DIESEL GENERATOR SET

CATERPILLAR®

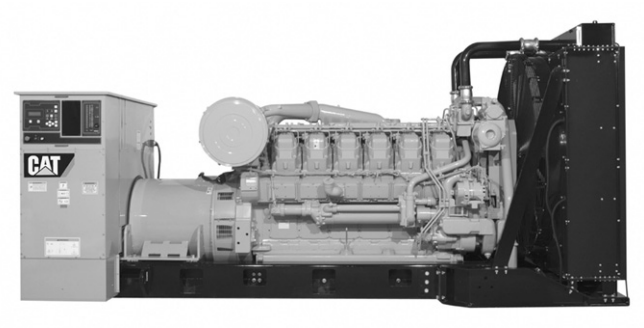

Image shown may not reflect actual package.

STANDBY
1120 ekW 1400 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 STRATEGY
- Low Fuel Consumption

DESIGN CRITERIA
- The generator set accepts rated load in one step

FULL RANGE OF ATTACHMENTS
- Wide range of bolt-on system expansion attachments, factory designed and tested

WORLDWIDE PRODUCT SUPPORT
- Caterpillar® dealers provide extensive post sale support including maintenance and repair agreements
- 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 3512 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 SR5 GENERATOR
- Matched to the performance and output characteristics of Caterpillar engines
- Industry leading mechanical and electrical design
- Industry leading motor starting capabilities
- High Efficiency

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 meatering 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	• Dual element & heavy duty air cleaners (with pre-cleaners) • Air inlet adapters & shutoff
Cooling	• Radiator with guard (43ºC) • Coolant drain line with valve piped to edge of base frame • Fan and belt guards • Caterpillar Extended Life Coolant* • Coolant level sensors	• Radiator with 50ºC ambient capability • Radiator removal • Heat exchanger and expansion tank • Radiator duct flange • Coolant level switch gauge • Jacket water heater
Exhaust	• Stainless steel exhaust flex with ANSI style outlet flange, gasket, bots and mating weld flange; shipped loose • Dry exhaust manifold • Flanged faced outlets	• Mufflers
Fuel	• Primary and secondary fuel filters • Fuel priming pump • Flexible fuel lines	• Fuel cooler • Primary fuel filter with fuel water separator
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,100% rated, choice of trip units, manual or electrically operated (low voltage only) • Circuit breakers, IEC compliant, 3 or 4 pole with shunt trip (low voltage only),choice of trip units, manual or electrically operated • Shroud cover for bottom cable entry • Power termination & multiple circuit breaker options
Generator	• Class H insulation & Class F temperature rise • Reactive droop • Digital Voltage Regulator, 3-phase sensing • Bus bar connections • Winding temperature detectors • Anti-condensation space heaters • Segregated low voltage (AC/DC) wiring panel	• Oversize and premium generators
Governor	• Woodward 2301A isochronous	• Electronic load sharing
Control Panels	• EMCP II+ (package mounted, rear facing)	• Customer Communication Module • Local alarm modules • Remote annunciator modules • Auto starting aid & switch* *Cannot be use with UL LIST
Lube	• Lubricating oil and filter • Oil drain line with valves • Fumes disposal • Gear type lube oil pump	• Sump pump (manual) • Sump & prelube pump (manual or electric) • Oil level regulator • Duplex oil filter • Deep sump oil pan
Mounting	• 330 mm (13 in) structural steel rails • Spring-type, anti-vibration mounts (shipped loose)	
Starting/Charging	• 45 amp charging alternator • Energize to Run (ETR)fuel shutoff solenoid • 24 volt starting motor(s) • Battery with rack,cables and disconnect switch	• Battery chargers (5 and 10 Amp) • Oversize batteries • Ether starting aids • Heavy duty starting motors • Barring device (manual)
General	• Right-hand service • Paint - Caterpillar Yellow except rails and radiators gloss black • SAE standard rotation • Flywheel and flywheel housing - SAE No. 00	• Enclosures • Front stub shaft • CSA certification • EU Certificate of Conformance

STANDBY 1120 ekW 1400 kVA

50 Hz 1500 rpm 400 Volts

CATERPILLAR®

SPECIFICATIONS

CAT GENERATOR

Caterpillar Generator
Frame size..... 696
Excitation..... Permanent Magnet
Pitch..... 0.6667
Number of poles..... 4
Number of bearings..... Single Bearing
Number of Leads..... 6
Insulation..... UL 1446 Recognized Class H with tropicalization and antiabrasion
Alignment..... Pilot Shaft
Overspeed capability - % of rated..... 180
Wave form..... 003.00
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

3512 TA, 4-stroke-cycle watercooled diesel
Bore - mm..... 170.00 mm (6.69 in)
Stroke - mm..... 190.00 mm (7.48 in)
Displacement - L..... 51.80 L (3161.03 in^3)
Compression ratio..... 13.5:1
Aspiration..... TA
Fuel system..... Direct unit injection
Governor type..... Woodward

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
- Single location customer connection point
- Panel illuminating lights
- Warning / Shutdowns with indicating lights for:
  - Low oil pressure
  - High coolant temperature
  - Overspeed
  - Emergency stop
  - Failure to start (over crank)
  - Low coolant level
  - Auto / start / stop control
- Voltage adjust potentiometer
- True RMS AC metering, 3-phase
- Digital indication for :
  - RPM
  - System DC Volts
  - Operating hours
  - Oil pressure (psi, kPa or bar)
  - Coolant temperature
  - L-L volts, L-N volts, Phase amps, Hz
  - ekW, kVA, kVAR, kWhr, %kW, PF(*)
- Programmable protective relaying functions
  - Under and over voltage
  - Under and over frequency
  - Reverse power
  - Overcurrent

Consult your Caterpillar Dealer for Details

STANDBY 1120 ekW 1400 kVA

50 Hz 1500 rpm 400 Volts

CATERPILLAR®

TECHNICAL DATA

Open Generator Set - - 1500 rpm/50 Hz/400 Volts	DM3017
Low Fuel Consumption	
Generator Set Package Performance	
Genset Power rating @ 0.8 pf	1400 kVA
Genset Power rating with fan	1120 ekW
Coolant to aftercooler	
Coolant to aftercooler temp max	82 ° C
Fuel Consumption	
100% load with fan	301.4 L/hr
75% load with fan	228.2 L/hr
50% load with fan	160.0 L/hr
Cooling System[1]	
Air flow restriction (system)	0.12 kPa
Engine Coolant capacity with radiator/exp. tank	156.8 L
Engine coolant capacity	156.8 L
Radiator coolant capacity	0.0 L
Inlet Air	
Combustion air inlet flow rate	101.2 m³/min
Exhaust System	
Exhaust stack gas temperature	473.2 ° C
Exhaust gas flow rate	264.0 m³/min
Exhaust flange size (internal diameter)	203.2 mm
Exhaust system backpressure (maximum allowable)	6.7 kPa
Heat Rejection	
Heat rejection to coolant (total)	704 kW
Heat rejection to exhaust (total)	1178 kW
Heat rejection to aftercooler	207 kW
Heat rejection to atmosphere from engine	120 kW
Heat rejection to atmosphere from generator	54.0 kW
Alternator[2]	
Motor starting capability @ 30% voltage dip	2667 skVA
Frame	696
Temperature Rise	130 ° C

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

[2] Generator temperature rise is based on a 40ºC (104ºF) ambient per NEMA MG1-32.

RATING DEFINITIONS AND CONDITIONS

Meets or Exceeds International Specifications: AS1359, CSA, IEC60034-1, ISO3046, ISO8528, NEMA MG 1-22, NEMA MG 1-33, UL508A, 72/23/EEC, 98/37/EC, 2004/108/EC

Standby - Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year. Standby power in accordance with ISO8528. Fuel stop power in accordance with ISO3046. Standby ambients shown indicate ambient temperature at 100% 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 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.

STANDBY 1120 ekW 1400 kVA

50 Hz 1500 rpm 400 Volts

CATERPILLAR®

DIMENSIONS

Package Dimensions	
Length	**5714.7 mm**
Width	**2092.0 mm**
Height	**2230.0 mm**
Weight	**14 178 kg**

NOTE: For reference only - do not use for installation design. Please contact your local dealer for exact weight and dimensions. (General Dimension Drawing #1532763).

Performance No.: DM3017

Feature Code: 512DE05

Gen. Arr. Number: 1662692

Source: European Sourced

November 18 2008 13889147

www.CAT-ElectricPower.com