DIESEL GENERATOR SET





Image shown may not reflect actual package.

FEATURES

FUEL/EMISSIONS STRATEGY

Low Fuel consumption

DESIGN CRITERIA

• The generator set accepts 100% rated load in one step per NFPA 110 and meets ISO 8528-5 transient response.

FULL RANGE OF ATTACHMENTS

- Wide range of bolt-on system expansion attachments, factory designed and tested
- Flexible packaging options for easy and cost effective installation

SINGLE-SOURCE SUPPLIER

• Fully prototype tested with certified torsional vibration analysis available

WORLDWIDE PRODUCT SUPPORT

- Cat dealers provide extensive post sale support including maintenance and repair agreements
- Cat dealers have over 1,800 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® 3512B TA DIESEL ENGINE

• Reliable, rugged, durable design

reliability, and cost-effectiveness.

• Field-proven in thousands of applications worldwide

1200 ekW 1500 kVA

50 Hz 1500 rpm 400 Volts

Caterpillar is leading the power generation marketplace with Power Solutions engineered to deliver unmatched flexibility, expandability,

• 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 Cat engines
- · Industry leading mechanical and electrical design
- · Industry leading motor starting capabilities
- High Efficiency

PRIME

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 	[] Dual element & heavy duty air cleaners
	Service indicator	[] Air inlet adapters & shut-off
Cooling	Radiator with guard	[] Radiator duct flange
-	Coolant drain line with valve	[] Jacket water heater
	Fan and belt guards	
	Cat® Extended Life Coolant*	
Exhaust	Dry exhaust manifold	[] Mufflers and Silencers
	Flanged faced outlets	[] Stainless steel exhaust flex fittings
		[] Elbows, flanges, expanders & Y adapters
Fuel	Secondary fuel filters	[] Water separator
	Fuel priming pump	[] Duplex fuel filter
	Flexible fuel lines	
	Fuel cooler*	
Generator	Class H insulation	[] Oversize & premium generators
	Cat digital voltage regulator (CDVR) with kVAR/PF	[] Winding temperature detectors
	control, 3-phase sensing	[] Bearing temperature detectors
	Reactive droop	[] Anti-condensation heaters
Power Termination	Bus bar (NEMA or IEC mechanical lug holes)	[] Circuit breakers, UL listed, 3 pole with shunt
	• Top cable entry	trip,100% rated, manual or electrically operated []
		Circuit breakers, IEC compliant, 3 or 4 pole with shunt
		trip, manual or electrically operated
		[] Bottom cable entry
		[] Power terminations can be located on the right, left
		and/or rear as an option.
Governor	• ADEM™ 3	[] Load share module
Control Panels	• EMCP 3.1	[] EMCP 3.2 [] EMCP 3.3
	User Interface panel (UIP) - wall mounted	[] Option for right or left mount UIP
	AC & DC customer wiring area (right side)	[] Local & remote annunciator modules
	Emergency stop pushbutton	[] Digital I/O Module
		[] Generator temperature monitoring & protection
		[] Remote monitoring software
Lube	Lubricating oil and filter	[] Oil level regulator
	Oil drain line with valves	[] Deep sump oil pan
	• Fumes disposal	[] Electric & air prelube pumps
	Gear type lube oil pump	[] Manual prelube with sump pump
		[] Duplex oil filter
Mounting	Rails - Engine / generator / radiator mounting	[] Isolator removal
	Rubber anti-vibration mounts (shipped loose)	[] Spring-type vibration isolator (shipped loose)
		[] IBC Isolators
Starting/Charging	• 24 volt starting motor(s)	[] Battery chargers (5 or 10 amp)
- tai ting, endiging	Batteries with rack and cables	[] 45 amp charging alternator
	Battery disconnect switch	[] Oversize batteries
		[] Ether starting aid
		[] Heavy duty starting motors
		[] Barring device (manual)

SPECIFICATIONS

CAT GENERATOR

Cat Generator Frame size......1468 Excitation.....Internal Excitation Pitch......0.6667 Number of poles......4 Number of bearings...... Single bearing Number of Leads.....006 Insulation..... UL 1446 Recognized Class H with tropicalization and antiabrasion Consult your Caterpillar dealer for available voltages IP Rating.....IP23 Alignment......Pilot Shaft Overspeed capability......150 Wave form Deviation (Line to Line)...... 002.00 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

3512B TA, V-12, 4-Stroke Water-cooled Diesel				
Bore	170.00 mm (6.69 in)			
Stroke	190.00 mm (7.48 in)			
Displacement	51.80 L (3161.03 in³)			
Compression Ratio				
Aspiration	TA			
Fuel System	Electronic unit injection			
Governor Type	ADEM3			

CAT EMCP 3 SERIES CONTROLS

- EMCP 3.1 (Standard)
- EMCP 3.2 / EMCP 3.3 (Option)
- Single location customer connector point
- True RMS metering, 3-phase
- Controls
 - Run / Auto / Stop control
 - Speed Adjust
 - Voltage Adjust
 - Emergency Stop Pushbutton
 - Engine cycle crank
- Digital Indication for:
 - RPM
- Operating hours
- Oil Pressure
- Coolant temperature
- System DC volts
- L-L volts, L-N volts, phase amps, Hz
- ekW, kVA, kVAR, kW-hr, %kW, PF (EMCP 3.2 / 3.3)
- Shutdowns with common indicating light for:
 - Low oil pressure
 - High coolant temperature
 - Low coolant level
 - Overspeed
 - Emergency stop
 - Failure to start (overcrank)

Programmable protective relaying functions: (EMCP 3.2

- & 3.3)
 - Under and over voltage
 - Under and over frequency
 - Overcurrent (time and inverse time)
 - Reverse power (EMCP 3.3)
- MODBUS isolated data link, RS-485 half-duplex (EMCP
- 3.2 & 3.3)
- Options

 Vandal door
- Local annunciator module
- Remote annunciator module
- Input / Output module
- RTD / Thermocouple Modules
- Monitoring software

PRIME 1200 ekW 1500 kVA

50 Hz 1500 rpm 400 Volts

FAT®

TECHNICAL DATA

Open Generator Set 1500 rpm/50 Hz/400 Volts	DM6637	
Low Fuel Consumption		
Generator Set Package Performance	4500 11/4	
Genset Power rating @ 0.8 pf	1500 kVA	
Genset Power rating with fan	1200 ekW	
Coolant to aftercooler		
Coolant to aftercooler temp max	30 ° C	86 ° F
Fuel Consumption		
100% load with fan	308.8 L/hr	81.6 Gal/hr
75% load with fan	232.5 L/hr	61.4 Gal/hr
50% load with fan	162.3 L/hr	42.9 Gal/hr
Cooling System ¹		
Air flow restriction (system)	0.12 kPa	0.48 in. water
Engine Coolant capacity with radiator/exp. tank	286.8 L	75.8 gal
Engine coolant capacity	156.8 L	41.4 gal
Radiator coolant capacity	130.0 L	34.3 gal
Inlet Air		
Combustion air inlet flow rate	108.3 m³/min	3824.6 cfm
Exhaust System		
Exhaust stack gas temperature	392.4 ° C	738.3 ° F
Exhaust gas flow rate	253.2 m³/min	8941.7 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)	480 kW	27298 Btu/min
Heat rejection to exhaust (total)	1030 kW	58576 Btu/min
Heat rejection to aftercooler	331 kW	18824 Btu/min
Heat rejection to atmosphere from engine	111 kW	6313 Btu/min
Heat rejection to atmosphere from generator	51.3 kW	2917.4 Btu/min
Alternator ²		
Motor starting capability @ 30% voltage dip	4282 skVA	
Frame	1468	
Temperature Rise	125 ° C	225 ° F
Lube System		
Sump refill with filter	310.4 L	82.0 gal
Emissions (Nominal) ³		
NOx mg/nm3	3243.7 mg/nm ³	
CO mg/nm3	698.4 mg/nm ³	
HC mg/nm3	69.9 mg/nm ³	
PM mg/nm3	32 mg/nm ³	

¹ For ambient and altitude capabilities consult your Cat 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, IEC60034-1, ISO3046, ISO8528, NEMA MG 1-22, NEMA MG 1-33, UL508A, 72/23/EEC, 98/37/EC, 2004/108/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 the prime rated ekW with 1600 kVA overload capability available for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year. Prime power in accordance with ISO 3046. 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 J1349 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 Cat representative for details. For information regarding Low Sulfur fuel and Biodiesel capability, please consult your Cat dealer.



DIMENSIONS

Package Dimensions				
Length	5350.6 mm	210.65 in		
Width	1974.9 mm	77.75 in		
Height	2342.0 mm	92.2 in		
Weight	12 218 kg	26,936 lb		

NOTE: For reference only - do not use for installation design. Please contact your local dealer for exact weight and dimensions. (General Dimension Drawing #2858789).

Performance No.: DM6637

Feature Code: 512DE6H

Gen. Arr. Number: 2523820

Source: U.S. Sourced

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Materials and specifications are subject to change without notice. The International System of Units (SI) is used in this publication.

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