CATERPILLAR®

DIESEL GENERATOR SET

Image shown may not reflect actual package.

STANDBY
1800 ekW 2250 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

SINGLE-SOURCE SUPPLIER
- Designed and built at Caterpillar ISO 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 1,844 dealer branch stores operating in 166 countries
- 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 3516B 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
- Single point access to accessory connections
- UL 1446 recognized Class H insulation

CAT CONTROL PANELS
- Three 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 (optional)
  - Switchgear conversions with 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 shutdown	• 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
Generator	• 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 connectins • 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..... 826
Excitation..... Permanent Magnet
Pitch..... 0.7142
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..... 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

3516B TA, V-16, 4-stroke-cycle watercooled diesel
Bore - mm..... 170.00 mm (6.69 in)
Stroke - mm..... 190.00 mm (7.48 in)
Displacement - L..... 69.06 L (4214.04 cu. in)
Compression ratio..... 14.0:1
Aspiration..... TA
Fuel system..... Electronic 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 connection
- EC 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)

TECHNICAL DATA

Open Generator Set - - 1500 rpm/50 Hz/400 Volts	DM3090	
Package Performance		
Genset Power rating @ 0.8 pf	2250 kVA	
Genset Power rating with fan	1800 ekW	
Low Emissions		
Coolant to aftercooler temp max	30 Deg C	86 Deg F
Fuel Consumption		
100% load with fan	507.5 L/hr	134.1 Gal/hr
75% load with fan	374.6 L/hr	99.0 Gal/hr
50% load with fan	249.1 L/hr	65.8 Gal/hr
Cooling System		
Ambient air temperature	43 Deg C	109 Deg F
Air flow restriction (system)	0.18 kPa	0.72 in. water
Air flow (max @ rated speed for radiator arrangement)	1101 m³/min	38881 cfm
Engine coolant capacity	233.0 L	61.6 Gal
Radiator coolant capacity	313.0 L	82.7 Gal
Engine Coolant capacity with radiator/exp. tank	546.0 L	144.2 Gal
Exhaust System		
Combustion air inlet flow rate	152.2 m³/min	5374.9 cfm
Exhaust stack gas temperature	525.9 Deg C	979 Deg F
Exhaust gas flow rate	425.1 m³/min	15012.3 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)	726 kW	41288 Btu/min
Heat rejection to exhaust (total)	2017 kW	114707 Btu/min
Heat rejection to aftercooler	594 kW	33781 Btu/min
Heat rejection to atmosphere from engine	170 kW	9668 Btu/min
Heat rejection to atmosphere from generator	49.51 kW	2815.63 Btu/min
Alternator		
Motor starting capability @ 30% voltage dip	1630 skVA	
Frame	826	
Temperature Rise	130 Deg C	266 Deg F
Emissions (Nominal)		
NOx mg/nm3	1484.0 mg/nm³	
CO mg/nm3	134.0 mg/nm³	
HC mg/nm3	68.2 mg/nm³	
PM mg/nm3	23.1 mg/nm³	

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° C (104° F) ambient per NEMA MG1-32.
Emissions data measurements are consistent with those described in EPA CFR 40 Part 89, Subpart D & E and ISO8178-1 for measuring HC, CO, PM, NOx. This engine's exhaust emissions are in compliance with the US EPA adn California nonroad regulations as identified above. 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.

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. 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.

DIMENSIONS

Package Dimensions		
Length	6572.7 mm	258.77 in
Width	2204.5 mm	86.79 in
Height	2529.0 mm	99.57 in
Weight	17 939 kg	39,549 lb

Note: Do not use for installation design.
See general dimension drawings for detail (Drawing #1558402).