



Image shown may not reflect actual package.

PRIME

800 e kW 1000 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 Emissions

FULL RANGE OF ATTACHMENTS

- Wide range of bolt-on system expansion attachments, factory designed and tested

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 fill 99.7% of parts orders within 24 hours
- 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 3508B 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 SR4B GENERATOR

- Designed to match the performance and output characteristics of Caterpillar diesel engines
- Single point access to accessory connections
- UL 1446 recognized Class H insulation

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"> • 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) • Low profile (frontal area) • Low airflow • Coolant drain line with valve • Fan and belt guards • Caterpillar Extended Life Coolant* • Coolant level sensors • Low coolant level & high temperature alarm or shutdown • Radiator duct flange * Not included with packages without radiators 	<ul style="list-style-type: none"> • Radiator with 27°C and 50°C ambient capability • Radiator option for 57°C ambient with treated water • Radiator removal • Heavy duty, harsh environment radiator at 43°C and 50°C • Heat exchanger and expansion tank • Coolant level switch gauge • Jacket water heater
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
Generators	<ul style="list-style-type: none"> • Permanent magnet excited • Class H insulation • Class F temperature (105°C prime/130°C standby) • Winding temperature detectors • Anti-condensation space heaters 	<ul style="list-style-type: none"> • Oversize & premium generators
Power Termination	<ul style="list-style-type: none"> • Bus bar (NEMA and IEC mechanical lug holes)right side standard • Top and bottom cable entry 	<ul style="list-style-type: none"> • 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 iwth 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	<ul style="list-style-type: none"> • ADEM™ III 	<ul style="list-style-type: none"> • Load Share Module
Control Panels	<ul style="list-style-type: none"> • EMCP3.1 • User interface panel (UIP) - rear mount • Emergency stop push button 	<ul style="list-style-type: none"> • EMCP 3.2 or EMCP 3.3 • Right or left mount UIP • Local and remote annunciator modules • Discrete I/O Module • Generator temperature monitoring & portection • Remote monitoring • Load share module
Lube	<ul style="list-style-type: none"> • Lubricating oil and filter • Oil drain line with valves • Fumes disposal • Gear type lube oil pump 	<ul style="list-style-type: none"> • Deep sump oil pan • Electric & air prelube pumps • Manual prelube with sump pump • Duplex oil filter • Oil level regulator
Mounting	<ul style="list-style-type: none"> • Structural steel tube • Anti-vibration mounts (shipped loose) 	<ul style="list-style-type: none"> • Isolator removal • Spring-type isolator, zone 4
Starting/Charging	<ul style="list-style-type: none"> • 24 volt starting motor(s) • 45 amp charging alternator • Batteries with rack and cables • Battery disconnect switch 	<ul style="list-style-type: none"> • Battery chargers (10 Amp) • Oversize batteries • Ether starting aids • Heavy duty starting motors • Barring device (manual) • Air starting motor with control & silencer
Note	<p>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.</p>	

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SPECIFICATIONS

CAT GENERATOR

SR4B Generator	
Frame size.....	693
Excitation.....	Permanent Magnet
Pitch.....	0.7222
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 - % of rated.....	180
Wave form.....	003.00
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% (no load to full load)	
Telephone Influence Factor.....	Less than 50
Harmonic distortion.....	Less than 5%

CAT DIESEL ENGINE

3508B TA, 4-stroke-cycle watercooled diesel	
Bore - mm.....	170.00 mm (6.69 in)
Stroke - mm.....	190.00 mm (7.48 in)
Displacement - L.....	34.53 L (2107.15 in ³)
Compression ratio.....	14.0:1
Aspiration.....	TA
Fuel system.....	Electronic unit injection

CAT EMCP CONTROL PANELS

- EMCP 3.1 (standard)
- 24 Volt DC Control
- NEMA 1, IP22 enclosure
- Electrically dead front
- Lockable hinged door
- Generator instruments meet ANSI C-39-1
- Single location for customer connector
- Panel illuminating lights
- Auto start/stop control
- Voltage adjust potentiometer
- True RMS metering, 3-phase
- Digital indications for:
 - RPM
 - Operating hours
 - Oil pressure
 - Coolant temperature
 - System DC volts
 - AC volts, phase amps, Hz
- Power metering (kW, kVA, kVAR, kWhr, kVARhr)
- Shutdowns with indicating lights for:
 - Low oil pressure
 - High coolant temperature
 - Low coolant level
 - Overspeed
 - Emergency stop
 - Failure to start (overcrank)
- Programmable protective relaying functions:
 - Under and over voltage
 - Under and over frequency
 - Reverse power

TECHNICAL DATA

Open Generator Set - - 1500 rpm/50 Hz/400 Volts	DM8002	
Generator Set Package Performance Genset Power rating @ 0.8 pf Genset Power rating with fan	1000 kVA 800 kW	
Coolant to aftercooler Coolant to aftercooler temp max	90 ° C	194 ° F
Fuel Consumption 100% load with fan 75% load with fan 50% load with fan	219.5 L/hr 165.5 L/hr 115.6 L/hr	58.0 Gal/hr 43.7 Gal/hr 30.5 Gal/hr
Cooling System¹ Air flow restriction (system) Air flow (max @ rated speed for radiator arrangement) Engine coolant capacity	0.12 kPa 1558 m ³ /min 102.7 L	0.48 in. water 55020 cfm 27.1 gal
Inlet Air Combustion air inlet flow rate	70.1 m ³ /min	2475.6 cfm
Exhaust System Exhaust stack gas temperature Exhaust gas flow rate Exhaust flange size (internal diameter) Exhaust system backpressure (maximum allowable)	447.6 ° C 176.5 m ³ /min 203.2 mm 6.7 kPa	837.7 ° F 6233.0 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	411 kW 776 kW 167 kW 103 kW 42.1 kW	23374 Btu/min 44131 Btu/min 9497 Btu/min 5858 Btu/min 2394.2 Btu/min
Alternator² Motor starting capability @ 30% voltage dip Frame Temperature Rise	1982 skVA 693 105 ° C	189 ° F
Lube System Sump refill with filter	219.6 L	58.0 gal
Emissions (Nominal)³ NOx mg/nm ³ CO mg/nm ³ HC mg/nm ³ PM mg/nm ³	2971.1 mg/nm ³ 145.2 mg/nm ³ 70.5 mg/nm ³ 35.7 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 Generator temperature rise is based on a 40°C (104°F) 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, ISO3046, ISO8528, NEMA MG 1-33, UL508A, 98/37/EC

Prime -Output available with varying load for an unlimited time. Average power output is 70% of the prime power rating. Typical peak demand is 100% of prime rated ekW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year. Prime power in accordance with ISO3046. Prime ambients shown indicate ambient temperature at 100% load which results in a coolant top tank temperature just below the alarm temperature.

Ratings are based on SAE J1995 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	4745.6 mm	186.83 in
Width	2086.9 mm	82.16 in
Height	2367.2 mm	93.2 in
Weight	10 923 kg	24,081 lb

Note: Do not use for installation design.
See general dimension drawings for detail (Drawing #2748712).

Performance No.: DM8002

Feature Code: 508DE2N

Source: U.S. Sourced

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