Image shown may not reflect actual package.

PRIME
800 ekW 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 fuel consumption

SINGLE-SOURCE SUPPLIER
- Complete systems designed and built at Caterpillar ISO certified facilities.
- Fully prototype tested with certified torsional vibration analysis available

WORLDWIDE PRODUCT SUPPORT
- Worldwide parts availability through the Caterpillar dealer network
- With over 1844 dealer branch stores operating in 166 countries, you're never far from the Caterpillar part you need
- 99.7% of parts orders filled within 24 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•S℠) 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
- UL 2200 Listed packages are available. Certain restrictions may apply. Consult with you Caterpillar dealer

CAT SR4B 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
- UL 1446 recognized Class H insulation system

CAT CONTROL PANELS
- Three levels of controls, designed to meet individual customer needs:
  - EMCP II provides digital monitoring, metering, and protection
  - EMCP II+ provides EMCP II features along with full-featured power metering and protective relaying (optional)
  - Switchgear conversions provides easy interface for remote switchgear
- UL 508A Listed

FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

System	Standard	Optional
Air Inlet	• Single element canister type air cleaner • Service indicator	• Dual element & heavy duty air 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 shut-down	• Radiator with 50°C ambient capability • Radiator removal • Heat exchanger and expansion tank • Radiator duct flange • Coolant level switch gauge • Jacket water heater
Exhaust	• Stainless steel exhaust flex and ANSI outlet flange	• Mufflers (10, 25, & 35 dba) • Elbow kit and through-wall installation kit
Fuel	• Primary & secondary fuel filters • Fuel priming pump • Flexible fuel lines	• Fuel cooler • Water separator
Generators	• Permanent magnet excited • Class H insulation • Class F temperature (105°C prime/130°C standby) • Reactive droop • Digital Voltage Regulator, 3-phase sensing • Bus bar connections • Winding temperature detectors • Anti-condensation space heaters	• Digital Voltage Regulator with KVAR/PF control • Bearing temperature detectors • Oversize & premium generators • Cable access box • Neutral grounding connection • Circuit breakers, IEC compliant, 3 & 4 pole with shunt trip
Governing	• ADEM II	• Low emissions conversion
Control Panels	• EMCP II	• EMCP II+ • EMCP II+ with Auto-Paralleling • Switchgear conversion • Customer Communication Module • Local alarm & remote ammunciator modules
Lube	• Lubricating oil and filter • Oil drain line with valves • Fumes disposal	• Sump pump (manual) • Sump & prelube pump (manual or electric) • Oil level regulator
Mounting	• 330 mm (13 in) structural steel rails • Spring-type, anti-vibration mounts (shipped loose)	
Starting/Charging	• 24 volt starting motor(s) • 45 amp charging alternator • Batteries with rack and cables • Battery disconnect switch	• Battery chargers (5 or 10 Amp) • Oversize batteries • Ether starting aids • Heavy duty starting motors • Barring device (manual)
General		• Crankcase explosion relief valves • Automatic transfer switches (ATS) • EU Certificate of Conformance

SPECIFICATIONS

CAT GENERATOR

SR4B Generator

Frame size	693
Excitation	Permanent Magnet
Pitch	0.7222
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 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
Stroke - mm	190.00
Displacement - L	34.53
Compression ratio	14.0 TO 1
Aspiration	TA
Fuel system	Direct unit injection

CAT CONTROL PANELS

- EMCP II
- 24 Volt DC Control
- NEMA 1, IP22 enclosure
- Electronically dead front
- Lockable hinged door
- Generator instruments meet ANSI C-39-1
- Terminal box mounted
- Single location for customer connector
- EU compliant - segregated AC/DC connections
- Panel illuminating lights
- Auto start/stop control
- True RMS metering, 3-phase
- 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)
- Programmable kW level relay

TECHNICAL DATA

Open Generator Set - — 1500 rpm/50 Hz/400 Volts	PRIME DM2982	
Package Performance		
Power rating @ 0.8 pf	1000 kVA	
Power rating	800 ekW	
Low Fuel Consumption		
Coolant to aftercooler temp max	90 Deg C	194 Deg F
Fuel Consumption		
100% load with fan	206.1 L/hr	54.4 Gal/hr
75% load with fan	156.3 L/hr	41.3 Gal/hr
50% load with fan	109.1 L/hr	28.8 Gal/hr
Cooling System*		
Ambient air temperature	43 Deg C	109 Deg F
Air flow restriction (system)	.18 kPa	0.72 in. water
Air flow (max @ rated speed for radiator arrangement)	738 m^3/min	26,062 cfm
Engine coolant capacity	102.7 L	27.1 Gal
Radiator coolant capacity	450.0 L	118.9 Gal
Engine coolant capacity with radiator	552.7 L	146.0 Gal
Exhaust System		
Combustion air inlet flow rate	64.8 m^3/min	2,288.4 cfm
Exhaust stack gas temperature	428.1 Deg C	803 Deg F
Exhaust gas flow rate	158.9 m^3/min	5,611.5 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)	393 kW	22,350 Btu/min
Heat rejection to exhaust (total)	691 kW	39,297 Btu/min
Heat rejection to atmosphere from engine	95 kW	5,403 Btu/min
Heat rejection to atmosphere from generator	42.13 kW	2,395.93 Btu/min
Alternator**		
Motor starting capability @ 30% voltage dip	1932 skVA	
Frame	693	
Temperature Rise	105 Deg C	

*Ambient capability at 200 m (660 ft) above sea level. For ambient capability at other altitudes, consult your Caterpillar dealer.

**Generator temperature rise is based on a 40 degree C ambient per NEMA MG1-32.

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

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. Prime power ambients shown indicate ambient at 100 percent 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 ISO3046/1, 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.

CATERPILLAR®

Package Dimensions		
Length	5292.2 mm	208.35 in
Width	1844.0 mm	72.6 in
Height	2230.0 mm	87.8 in
Weight	10 477 kg	23,098 lb

Note: Do not use for installation design.
See general dimension drawings
for detail (Drawing #1533623).

CATERPILLAR FACILITIES ISO 9001 CERTIFIED

TMI Reference No.: DM2982

PL Reference No.: 508DE49

European Sourced

LEHE2455 9 April 2002 42127

www.CAT-ElectricPower.com