

Image shown may not reflect actual package

STANDBY 1000 kVA
PRIME 910 kVA
CONTINUOUS
812 kVA

50 Hz

10,000, 10,500, 11,000 Volts

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

FEATURES

FULL RANGE OF ATTACHMENTS

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

SINGLE-SOURCE SUPPLIER

- Complete systems designed at Caterpillar ISO certified facilities
- **Certified Prototype Tested** with torsional analysis

WORLDWIDE PRODUCT SUPPORT

- Worldwide parts availability through the Caterpillar dealer network
- With over 1,200 dealer outlets operating in 166 countries, you're never far from the Caterpillar part you need.
- 99.5% of parts orders filled within 48 hours. The best product support record in the industry.
- Caterpillar dealer service technicians are trained to service every aspect of your electric power generation system.
- Preventive maintenance agreements
- The Cat Scheduled Oil Sampling (S•O•SSM) program cost effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products



CAT® 3508 DIESEL ENGINE FAMILY

- 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

- Designed to match performance and output characteristics of Caterpillar diesel engines
- Optimum winding pitch for minimum total harmonic distortion and maximum efficiency
- Single point access to accessory connections



CAT CONTROL PANELS

- Controls, designed to meet individual customer needs:
 - EMCP II+ provides full-featured power metering and protective relaying
- Remote control and monitor capability options
- Floor standing switchgear available



S T A N D B Y 1 0 0 0 k V A
P R I M E 9 1 0 k V A
C O N T I N U O U S 8 1 2 k V A
5 0 H z
1 0 , 0 0 0 , 1 0 , 5 0 0 , 1 1 , 0 0 0 V o l t s



**FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT
 FOR HIGH VOLTAGE PACKAGES
 (Optional equipment listed may not be available on all packages)**

System	Standard	Optional
Air Inlet	Regular-duty single element canister type air cleaner with service indicator	Dual element and heavy duty air cleaners Air inlet adapters Air inlet shutoffs
Cooling	Jacket water pump Aftercooler water pump* Radiator sized for 43° C/110° F ambient Radiator fan and drive with guards Coolant drain line with valve Coolant level sensor Low coolant level alarm and shutdown High coolant temperature alarm and shutdown Caterpillar extended life coolant***	50° C/125° F ambient capability radiators Two circuit radiators (jacket water and aftercooler water)* Folded core radiators for standby applications*** Radiator removal Expansion tank with inlet/outlet connections Heat exchangers Radiator duct flange Fan Pulleys (various fan drive ratios)
Exhaust	Dry exhaust manifold Flange faced outlet(s)	Stainless steel exhaust flex Mufflers Elbows, flanges, expanders and Y adapters
Fuel	Secondary fuel filters Fuel cooler Fuel priming pump Flexible fuel lines	Primary fuel filter Primary fuel filter with water separator Duplex fuel filter
Generator	Caterpillar SR4B HV	6300 V, 6600 V and 6900 V generators Oversized generators LH extension box for cable entry Top cable entry conversion Air inlet filters Insulated lug landings for 6 leads 2 V/hz response voltage regulator KCR-760 Digital Voltage Regulator VAR/power factor controller Auto/manual voltage control Motor operated potentiometer (voltage adjust) Thermostat for space heater control Regulator RFI suppression to MIL std 461 C Diode fault detector
Governor	Electronic isochronous control	Load share module* or load share governor**
Control Panels and Instrumentation	EMCP II + (wall mounted, shipped loose)	Customer Interface Module Customer Communications Module Synchronizing Module Local alarm modules Programmable relay control module* Relay driver module Engine failure relay Auto starting aid & switch Instrument panel, RH, 16 hole** Remote annunciator modules Pyrometer and thermocouples (exhaust)
Lube	Lubricating oil Gear type lube oil pump Integral lube oil cooler Oil filter, filler and dipstick Oil drain line and valve Fumes disposal	Electric prelube pump Air prelube pump Sump pump with manual prelube Deep sump oil pan Duplex oil filter (RH service only) Oil level regulator
Mounting	330 mm/13 in structural steel rails Spring-type anti-vibration mounts (shipped loose)	Isolator removal
Starting/Charging	24 volt electric starting motor(s) 45 amp charging alternator Battery with rack and cables Battery disconnect switch	Dual and heavy duty electric starting motors Oversized batteries Battery charger Ether starting aid Jacket water coolant heater Air starting motor with control and silencer
Other	RH service	Switchgear (floor standing) Automatic transfer switches Enclosures Engine barring device (manual) EU Certification CSA Certification

*3500 B series only

**Not available on 3500 B series

***Not included with radiator removal, shipped loose radiator, or expansion tank

STANDBY 1 0 0 0 k V A
PRIME 9 1 0 k V A
CONTINUOUS 8 1 2 k V A
5 0 H z
1 0 , 0 0 0 , 1 0 , 5 0 0 , 1 1 , 0 0 0 V o l t s



TECHNICAL DATA

		Standby	Prime	Continuous
Generator Set — 1500 rpm/50 Hz/11,000 Volt		DM2969-02	DM2970-01	DM2971-02
Package Performance				
Power rating @ 0.8 PF	kVA ekW	1000 800	910 728	812 650
Fuel Consumption				
100% load with fan	L/hr Gal/hr	216.5 57.2	197.0 52.0	176.0 46.5
75% load with fan	L/hr Gal/hr	162.3 42.9	148.9 39.3	134.5 35.5
50% load with fan	L/hr Gal/hr	113.6 30.0	105.0 27.7	95.7 25.3
Cooling System				
Ambient air temperature	Deg C Deg F	43 110	43 110	43 110
Air flow restriction (system)	kPa in water	0.12 0.5	0.12 0.5	0.12 0.5
Engine coolant capacity without radiator	L Gal	102.7 27.1	102.7 27.1	102.7 27.1
Exhaust System				
Combustion air inlet flow rate	m ³ /min cfm	68.5 2419	64 2260	58.3 2059
Exhaust stack gas temperature	Deg C Deg F	468 875	457 855	446 835
Exhaust gas flow rate	m ³ /min cfm	176.8 6244	162.6 5742	145.7 5145
Exhaust flange size (internal diameter) (qty. of 1)	mm in	203.0 8.0	203.0 8.0	213.0 8.0
Exhaust system backpressure (maximum allowable)	kPa in water	6.7 27	6.7 27	6.7 27
Heat Rejection				
Heat rejection to coolant (total)	kW Btu/min	501 28,492	453 25,762	405 23,032
Heat rejection to exhaust (total)	kW Btu/min	792 45,041	714 40,605	634 36,056
Heat rejection to atmosphere from engine	kW Btu/min	139 7905	128 7279	120 6824
Heat rejection to atmosphere from generator	kW Btu/min	49.57 2820	44.32 2521	39.29 2235
Alternator				
Motor starting capability @ 30% voltage dip	kVA	1402	1402	1402
Frame		2410	2410	2410
Temperature rise	Deg C	130	105	105
Lube System				
Refill volume with filter change for standard sump	L Qts	219.6 232	219.6 232	219.6 232
Emissions*				
NOx	g/bhp-hr mg/N•m ³ @ 5% O ₂	11.96 5624	12.43 5845	12.75 6011
CO	g/bhp-hr mg/N•m ³ @ 5% O ₂	0.67 315	0.64 300	0.76 357
HC	g/bhp-hr mg/N•m ³ @ 5% O ₂	0.17 80	0.16 75	0.18 86
PM	g/bhp-hr mg/N•m ³ @ 5% O ₂	0.093	0.095	0.097

*Emissions data measurement is consistent with those described in EPA CFR40 Part 89, Subpart D and ISO8178-1 for measuring HC, CO, PM, NOx.

SPECIFICATIONS



CAT SR4B HV GENERATOR

Type..... Salient pole, revolving field, brushless, permanent magnet excited
 Drive configuration..... Two bearing, close coupled
 Connection..... Three phase wye with insulated stand-off copper lug landings
 IP rating..... Drip proof IP23
 Insulation..... Class F Vacuum Pressure Impregnated (VPI) on stator, rotor, exciter and leads
 Stator coils..... Form wound
 Overspeed capability..... 125% of rated
 Wave form..... < 5% deviation
 Harmonic distortion..... < 5% THD
 Telephone influence factor..... < 50
 Stator temperature detectors..... Two (2) 100 ohm platinum RTD's installed per phase
 Voltage regulator..... Solid state automatic voltage regulator KCR-760, 3 phase sensing with volts-per-hertz response
 Voltage regulation..... < $\pm 1/2\%$ (steady state)
 Paralleling capability..... Regulator input for reactive droop or cross-current methods
 Anti-condensation space heaters..... 120/240 V, 1 phase, 2 kW
 Cable entry..... RH bottom



CAT ENGINE

3508, 4-stroke-cycle watercooled diesel
 Bore — mm (in)..... 170 (6.7)
 Stroke — mm (in)..... 190 (7.5)
 Displacement — L (cu in)..... 34.5 (2105)
 Compression ratio..... 14:1
 Aspiration..... Turbocharged and Aftercooled
 Fuel system..... Direct unit injection
 Governor type..... Woodward 2301



CAT EMCP II+ CONTROL PANEL*

24 Volt DC Control
 NEMA 12, IEP44 dustproof enclosure
 Lockable hinged door
 Single location customer connection
 Panel illuminating lights
 Auto start/stop control
 Voltage adjust potentiometer (shipped loose)
 True RMS AC metering
 Digital indications for:
 Rpm
 Operating hours
 Oil pressure
 Coolant temperature
 DC volts
 L-L volts, L-N volts, Phase amps, Hz
 KW, kVA, kVAR, kWhr, %kW, PF
 Shutdowns with indicating lights for:
 Low oil pressure
 High coolant temperature
 Overspeed
 Emergency stop
 Failure to start (overcrank)
 Low coolant level
 Programmable protective relaying functions
 Under and over voltage
 Under and over frequency
 Reverse power
 Over current (phase and total)
 Programmable kW level relay
 3 spare indicator LED's (programmable)
 4 spare alarm/shutdown inputs

*Shipped loose for wall mounting. 120 V secondary voltage sensing, 5 A secondary current sensing and wiring interconnect between generator set and EMCP II+ to be provided by others at installation (drawing provided).

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.

Prime — Output available with varying load for an unlimited time. Prime power in accordance with ISO8528. 10% overload power in accordance with ISO3046/1, AS2789, DIN6271, and BS5514 available on request.

Continuous — Output available without varying load for an unlimited time. Continuous power in accordance with ISO8528, ISO3046/1, AS2789, DIN6271, and BS5514.

Ratings are based on SAE J1349 standard conditions.

These ratings also apply to ISO3046/1, DIN6271, and BS5514 standard conditions.

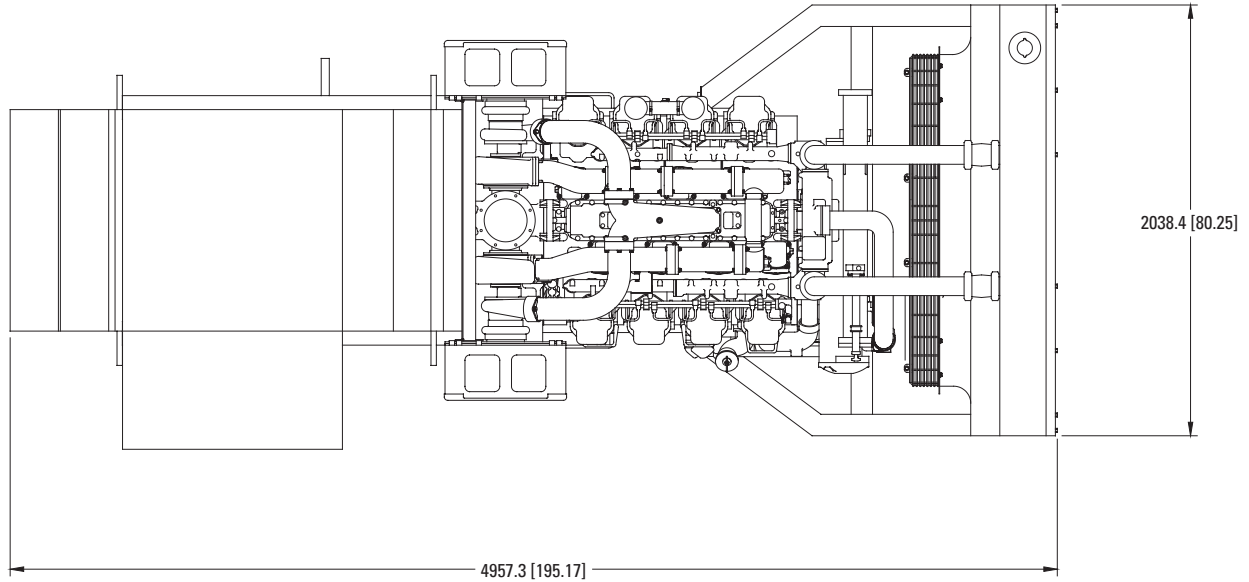
Fuel rates are based on fuel oil of 35° API (16° C or 60° F) gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29° C (85° F) and weighing 838.9 g/liter (7.001 lbs/U.S. gal.).

Additional ratings may be available for specific customer requirements. Consult your Caterpillar representative for details.

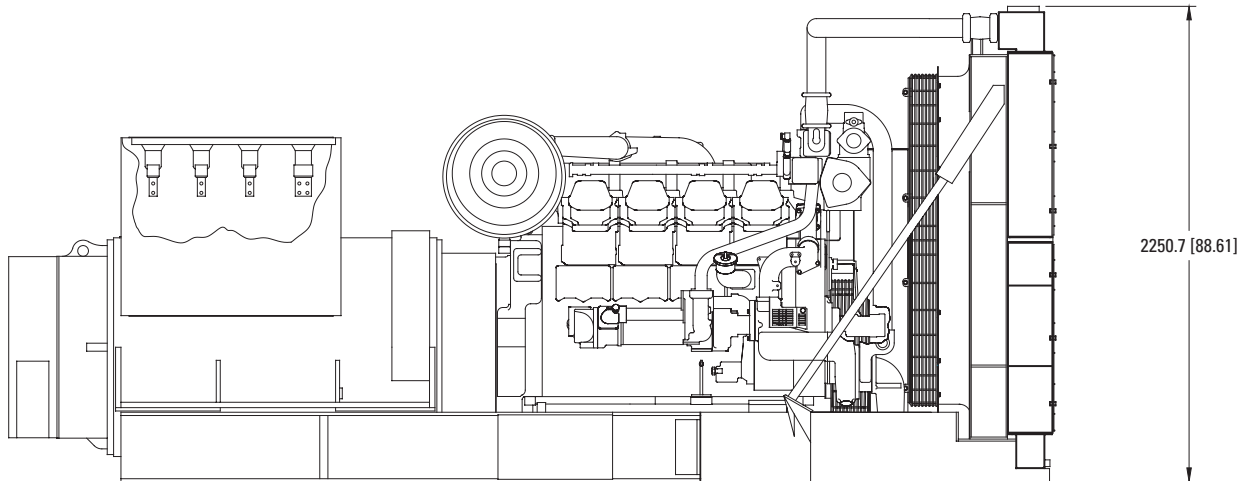
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CONTINUOUS 812 kVA
 50 Hz
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STANDBY/PRIME/CONTINUOUS POWER GENERATOR SET PACKAGE — TOP VIEW



STANDBY/PRIME/CONTINUOUS POWER GENERATOR SET PACKAGE — SIDE VIEW



Package Dimensions		
Length	4957.3 mm	195.17 in
Width	2038.4 mm	80.25 in
Height	2250.7 mm	88.61 in

Note: General configuration not to be used for installation. See general dimension drawings for detail.

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CATERPILLAR®



www.CAT-ElectricPower.com

TMI Reference No.: DM2969-02, DM2970-01, DM2971-02

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The International System of Units (SI) is used in this publication.