DIESEL GENERATOR SET

CATERPILLAR®

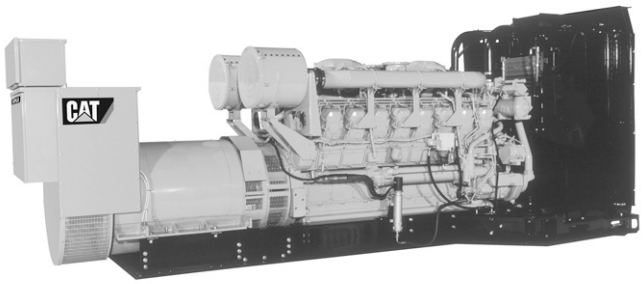

Image shown may not reflect actual package.

PRIME
1460 ekW 1825 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.

FEATURES

FUEL/EMISSIONS STRATEGY
- Low fuel consumption

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℠ program cost effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products

CAT 3516 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	•Single element canister type air cleaner •Service indicator	•Dual element & heavy duty air cleaners (with pre-cleaners) •Air inlet adapters & shutoff
Cooling	• Radiator with guard (43°C) • Coolant drain line with valve • Radiator fan and fan drive • Fan and belt guards • Caterpillar® Extended Life Coolant* • Coolant level sensors *Not included with packages without radiators	• Radiator with 50°C ambient capability • Radiator removal • Duct flange • Heat exchanger and expansion tank • Coolant level switch gauge
Exhaust	• Dry exhaust manifold • Flanged faced outlets	• Mufflers & Silencers • Stainless steel exhaust flex fittings • Elbows, flanges, expanders & Y adapters
Fuel	• Secondary fuel filters • Fuel priming pump • Flexible fuel lines • Fuel cooler* *Not included with packages without radiators	• Water separator • Duplex fuel filter • Primary Fuel Filter
Generator	• Caterpillar SR4B HV	• LH extension box for cable entry • Top cable entry conversion • Air inlet filters • Insulated lug landings for 6 leads • 1 or 2 V/Hz automatic voltage regulator KCR-760 • Digital Voltage Regulator • VAR/power factor controller • Auto/manual voltage control • Motor operated potentiometer • Thermostat for space heater control thermostat • Regulator RFI suppression to MIL std 461 C • Diode fault detector
Power Termination	•Bus bar (NEMA and IEC mechanical lug holes)- right side standard • Top and bottom cable entry	• Circuit breakers, UL Listed, 3 pole with shunt trip, 80% or 100% rated, choice of trip units,manual or electricity operated (low voltage only) • Circuit breakers, IEC compliant, 3 or 4 pole with shunt trip (low voltage only, choice of trip units, manual or electricaly operated • Shroud cover for bottom cable entry • Power terminations can be located on the left and/or rear as an option. Also, multiple circuit breakers can be ordered (up to 3)
Governor	• Woodward 2301 Isochronous governor	• Load share module
Control Panel	• EMCP 3.1 Genset Controller	• EMCP 3.3 • Local & remote annunciator modules • Load share module • Customer Interface Module • Customer Communication Module
Lube	• Lubricating oil • Gear type lube oil pump • Oil filter, filler and dipstick • Oil drain lines and valve • Fume disposal	• Oil level regulator • Deep sump oil pan • Electric & air prelube pumps • Manual prelube with sump pump • Duplex oil filter
Mounting	• Rails-Engine/Generator/Radiator Mounting • 330 mm (13 in) structural steel rails • Spring type anti-vibration mounts (shipped loose)	• Isolator removal
Starting/Charging	• 24 volt starting motor(s) • Batteries with rack and cables • Battery disconnect switch	• Battery chargers (10& 20 Amp) • 45 amp charging alternator • Oversize batteries • Ether starting aids • Heavy duty starting motors • Barring device (manual) • Air starting motor with control & silencer

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SPECIFICATIONS

CAT GENERATOR

SR4B HV Generator

Frame size..... 2750
Excitation..... Permanent Magnet
Pitch..... 0.6670
Number of poles..... 4
Number of bearings..... 002
Number of Leads..... 006
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

3516 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..... 69.00 L (4210.64 in^3)
Compression ratio..... 13.5:1
Aspiration..... TA
Fuel system..... Electronic unit injection
Governor type..... Woodward

CAT EMCP CONTROL PANELS

- EMCP 3.1 (standard)
- EMCP 3.3 (optional)
- Generator mounted rear-facing control panel
- Emergency stop button
- 24 Volt DC Control
- Environmental sealed front face
- Text alarm / event descriptions
- Shutdowns with indicating lights for:
  - Low oil pressure
  - High coolant temperature
  - Overspeed
  - Emergency stop
  - Failure to start (overcrank)
  - Low coolant level
- Controls:
  - Speed adjust
  - Auto/start/stop control
  - Engine cool-down timer
  - Engine cycle crank
  - Alarm acknowledge
- True RMS metering, 3-phase
- Digital indications for:
  - RPM
  - Operating hours
  - Oil pressure (psi, kPa or bar)
  - Coolant temperature
  - System DC volts
  - Volts (L-L & L-N), frequency (Hz)
  - Amps (per phase and average)
- Programmable digital (4) inputs and (4) outputs

MODBUS isolated data link (RS-485 half-duples) supports serial communication at data rateup to 115.2 kbaud (*)

*** Consult your Caterpillar Dealer for Details**

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TECHNICAL DATA

Open Generator Set - - 1500 rpm/50 Hz/11 000 Volts	DM7962	
Generator Set Package Performance		
Genset Power rating @ 0.8 pf	1825 kVA	
Genset Power rating with fan	1460 ekW	
Coolant to aftercooler		
Coolant to aftercooler temp max	82 ° C	180 ° F
Fuel Consumption		
100% load with fan	382.7 L/hr	101.1 Gal/hr
75% load with fan	292.0 L/hr	77.1 Gal/hr
50% load with fan	209.2 L/hr	55.3 Gal/hr
Cooling System[1]		
Air flow restriction (system)	0.12 kPa	0.48 in. water
Air flow (max @ rated speed for radiator arrangement)	1543 m³/min	54491 cfm
Engine Coolant capacity with radiator/exp. tank	398.0 L	105.1 gal
Engine coolant capacity	233.0 L	61.6 gal
Radiator coolant capacity	165.0 L	43.6 gal
Inlet Air		
Combustion air inlet flow rate	115.7 m³/min	4085.9 cfm
Exhaust System		
Exhaust stack gas temperature	477.6 ° C	891.7 ° F
Exhaust gas flow rate	304.2 m³/min	10742.7 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)	961 kW	54652 Btu/min
Heat rejection to exhaust (total)	1380 kW	78480 Btu/min
Heat rejection to aftercooler	191 kW	10862 Btu/min
Heat rejection to atmosphere from engine	159 kW	9042 Btu/min
Heat rejection to atmosphere from generator	64.0 kW	3639.7 Btu/min
Alternator[2]		
Motor starting capability @ 30% voltage dip	3849 skVA	
Frame	2750	
Temperature Rise	105 ° C	189 ° F
Lube System		
Sump refill with filter	401.3 L	106.0 gal
Emissions (Nominal)[3]		
NOx mg/nm3	7168.2 mg/nm³	
CO mg/nm3	328.6 mg/nm³	
HC mg/nm3	95.7 mg/nm³	
PM mg/nm3	34.7 mg/nm³	

[1] For ambient and altitude capabilities consult your Caterpillar dealer. Air flow restriction (system) is added to existing restriction from factory.

[2] 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.

[3] 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.

RATING DEFINITIONS AND CONDITIONS

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

Package Dimensions		
Length	**6233.2 mm**	**245.4 in**
Width	**2286.0 mm**	**90 in**
Height	**2342.0 mm**	**92.2 in**
Weight	**17 708 kg**	**39,039 lb**

NOTE: For reference only - do not use for installation design. Please contact your local dealer for exact weight and dimensions. (General Dimension Drawing #2748728).

Performance No.: DM7962

Feature Code: 516DE4A

Gen. Arr. Number: 2524230

Source: U.S. Sourced

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