"> • Dual 24 volt electric starting motors • Batteries with rack and cables • Battery disconnect switch 	<input type="checkbox"/> Oversized battery set <input type="checkbox"/> 75 amp charging alternator <input type="checkbox"/> Battery chargers (20, 35 or 50 Amp) <input type="checkbox"/> Jacket water heater <input type="checkbox"/> Redundant Electric Starter
General	<ul style="list-style-type: none"> • RH service (Except LH Service Oil Filter) • Paint - Caterpillar Yellow with high gloss black rails • SAE standard rotation • Flywheel and flywheel housing - SAE No. 00 	<input type="checkbox"/> Barring group- manual or air powered <input type="checkbox"/> Factory test reports

SPECIFICATIONS

CAT GENERATOR

Frame.....	1866
Excitation.....	Permanent Magnet
Pitch.....	0.6667
Number of poles.....	4
Number of bearings.....	2
Number of leads.....	6
Insulation.....	UL 1446 Recognized Class H with tropicalization and antiabrasion
IP Rating.....	Drip Proof IP22
Alignment.....	Closed Coupled
Overspeed capability.....	150
Wave form.....	.003.00
Paralleling kit/Droop transformer.....	Standard
Voltage regulator.3 Phase sensing with selectable volts/Hz	
Voltage regulation	Less than +/- 1/2% (steady state) Less than +/- 1/2% (w/3% speed change)
Telephone influence factor.....	Less than 50
Harmonic distortion.....	Less than 5%

CAT DIESEL ENGINE

C175, SCAC, V-16, 4 stroke, water-cooled diesel

Bore.....	175.00 mm (6.89 in)
Stroke.....	220.00 mm (8.66 in)
Displacement.....	84.67 L (5166.88 in ³)
Compression Ratio.....	16.7:1
Aspiration.....	Turbo Aftercooled
Fuel System.....	Common Rail
Governor Type.....	ADEM4

CAT EMCP 3 SERIES CONTROLS

- EMCP 3.1 (Standard)
- EMCP 3.2 / EMCP 3.3 (Option)
- Single location customer connector point
- True RMS metering, 3-phase
- Controls
 - Run / Auto / Stop control
 - Speed Adjust
 - Voltage Adjust
 - Emergency Stop Pushbutton
 - Engine cycle crank
- Digital Indication for:
 - RPM
 - Operating hours
 - Oil Pressure
 - Coolant temperature
 - System DC volts
 - L-L volts, L-N volts, phase amps, Hz
 - ekw, kVA, kVAR, kW-hr, %kW, PF (EMCP 3.2 / 3.3)
- Shutdowns with common indicating light for:
 - Low oil pressure
 - High coolant temperature
 - Low coolant level
 - Overspeed
 - Emergency Stop
 - Failure to start (overcrank)
- Programmable protective relaying functions: (EMCP 3.2 & 3.3)
 - Under and over voltage
 - Under and over frequency
 - Overcurrent (time and inverse time)
 - Reverse power (EMCP 3.3)
- MODBUS isolated data link, RS-485 half duplex (EMCP 3.2 & 3.3)
- Options
 - Vandal door
 - Local annunciator module
 - Remote annunciator module
 - Input / Output module
 - RTD Thermocouple Modules
 - Monitoring software

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TECHNICAL DATA

Open Generator Set - - 1500 rpm/50 Hz/400 Volts	DM8719	
Generator Set Package Performance Genset Power rating @ 0.8 pf Genset Power rating with fan	3000 kVA 2400 ekW	
Coolant to aftercooler Coolant to aftercooler temp max	48 ° C	118 ° F
Fuel Consumption 100% load with fan 75% load with fan 50% load with fan	615.5 L/hr 467.7 L/hr 331.8 L/hr	162.6 Gal/hr 123.6 Gal/hr 87.7 Gal/hr
Cooling System¹ Air flow restriction (system) Engine coolant capacity	0.12 kPa 303.5 L	0.48 in. water 80.2 gal
Inlet Air Combustion air inlet flow rate	188.8 m ³ /min	6667.4 cfm
Exhaust System Exhaust stack gas temperature Exhaust gas flow rate Exhaust flange size (internal diameter) Exhaust system backpressure (maximum allowable)	485.3 ° C 498.0 m ³ /min 150 mm 6.7 kPa	905.5 ° F 17586.7 cfm 6 in 26.9 in. water
Heat Rejection Heat rejection to coolant (total) Heat rejection to exhaust (total) Heat rejection to atmosphere from engine Heat rejection to atmosphere from generator	1160 kW 2255 kW 264 kW 97.4 kW	65969 Btu/min 128242 Btu/min 15014 Btu/min 5539.1 Btu/min
Alternator² Motor starting capability @ 30% voltage dip Frame Temperature Rise	6187 skVA 1866 150 ° C	270 ° F
Emissions (Nominal)³ NOx mg/nm ³ CO mg/nm ³ HC mg/nm ³ PM mg/nm ³	4103.7 mg/nm ³ 153.1 mg/nm ³ 52.3 mg/nm ³ 10.4 mg/nm ³	

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

² 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 degree C ambient per NEMA MG1-32.

³ 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

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. Standby power in accordance with ISO8528. Fuel stop power in accordance with ISO3046. Standby ambients shown indicate ambient temperature at 100% load which results in a coolant top tank temperature just below the shutdown temperature.

Ratings are based on SAE J1349 standard conditions. These ratings also apply at ISO3046 standard conditions. **Fuel rates** are based on fuel oil of 35° API [16° C (60° F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29° C (85° F) and weighing 838.9 g/liter (7.001 lbs/U.S. gal.). Additional ratings may be available for specific customer requirements, contact your Caterpillar representative for details. For information regarding Low Sulfur fuel and Biodiesel capability, please consult your Caterpillar dealer.

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DIMENSIONS

Package Dimensions		
Length	6631.7 mm	261.09 in
Width	2089.4 mm	82.26 in
Height	2207.9 mm	86.93 in

NOTE: For reference only - do not use for installation design. Please contact your local dealer for exact weight and dimensions. (General Dimension Drawing #3269430).

Total estimated weight of genset package: 19977.6 kg / 44043.1 lb

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Performance No.: DM8719

Feature Code: 175DE16

Gen. Arr. Number: 3111146

Source: U.S. Sourced

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www.CAT-ElectricPower.com

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