

## DIESEL GENERATOR SET

# CATERPILLAR®



Image shown may not reflect actual package.

## STANDBY

**800 e kW 1000 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 / FUEL STRATEGY

- Tier 1 Capable

### FULL RANGE OF ATTACHMENTS

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

### ENCLOSURES (optional)

- Weather protective and sound attenuated

### SINGLE-SOURCE SUPPLIER

- Factory-designed systems built at Caterpillar ISO 9001:2000 certified facilities
- 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 1,798 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® 3412C 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
- UL 2200 Listed packages are available. Certain restrictions may apply. Consult with your Caterpillar dealer

### CAT SR4B GENERATOR

- Matched to the performance and output characteristics of Caterpillar engines
- Optimum winding pitch for minimum total harmonic distortion and maximum efficiency
- Segregated low voltage, AC/DC accessory box provides single point access to accessory connections
- UL 1446 Recognized Class H insulation

### CAT CONTROL PANELS

- Four levels of controls to meet individual customer needs:
  - EMCP II offers digital monitoring, metering, and protection
  - EMCP II+ offers EMCP II features plus full-featured power metering and protective relaying
  - EMCP II+ Auto-Paralleling offers EMCP II+ features plus synchronization and load sharing
  - Switchgear conversion offers easy interface for remote switchgear
- UL 508A Listed

## GeneratorJoe



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## 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 air cleaner</li> <li>•Heavy-duty air cleaner</li> </ul>
Cooling	<ul style="list-style-type: none"> <li>• Radiator with guard</li> <li>• Coolant drain line with valve</li> <li>• Fan and belt guards</li> <li>• Caterpillar® Extended Life Coolant</li> <li>• Low coolant level alarm or shutdown</li> </ul>	<ul style="list-style-type: none"> <li>• Radiator duct flange</li> <li>• Jacket water heater with shutoff valve</li> <li>• Heat exchanger and expansion tank</li> </ul>
Exhaust	<ul style="list-style-type: none"> <li>• Stainless steel exhaust flex and ANSI outlet flange</li> </ul>	<ul style="list-style-type: none"> <li>• Mufflers (20, 25, or 30 dBA)</li> <li>• Elbow kit and through-wall installation kit</li> <li>• Manifold and turbocharger guards</li> <li>• All mufflers have side/end inlet options</li> </ul>
Fuel	<ul style="list-style-type: none"> <li>• Primary and secondary fuel filters</li> <li>• Water separator</li> <li>• Fuel priming pump</li> <li>• Flexible fuel lines</li> <li>• Fuel pressure gauge</li> </ul>	<ul style="list-style-type: none"> <li>• Manual transfer pump</li> <li>• Choice of three Automatic Transfer Systems</li> <li>• Low fuel level alarm</li> </ul>
Generator	<ul style="list-style-type: none"> <li>• Permanent magnet excited</li> <li>• Class H insulation</li> <li>• Class F temperature rise (105°C prime/130°C standby)</li> <li>• VR6 Voltage Regulator, 3-phase sensing, 2:1 Volts/Hz</li> <li>• Reactive droop</li> <li>• Extension box</li> <li>• Bus bar connection</li> </ul>	<ul style="list-style-type: none"> <li>• Self excited</li> <li>• Digital Voltage Regulator</li> <li>• Digital Voltage Regulator with KVAR/PF control</li> <li>• Anti-condensation space heater</li> <li>• Oversize and premium generators</li> <li>• Circuit breakers, UL Listed, 3-pole with shunt trip</li> <li>• Circuit breakers, IEC Compliant, 3-pole or 4-pole with shunt trip</li> <li>• Multiple breaker capability</li> </ul>
Governor	<ul style="list-style-type: none"> <li>• PEEC - Cat Electronic</li> </ul>	<ul style="list-style-type: none"> <li>• Electronic isochronous</li> <li>• Electronic load sharing</li> </ul>
Control Panels	<ul style="list-style-type: none"> <li>• EMCP II</li> <li>• Voltage adjustment potentiometer</li> <li>• Auto start/stop control switch</li> <li>• Emergency stop pushbutton</li> <li>• Panel lights</li> <li>• Digital AC meter - 3 phase True RMS</li> <li>• Digital Indicators</li> <li>• Safety Shutdown protection with LED Lights</li> </ul>	<ul style="list-style-type: none"> <li>• EMCP II+</li> <li>• Switchgear conversion</li> <li>• Customer Communication Module</li> <li>• Local alarm and remote annunciator modules</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> </ul>	<ul style="list-style-type: none"> <li>• Manual sump pump</li> </ul>
Mounting	<ul style="list-style-type: none"> <li>• Formed steel base</li> <li>• Linear vibration isolators between base and engine-generator</li> </ul>	<ul style="list-style-type: none"> <li>• Integral fuel tank base</li> <li>• Sub base fuel tank</li> <li>• Wide base</li> <li>• Skid base</li> </ul>
Starting/Charging	<ul style="list-style-type: none"> <li>• 45 amp charging alternator</li> <li>• Energized to run (ETR) fuel shutoff solenoid</li> <li>• 24 volt starting motor</li> <li>• Batteries with rack and cables</li> <li>• Battery disconnect switch</li> </ul>	<ul style="list-style-type: none"> <li>• Heavy-duty starting system</li> <li>• 5 or 10 amp battery charger</li> <li>• Oversize batteries</li> <li>• Ether starting aid</li> </ul>
General		<ul style="list-style-type: none"> <li>• Enclosures - sound attenuated, weather protective</li> <li>• Automatic transfer switches (ATS)</li> <li>• Floor standing circuit breakers</li> <li>• CSA Certification</li> </ul>
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 SR4B GENERATOR**

Frame Size.....597  
 Excitation.....Permanent Magnet  
 Pitch.....0.8000  
 Number of poles.....4  
 Number of bearings.....Single Bearing  
 Insulation.....UL 1446 Recognized Class H with tropicalization and antiabrasion  
 IP Rating.....Drip Proof IP22  
 Alignment.....Pilot Shaft  
 Overspeed capability - % of rated.....150  
 Wave form.....Less than 5% deviation  
 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**

3412C TA V-12, 4-stroke-cycle watercooled diesel  
 Bore - mm.....137.20 mm (5.4 in)  
 Stroke - mm.....152.40 mm (6.0 in)  
 Displacement - L.....27.02 L (1648.86 in<sup>3</sup>)  
 Compression Ratio.....13.0:1  
 Aspiration.....TA  
 Fuel system.....Pump and Lines  
 Governor type.....PEEC - Cat Electronic

 **CAT CONTROL PANELS**

- EMCP II
- 24 Volt CD Control
- NEMA 1, IP22 enclosure
- Electronically dead front
- Lockable hinged door
- Generator instruments meet ANSI C-39-1
- Single location customer connection point
- Panel illuminating lights
- Auto start/stop control
- Voltage adjust potentiometer
- True RMS AC metering
- Digital indications for:
  - RPM
  - Operating hours
  - Oil pressure
  - Coolant Temperature
  - System DC volts
  - AC volts, phase amps, Hz
- Shutdowns with indicating lights for:
  - Low oil pressure
  - High coolant temperature
  - Overspeed
  - Emergency Stop
  - Failure to start (overcrank)



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## TECHNICAL DATA

Open Generator Set - - 1800 rpm/60 Hz/480 Volts	DM9129	
<b>Package Performance</b> Genset Power rating with fan Genset Power rating @ 0.8 pf	800 ekW 1000 kVA	
<b>Fuel Consumption</b> 100% load with fan 75% load with fan 50% load with fan	223.0 L/hr 164.1 L/hr 114.5 L/hr	58.9 Gal/hr 43.4 Gal/hr 30.2 Gal/hr
<b>Cooling System<sup>1</sup></b> Air flow restriction (system) Engine coolant capacity	0.12 kPa 59.0 L	0.48 in. water 15.6 gal
<b>Exhaust System</b> Combustion air inlet flow rate Exhaust stack gas temperature Exhaust gas flow rate Exhaust flange size (internal diameter) Exhaust system backpressure (maximum allowable)	70.0 m <sup>3</sup> /min 518.2 ° C 196.2 m <sup>3</sup> /min 203.2 mm 6.7 kPa	2472.0 cfm 964.8 ° F 6928.7 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 atmosphere from engine Heat rejection to atmosphere from generator	511 kW 860 kW 132 kW 36.8 kW	29061 Btu/min 48908 Btu/min 7507 Btu/min 2092.8 Btu/min
<b>Alternator<sup>2</sup></b> Motor starting capability @ 30% voltage dip Frame Temperature Rise	2131 skVA 597 130 ° C	266 ° F
<b>Lube System</b> Sump refill with filter	130.0 L	34.3 gal
<b>Emissions</b> NOx g/hp-hr CO g/hp-hr HC g/hp-hr PM g/hp-hr	5.91 g/hp-hr .88 g/hp-hr .14 g/hp-hr .141 g/hp-hr	

<sup>1</sup> Ambient capability at 200 m (660 ft) above sea level. For ambient capability at other altitudes, consult your Caterpillar dealer.

<sup>2</sup> 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.



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## RATING DEFINITIONS AND CONDITIONS

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**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

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Package Dimensions		
Length	4514.3 mm	177.73 in
Width	1827.4 mm	71.94 in
Height	1990.3 mm	78.36 in
Weight		

Note: Do not use for installation design.  
See general dimension drawings for detail (Drawing #2846667).



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Performance No.: DM9129

Feature Code:: 412DER7

Source:: U.S. Sourced

9 February 2006

6069879

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