DIESEL GENERATOR SET

CATERPILLAR®

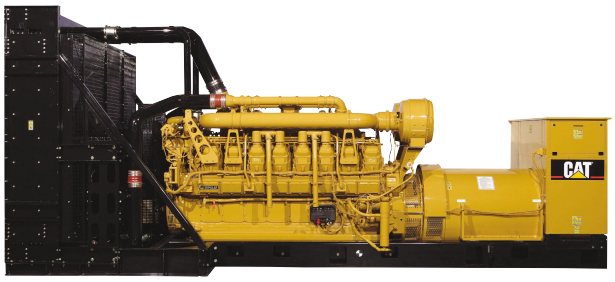

Image shown may not reflect actual package.

STANDBY
2500 ekW 3125 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

EMISSIONS STRATEGY
EPA Tier 2

UL 2200
- UL 2200 Listed configuration available

FULL RANGE OF ATTACHMENTS
- Wide range of bolt-on system expansion attachments, factory designed and tested

WORLDWIDE PRODUCT SUPPORT
- Caterpillar® dealers provide extensive post sale support including maintenance and repair agreements
- Caterpillar dealers fill 99.7% of parts orders within 24 hours
- Caterpillar dealers have over 1,798 dealer branch stores operating in 200 countries
- The Cat® S•O•S℠ program cost effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products

CAT 3516C 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 SR5B GENERATOR
- Matched to the performance and output characteristics of Caterpillar engines
- 2/3 winding pitch for minimum total harmonic distortion and maximum efficiency
- UL 1446 Recognized
- Class H insulation system

CAT EMCP3 CONTROL PANELS
- Controls designed to meet individual customer needs:
- EMCP 3 provides the option for full-featured power metering and protective relaying
- Segrated low voltage, AC/DC accessory box provides single point assess to accessory connections

FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

System	Standard	Optional
Air Inlet	• Single element canister type air cleaner • Service indicator	• Dual element & heavy duty air cleaners (with pre-cleaners) • Air inlet adapters & shutoff
Cooling	• Radiator with guard (43°C) • Coolant drain line with valve • Fan and belt guards • Caterpillar Extended Life Coolant • Low coolant level & high temperature alarm or shutdown	• Radiator duct flange • Jacket water heater
Exhaust	• Dry exhaust manifold • Flanged faced outlets	• Mufflers and Silencers • Stainless steel exhaust flex fittings • Elbows, flanges, expanders & Y adapters
Fuel	• Secondary fuel filters • Fuel priming pump • Flexible fuel lines • Fuel cooler* *Not included with packages without radiators	• Water separator • Duplex fuel filter
Generator SR5	• Internal Excited • Class H insulation • Class H temperature (125°C prime/150°C standby) • 2/3 Pitch	• Oversize & premium generators • Permanent magnet excited • Form Wound • Anti-condensation space heater
Power Termination	• Bus bar (NEMA and IEC meachanicallug holes) -right side standard • Top and bottom cable entry	• Circuit breakers, UL listed, 3 pole with shunt trip, 80% or 100% rated, choice of trip units, manual or electrically 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 • Shroud cover for bottom cable entry • Power terminations can be located on the left and/or rear as an option. Also, multiple circuit breakers can be ordered (up to 3)
Governor	• ADEM™ 3	• Load share module
Control Panels	• User Interface panel (UIP) - rear mount (standard) • EMCP3.1 Genset Controller • Speed adjust (on panel) • AC&DC customer wiring area (right side) • CAT digital voltage regulator (CDVR) with KVAR/PF control, 3-phase sensing • Emergency Stop Pushbuttom	• EMCP 3.3 • Option for right or left mount UIP • Local & remote annunicator modules • Load share module • Discrete I/O module • Generator temperature monitoring & protection • Voltage Adjust (on panel)
Lube	• Lubricating oil and filter • Oil drain line with valves • Fumes disposal • Gear type lube oil pump	• Oil level regulator • Deep sump oil pan • Electric & air prelube pumps • Manual prelube with sump pump • Duplex oil filter
Mounting	• Structual steel tube • Anti-vibration mounts (shipped loose)	• Isolator removal Spring-type isolator, zone 4
Starting/Charging	• 24 volt starting motor(s) • Batteries with rack and cables • Battery disconnect switch	• Battery chargers (10&20AMP) •45 amp charging alternator • Oversize batteries • Ether starting aid • Heavy duty starting motors • Barring device (manual) • Air starting motor with control & silencer
General	• Right-hand service • Paint - Caterpillar Yellow except rails and radiators are gloss black • SAE standard rotation • Flywheel and flywheel housing - SAE No. 00	• CSA certification • EU Certificate of Conformance
Note	Standard and optional equipment may vary for UL 2200 Listed Packages. UL 2200 Listed packages may have oversized generators with a different temperature rise and motor starting characteristics.	

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SPECIFICATIONS

CAT GENERATOR

Frame.....1824
Excitation..... IE
Pitch.....0.6667
Number of poles.....4
Number of bearings..... 002
Insulation..... UL 1446 Recognized Class H with tropicalization and antiabrasion
IP Rating.....Drip Proof IP22
Alignment.....Closed Coupled
Overspeed capability..... 125%
Wave form..... 2%
Paralleling kit/Droop transformer.....Standard
Voltage regulator.3 Phase sensing with selectible 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

Bore..... 170.00 mm (6.69 in)
Stroke..... 215.00 mm (8.46 in)
Displacement.....78.08 L (4764.73 in^3)
Compression Ratio..... 14.7:1
Aspiration.....TA
Fuel System..... Electronic unit injection
Governor Type.....ADEM3

CAT EMCP3 CONTROL PANELS

EMCP 3.1 (standard)
EMCP 3.2 & 3.3 (Optional)
24 Volt DC control
Generator insturments designed to meet UL/CSA/CE
Integral generator terminal box
Single location for customer connection
MODBUS isolated data link (RS0485 half-duplex) supports serial communication at data rate up to 33.6 kbaud
Auto start/stop control
True RMS metering, 3-phase
• 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
• Shutdowns with indicating lights for:
-Low oil pressure
-High coolant temperature
- Low coolant level
- Overspeed
-Overspeed
-Emergency stop
- Failure to start (over crank)
• Programmable protective relay functions:
- Under and over voltage
- Under and over frequency
- Reverse power
- Overcurrent (phase & total)
-• Programmable kW level relay

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TECHNICAL DATA

Open Generator Set - - 1800 rpm/60 Hz/480 Volts	DM8266	
Package Performance		
Genset Power rating @ 0.8 pf	3125 kVA	
Genset Power rating with fan	2500 ekW	
Low Fuel Consumption		
Coolant to aftercooler temp max	50 ° C	122 ° F
Fuel Consumption		
100% load with fan	655.9 L/hr	173.3 Gal/hr
75% load with fan	509.6 L/hr	134.6 Gal/hr
50% load with fan	372.3 L/hr	98.4 Gal/hr
Cooling System[1]		
Ambient air temperature	43 ° C	109 ° F
Air flow (max @ rated speed for radiator arrangement)	2800 m³/min	98881 cfm
Engine coolant capacity	233.0 L	61.6 gal
Radiator coolant capacity	27.1 L	7.2 gal
Engine Coolant capacity with radiator/exp. tank	260.1 L	68.7 gal
Inlet Air		
Combustion air inlet flow rate	198.0 m³/min	6992.3 cfm
Exhaust System		
Exhaust stack gas temperature	494.4 ° C	921.9 ° F
Exhaust gas flow rate	539.4 m³/min	19048.7 cfm
Exhaust flange size (internal diameter)	203.2 mm	8.0 in
Exhaust system backpressure (maximum allowable)	6.7 kPa	26.9 in. water
Heat Rejection		
Heat rejection to coolant (total)	830 kW	47202 Btu/min
Heat rejection to exhaust (total)	2478 kW	140924 Btu/min
Heat rejection to aftercooler	763 kW	43392 Btu/min
Heat rejection to atmosphere from engine	161 kW	9156 Btu/min
Heat rejection to atmosphere from generator	90.7 kW	5158.1 Btu/min
Alternator[2]		
Motor starting capability @ 30% voltage dip	7025 skVA	
Frame	1824	
Temperature Rise	125 ° C	257 ° F
Lube System		
Sump refill with filter	401.3 L	106.0 gal
Emissions (Nominal)[3]		
NOx g/hp-hr	5.05 g/hp-hr	
CO g/hp-hr	.41 g/hp-hr	
HC g/hp-hr	.1 g/hp-hr	
PM g/hp-hr	.036 g/hp-hr	
Emissions (Nominal)[4]		
NOx mg/nm3	2424.0 mg/nm³	
CO mg/nm3	196.8 mg/nm³	
HC mg/nm3	48.5 mg/nm³	
PM mg/nm3	17.2 mg/nm³	

[1] Ambient capability at 300 m (984ft) above sea level. For ambient capability at other altitudes, consult your Caterpillar dealer.

[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 measurements are consistent with those described in EPA CFR 40 Part 89, Subpart D & E and ISO8178-1 for measuring HC, CO, PM, NOx. This engine's exhaust emissions are in compliance with the US EPA and California nonroad regulations as identified above. 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.

[4] Emissions data measurements are consistent with those described in EPA CFR 40 Part 89, Subpart D & E and ISO8178-1 for measuring HC, CO, PM, NOx. This engine's exhaust emissions are in compliance with the US EPA and California nonroad regulations as identified above. 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.

RATING DEFINITIONS AND CONDITIONS

Meets or Exceeds International Specifications: ·ABGSM TM3, AS1359, AS2789, BS4999, BS5000, BS5514, DIN6271, DIN6280, EGSA101P, IEC34/1, ISO3046/1, ISO8528, JEM1359, NEMA MG 1-22, VDE0530, 89/392/EEC, 89/336/EEC

Standby - Output available with varying load for the duration of the interruption of the normal source power. Standby power in accordance with ISO8528. Fuel stop power in accordance with ISO3046/1, AS2789, DIN6271, and BS5514. Standby ambients shown indicate ambient temperature at 100 percent load which results in a coolant top tank temperature just below the shutdown temperature.

Ratings are based on SAE J1995 standard conditions. These ratings also apply at ISO3046/1, DIN6271, and BS5514 standard conditions.

Fuel Rates are based on fuel oil of 35° API (16° C or 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. Consult your Caterpillar representative for details.

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DIMENSIONS

Package Dimensions		
Length	**6683.4 mm**	**263.13 in**
Width	**2450.2 mm**	**96.46 in**
Height	**2916.2 mm**	**114.81 in**
Weight	**18 423 kg**	**40,616 lb**

Note: Do not use for installation design. See general dimension drawings for detail (Drawing #2807049).

Performance No.: DM8266

Feature Code:: 516DE3L

Source:: U.S. Sourced

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