



Image shown may not reflect actual package.

CONTINUOUS 1450 kW 1813 kVA 60 Hz 1800 rpm 480 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

UL 2200

- UL 2200 listed packages available. Certain restrictions may apply. Consult with your Caterpillar Dealer.

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

- Caterpillar® dealers provide extensive post sale support including maintenance and repair agreements
- Caterpillar 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 3516 TA 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

CAT SR5 GENERATOR

- Matched to the performance and output characteristics of Caterpillar 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

FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

System	Standard	Optional
Air Inlet	<ul style="list-style-type: none"> •Single element canister type air cleaner •Service indicator 	<ul style="list-style-type: none"> •Dual element & heavy duty air cleaners (with pre-cleaners) •Air inlet adapters & shutoff
Cooling	<ul style="list-style-type: none"> • Radiator with guard (43°C) • Coolant drain line with valve • Radiator fan and fan drive • Fan and belt guards • Caterpillar® Extended Life Coolant* • Coolant level sensors *Not included with packages without radiators 	<ul style="list-style-type: none"> • Radiator with 50°C ambient capability • Radiator removal • Duct flange • Heat exchanger and expansion tank • Coolant level switch gauge
Exhaust	<ul style="list-style-type: none"> • Dry exhaust manifold • Flanged faced outlets 	<ul style="list-style-type: none"> • Mufflers & Silencers • Stainless steel exhaust flex fittings • Elbows, flanges, expanders & Y adapters
Fuel	<ul style="list-style-type: none"> • Secondary fuel filters • Fuel priming pump • Flexible fuel lines • Fuel cooler* *Not included with packages without radiators 	<ul style="list-style-type: none"> • Water separator • Duplex fuel filter • Primary Fuel Filter
SR5 Generator	<ul style="list-style-type: none"> • Class H insulation • CAT digital voltage regulator (CDVR) with KVAR/PF control, 3-phase sensing • Reactive Droop 	<ul style="list-style-type: none"> • Oversize & premium generators • Winding temperature detectors • Anti-condensation heaters
Power Termination	<ul style="list-style-type: none"> • Bus bar (NEMA or IEC mechanical lug holes) • Top cable entry 	<ul style="list-style-type: none"> • Circuit breakers, UL Listed, 3 pole with shunt trip, 100% rated, choice of trip units, manual or electricity operated (low voltage only) • Circuit breakers, IEC compliant, 3 or 4 pole with shunt trip (low voltage only, choice of trip units, manual or electrically operated) • Bottom cable entry • Power terminations can be located on the right, left and/or rear as an option. Also, multiple circuit breakers can be ordered (up to 2)
Governor	<ul style="list-style-type: none"> • Woodward 2301 Isochronous governor 	<ul style="list-style-type: none"> • Load share module
Control Panel	<ul style="list-style-type: none"> • EMCP 3.1 Genset Controller 	<ul style="list-style-type: none"> • EMCP 3.3 • Local & remote annunciator modules • Load share module • Customer Interface Module • Customer Communication Module
Lube	<ul style="list-style-type: none"> • Lubricating oil • Gear type lube oil pump • Oil filter, filler and dipstick • Oil drain lines and valve • Fume disposal 	<ul style="list-style-type: none"> • Oil level regulator • Deep sump oil pan • Electric & air prelube pumps • Manual prelube with sump pump • Duplex oil filter
Mounting	<ul style="list-style-type: none"> • Rails-Engine/Generator/Radiator Mounting • 330 mm (13 in) structural steel rails • Spring type anti-vibration mounts (shipped loose) 	<ul style="list-style-type: none"> • Isolator removal
Starting/Charging	<ul style="list-style-type: none"> • 24 volt starting motor(s) • Batteries with rack and cables • Battery disconnect switch 	<ul style="list-style-type: none"> • Battery chargers (10& 20 Amp) • 45 amp charging alternator • Oversize batteries • Ether starting aids • Heavy duty starting motors • Barring device (manual) • Air starting motor with control & silencer

SPECIFICATIONS

CAT GENERATOR

Caterpillar Generator

Frame size.....	824
Excitation.....	Permanent Magnet
Pitch.....	0.6667
Number of poles.....	4
Number of bearings.....	Single Bearing
Number of Leads.....	006
Insulation.....	UL 1446 Recognized Class H with tropicalization and antiabrasion
Alignment.....	Pilot Shaft
Overspeed capability - % of rated.....	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% (no load to full load)	
Telephone Influence Factor.....	Less than 50
Harmonic distortion.....	Less than 5%

CAT DIESEL ENGINE

3516 TA, V-16, 4-stroke-cycle watercooled diesel

Bore - mm.....	170.00 mm (6.69 in)
Stroke - mm.....	190.00 mm (7.48 in)
Displacement - L.....	69.00 L (4210.64 in ³)
Compression ratio.....	13.5:1
Aspiration.....	TA
Fuel system.....	Electronic unit injection
Governor type.....	Woodward

CAT EMCP CONTROL PANELS

- 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 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-486 half duplex (EMCP 3.2 & 3.3)
- Options
 - Vandal door
 - Local annunciator module
 - Remote annunciator module
 - Input / Output module
 - RTD / Thermocouple modules
 - Monitoring software

TECHNICAL DATA

Open Generator Set - - 1800 rpm/60 Hz/480 Volts	DM7093	
Low Fuel Consumption		
Generator Set Package Performance Genset Power rating @ 0.8 pf Genset Power rating with fan	1812.5 kVA 1450 ekW	
Coolant to aftercooler Coolant to aftercooler temp max	82 ° C	180 ° F
Fuel Consumption 100% load with fan 75% load with fan 50% load with fan	400.5 L/hr 309.1 L/hr 220.1 L/hr	105.8 Gal/hr 81.7 Gal/hr 58.1 Gal/hr
Cooling System¹ 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 1671 m ³ /min 471.0 L 233.0 L 238.0 L	0.48 in. water 59011 cfm 124.4 gal 61.6 gal 62.9 gal
Inlet Air Combustion air inlet flow rate	141.0 m ³ /min	4979.4 cfm
Exhaust System Exhaust stack gas temperature Exhaust gas flow rate Exhaust flange size (internal diameter) Exhaust system backpressure (maximum allowable)	496.2 ° C 378.8 m ³ /min 203.2 mm 6.7 kPa	925.2 ° F 13377.2 cfm 8.0 in 26.9 in. water
Heat Rejection Heat rejection to coolant (total) Heat rejection to exhaust (total) Heat rejection to aftercooler Heat rejection to atmosphere from engine Heat rejection to atmosphere from generator	867 kW 1690 kW 215 kW 138 kW 51.0 kW	49306 Btu/min 96110 Btu/min 12227 Btu/min 7848 Btu/min 2900.4 Btu/min
Alternator² Motor starting capability @ 30% voltage dip Frame Temperature Rise	3121 skVA 824 105 ° C	189 ° F
Lube System Sump refill with filter	401.3 L	106.0 gal
Emissions (Nominal)³ NOx g/hp-hr CO g/hp-hr HC g/hp-hr PM g/hp-hr	10.36 g/hp-hr 1.27 g/hp-hr .21 g/hp-hr .176 g/hp-hr	

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.

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

Continuous - Output available with non-varying load for an unlimited time. Average power output is 70-100% of the continuous power rating. Typical peak demand is 100% of continuous rated ekW for 100% of operating hours. Continuous power in accordance with ISO3046. Continuous ambients shown indicate ambient temperature at 100% load which results in a coolant top tank temperature below the alarm 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.

CONTINUOUS 1450 ekW 1813 kVA

60 Hz 1800 rpm 480 Volts



DIMENSIONS

Package Dimensions		
Length	5708.2 mm	224.73 in
Width	2317.8 mm	91.25 in
Height	2545.1 mm	100.2 in
Weight	14 935 kg	32,926 lb

NOTE: For reference only - do not use for installation design. Please contact your local dealer for exact weight and dimensions. (General Dimension Drawing #2001176).

Performance No.: DM7093

Feature Code: 516DE1R

Gen. Arr. Number: 1441820

Source: U.S. Sourced

August 02 2009

13894864

SS-007190.pdf. Secured on 08/02/2009 22:04

www.CAT-ElectricPower.com

© 2009 Caterpillar
All rights reserved.

Materials and specifications are subject to change without notice.
The International System of Units (SI) is used in this publication.

CAT, CATERPILLAR, SAFETY.CAT.COM their respective logos, "Caterpillar Yellow," and the POWER EDGE trade dress, as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.