



Image shown may not reflect actual package.

## PRIME

**800 e kW 1000 kVA  
50 Hz 1500 rpm 11 000  
Volts**

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

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## 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•S<sup>SM</sup> 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 HV GENERATOR

- Matched to the performance and output characteristics of Caterpillar engines
- Single point access to accessory connections
- UL 1446 Recognized Class F 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

## FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

System	Standard	Optional
Air Inlet	<ul style="list-style-type: none"> <li>• Single element canister type air cleaner</li> <li>• Service indicator</li> </ul>	<ul style="list-style-type: none"> <li>• Dual element &amp; heavy duty air cleaners (with pre-cleaners)</li> <li>• Air inlet adapters &amp; shutoff</li> </ul>
Cooling	<ul style="list-style-type: none"> <li>• Radiator with guard (43°C)</li> <li>• Low profile (frontal area)</li> <li>• Low airflow</li> <li>• Coolant drain line with valve</li> <li>• Fan and belt guards</li> <li>• Caterpillar Extended Life Coolant*</li> <li>• Coolant level sensors</li> <li>• Low coolant level &amp; high temperature alarm or shutdown</li> <li>• Radiator duct flange</li> </ul>	<ul style="list-style-type: none"> <li>• Radiator with 27°C and 50°C ambient capability</li> <li>• Radiator option for 57°C ambient with treated water</li> <li>• Radiator removal</li> <li>• Heavy duty, harsh environment radiator at 43°C and 50°C</li> <li>• Heat exchanger and expansion tank</li> <li>• Coolant level switch gauge</li> <li>• Jacket water heater</li> <li>* Not included with packages without radiators</li> </ul>
Exhaust	<ul style="list-style-type: none"> <li>• Dry exhaust manifold</li> <li>• Flanged faced outlets</li> </ul>	<ul style="list-style-type: none"> <li>• Mufflers &amp; Silencers</li> <li>• Stainless steel exhaust flex fittings</li> <li>• Elbows, flanges, expanders &amp; Y adapters</li> </ul>
Fuel	<ul style="list-style-type: none"> <li>• Secondary fuel filters</li> <li>• Fuel priming pump</li> <li>• Flexible fuel lines</li> <li>• *Fuel cooler</li> </ul>	<ul style="list-style-type: none"> <li>• Water separator</li> <li>• Duplex fuel filter</li> <li>*Not included with packages without radiators</li> </ul>
Generator	<ul style="list-style-type: none"> <li>• Caterpillar SR4B HV</li> </ul>	<ul style="list-style-type: none"> <li>• LH extension box for cable entry</li> <li>• Top cable entry conversion</li> <li>• Air inlet filters</li> <li>• Insulated lug landings for 6 leads</li> <li>• 1 or 2 V/Hz automatic voltage regulator KCR-760</li> <li>• Digital Voltage Regulator</li> <li>• VAR/power factor controller</li> <li>• Auto/manual voltage control</li> <li>• Motor operated potentiometer</li> <li>• Thermostat for space heater control thermostat</li> <li>• Regulator RFI suppression to MIL std 461 C</li> <li>• Diode fault detector</li> </ul>
Power Termination	<ul style="list-style-type: none"> <li>• Bus bar (NEMA and IEC mechanical lug holes)right side standard</li> <li>• Top and bottom cable entry</li> </ul>	<ul style="list-style-type: none"> <li>• Circuit breakers, UL listed, 3 pole with shunt trip, 80% or 100% rated, choice of trip units, manual or electrically operated (low voltage only)</li> <li>• Circuit Breakers, IEC compliant, 3 or 4 pole iwth shunt trip (low voltage only), choice of trip units,manual or electrically operated</li> <li>• Shroud cover for bottom cable entry</li> <li>• Power terminations can be located on the left and/or rear as an option. Also, multiple circuit breakers can be ordered (up to 3)</li> </ul>
Governor	<ul style="list-style-type: none"> <li>• ADEM™ III</li> </ul>	<ul style="list-style-type: none"> <li>• Load Share Module</li> </ul>
Control Panels	<ul style="list-style-type: none"> <li>• EMCP3.1</li> <li>• User interface panel (UIP) - rear mount</li> <li>• Emergency stop push button</li> </ul>	<ul style="list-style-type: none"> <li>• EMCP 3.2 or EMCP 3.3</li> <li>• Right or left mount UIP</li> <li>• Local and remote annunciator modules</li> <li>• Discrete I/O Module</li> <li>• Generator temperature monitoring &amp; portection</li> <li>• Remote monitoring</li> <li>• Load share module</li> </ul>
Lube	<ul style="list-style-type: none"> <li>• Lubricating oil and filter</li> <li>• Oil drain line with valves</li> <li>• Fumes disposal</li> <li>• Gear type lube oil pump</li> </ul>	<ul style="list-style-type: none"> <li>• Deep sump oil pan</li> <li>• Electric &amp; air prelube pumps</li> <li>• Manual prelube with sump pump</li> <li>• Duplex oil filter</li> <li>• Oil level regulator</li> </ul>
Mounting	<ul style="list-style-type: none"> <li>• Structural steel tube</li> <li>• Anti-vibration mounts (shipped loose)</li> </ul>	<ul style="list-style-type: none"> <li>• Isolator removal</li> <li>• Spring-type isolator, zone 4</li> </ul>
Starting/Charging	<ul style="list-style-type: none"> <li>• 24 volt starting motor(s)</li> <li>• 45 amp charging alternator</li> <li>• Batteries with rack and cables</li> <li>• Battery disconnect switch</li> </ul>	<ul style="list-style-type: none"> <li>• Battery chargers (10 Amp)</li> <li>• Oversize batteries</li> <li>• Ether starting aids</li> <li>• Heavy duty starting motors</li> <li>• Barring device (manual)</li> <li>• Air starting motor with control &amp; silencer</li> </ul>

# PRIME 800 kW 1000 kVA

50 Hz 1500 rpm 11 000 Volts



## SPECIFICATIONS

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### CAT GENERATOR

SR4B HV Generator  
Frame size..... 2730  
Excitation..... Permanent Magnet  
Pitch..... 0.6670  
Number of poles..... 4  
Number of bearings..... 002  
IP rating..... Drip Proof IP22  
Alignment..... Closed Coupled  
Overspeed capability - % of rated..... 125  
Wave form..... 002.00  
Paralleling kit/Droop transformer..... Standard  
Voltage regulator..... 3 Phase sensing with 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%  
Insulation..... Class F with tropicalization and antiabrasion

### 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<sup>3</sup>)  
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/11 000 Volts	DM8002	
<b>Generator Set Package Performance</b> Genset Power rating @ 0.8 pf Genset Power rating with fan	1000 kVA 800 kW	
<b>Coolant to aftercooler</b> Coolant to aftercooler temp max	90 ° C	194 ° F
<b>Fuel Consumption</b> 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
<b>Cooling System<sup>1</sup></b> Air flow restriction (system) Air flow (max @ rated speed for radiator arrangement) Engine coolant capacity	0.12 kPa 1558 m <sup>3</sup> /min 102.7 L	0.48 in. water 55020 cfm 27.1 gal
<b>Inlet Air</b> Combustion air inlet flow rate	70.1 m <sup>3</sup> /min	2475.6 cfm
<b>Exhaust System</b> Exhaust stack gas temperature Exhaust gas flow rate Exhaust flange size (internal diameter) Exhaust system backpressure (maximum allowable)	447.6 ° C 176.5 m <sup>3</sup> /min 203.2 mm 6.7 kPa	837.7 ° F 6233.0 cfm 8.0 in 26.9 in. water
<b>Heat Rejection</b> 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 45.7 kW	23374 Btu/min 44131 Btu/min 9497 Btu/min 5858 Btu/min 2599.0 Btu/min
<b>Alternator<sup>2</sup></b> Motor starting capability @ 30% voltage dip Frame Temperature Rise	2963 skVA 2730 80 ° C	144 ° F
<b>Lube System</b> Sump refill with filter	219.6 L	58.0 gal
<b>Emissions (Nominal)<sup>3</sup></b> NOx mg/nm <sup>3</sup> CO mg/nm <sup>3</sup> HC mg/nm <sup>3</sup> PM mg/nm <sup>3</sup>	2971.1 mg/nm <sup>3</sup> 145.2 mg/nm <sup>3</sup> 70.5 mg/nm <sup>3</sup> 35.7 mg/nm <sup>3</sup>	

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

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

<sup>3</sup> 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.

# PRIME 800 ekW 1000 kVA

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## RATING DEFINITIONS AND CONDITIONS

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**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

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Package Dimensions		
Length	5000.8 mm	196.88 in
Width	2073.1 mm	81.62 in
Height	2367.2 mm	93.2 in
Weight	12 814 kg	28,250 lb

NOTE: For reference only - do not use for installation design. Please contact your local dealer for exact weight and dimensions. (General Dimension Drawing #2748714).

Performance No.: DM8002

Feature Code: 508DE2X

Gen. Arr. Number: 2524214

Source: U.S. Sourced

December 10 2007

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