
DIESEL GENERATOR SET

CATERPILLAR®

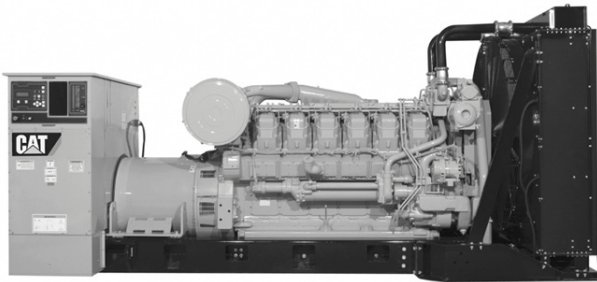


Image shown may not reflect actual package.

PRIME

**1360 e kW 1700 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

DESIGN CRITERIA

- The generator set accepts 100% rated load in one step.

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

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

CAT 3512B-HD 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 CONTROL PANELS

- Simple user friendly interface and navigation
- Scalable system to meet a wide range of customer needs
- Integrated Control System and Communications Gateway

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FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

| System | Standard | Optional |
|-------------------|---|---|
| Air Inlet | <ul style="list-style-type: none"> • Single element canister type air cleaner | <ul style="list-style-type: none"> • Dual element & heavy duty air cleaners (with pre-cleaners) • Air inlet adapters & shutoff |
| Cooling | <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • Radiator with 50°C ambient capability • Radiator removal • Heat exchanger and expansion tank • Radiator duct flange • Coolant level switch gauge • Jacket water heater |
| Exhaust | <ul style="list-style-type: none"> • Stainless steel exhaust flex and ANSI outlet flange | <ul style="list-style-type: none"> • Mufflers (10, 20 & 35 dba) |
| Fuel | <ul style="list-style-type: none"> • Primary & secondary fuel filters • Fuel priming pump • Flexible fuel lines | <ul style="list-style-type: none"> • Fuel cooler • Primary fuel filter with fuel water separator |
| Generator | <ul style="list-style-type: none"> • Class H insulation • Class F temperature (105°C prime/130°C standby) • Reactive droop • CAT digital voltage regulator (CDVR) with KVAR/PF control, 3-phase sensing • Bus bar connections • Winding temperature detectors • Anti-condensation space heaters • Segregated low voltage (AC/DC) wiring panel | <ul style="list-style-type: none"> • Oversize & premium generators |
| Power Termination | <ul style="list-style-type: none"> • Bus bar (NEMA and IEC mechanical lug holes)- right side standard • Top and bottom cable entry | <ul style="list-style-type: none"> • Circuit breakers, UL listed, 3 pole 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 terminations can be located on the left and/or rear as an option. Also, multiple circuit breakers can be ordered (up to 2) |
| Governor | <ul style="list-style-type: none"> • ADEM™ II | <ul style="list-style-type: none"> • Low emissions conversion • Load share governor |
| Control Panels | <ul style="list-style-type: none"> • EMCP II+ | <ul style="list-style-type: none"> • EMCP II+ with Auto-Paralleling • Switchgear conversion • Customer Communication Module • Local alarm & remote annunciator modules |
| Lube | <ul style="list-style-type: none"> • Lubricating oil and filter • Oil drain line with valve; piped to edge of base frame • Fumes disposal; piped to front of radiator | <ul style="list-style-type: none"> • Manual prelube with sump pump • Electric & air prelube pumps • Oil level regulator |
| Mounting | <ul style="list-style-type: none"> • Rails- engine/generator/radiator mounting • Anti-vibration mounts (shipped loose) • Rubber anti-vibration mounts (shipped loose) | <ul style="list-style-type: none"> • Isolator removal • Spring-type vibration isolator |
| Mounting | <ul style="list-style-type: none"> • 330 mm (13 in) structural steel rails • Spring-type, anti-vibration mounts (shipped loose) | |
| Starting/Charging | <ul style="list-style-type: none"> • 45 amp charging alternator • Energize to run (ETR) fuel shutoff solenoid • 24 volt starting motor(s) • Battery with rack, cables and disconnect switch | <ul style="list-style-type: none"> • Battery chargers (5 or 10 Amp) • Oversize batteries • Ether starting aids • Heavy duty starting motors • Barring device (manual) |

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SPECIFICATIONS

CAT GENERATOR

| | |
|--|--|
| Caterpillar Generator | |
| Frame size..... | 826 |
| Excitation..... | Permanent Magnet |
| Pitch..... | 0.7143 |
| Number of poles..... | 4 |
| Number of bearings..... | 2 |
| Number of Leads..... | 6 |
| Insulation..... | UL 1446 Recognized Class H with tropicalization and antiabrasion |
| Alignment..... | Closed Coupled |
| Overspeed capability - % of rated..... | 180 |
| Wave form..... | 003.00 |
| Paralleling kit/Droop transformer..... | Standard |
| Voltage regulator.3 Phase sensing with selectable 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 HD, 4-stroke-cycle watercooled diesel | |
| Bore - mm..... | 170.00 mm (6.69 in) |
| Stroke - mm..... | 215.00 mm (8.46 in) |
| Displacement - L..... | 58.56 L (3573.55 in ³) |
| Compression ratio..... | 15.5:1 |
| Aspiration..... | TA |
| Fuel system..... | Electronic unit injection |
| Governor type..... | Caterpillar ADEM control system |

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

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TECHNICAL DATA

| Open Generator Set - - 1500 rpm/50 Hz/400 Volts | DM6493 | |
|---|---|---|
| Low Fuel Consumption | | |
| Generator Set Package Performance Genset Power rating @ 0.8 pf Genset Power rating with fan | 1700 kVA 1360 ekW | |
| Coolant to aftercooler Coolant to aftercooler temp max | 90 ° C | 194 ° F |
| Fuel Consumption 100% load with fan 75% load with fan 50% load with fan | 352.4 L/hr 263.8 L/hr 183.9 L/hr | 93.1 Gal/hr 69.7 Gal/hr 48.6 Gal/hr |
| Cooling System¹ Air flow restriction (system) Engine coolant capacity | 0.12 kPa 156.8 L | 0.48 in. water 41.4 gal |
| Inlet Air Combustion air inlet flow rate | 111.1 m ³ /min | 3923.5 cfm |
| Exhaust System Exhaust stack gas temperature Exhaust gas flow rate Exhaust flange size (internal diameter) Exhaust system backpressure (maximum allowable) | 485.9 ° C 294.4 m ³ /min 203.2 mm 6.7 kPa | 906.6 ° F 10396.6 cfm 8.0 in 26.9 in. water |
| Heat Rejection Heat rejection to coolant (total) Heat rejection to exhaust (total) Heat rejection to aftercooler Heat rejection to atmosphere from engine Heat rejection to atmosphere from generator | 617 kW 1326 kW 213 kW 129 kW 47.9 kW | 35089 Btu/min 75409 Btu/min 12113 Btu/min 7336 Btu/min 2724.1 Btu/min |
| Alternator² Motor starting capability @ 30% voltage dip Frame Temperature Rise | 4212 skVA 826 80 ° C | 144 ° F |
| Emissions (Nominal)³ NOx mg/nm ³ CO mg/nm ³ HC mg/nm ³ PM mg/nm ³ | 3015.3 mg/nm ³ 330.6 mg/nm ³ 41.8 mg/nm ³ 35 mg/nm ³ | |

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 40° C (104° F) 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.

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RATING DEFINITIONS AND CONDITIONS

Meets or Exceeds International Specifications: AS1359, CSA, IEC60034, ISO 3046, ISO 8528, 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 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 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 ISO 3046 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 | 6032.7 mm | 237.51 in |
| Width | 2204.5 mm | 86.79 in |
| Height | 2529.0 mm | 99.57 in |
| Weight | 12 066 kg | 26,601 lb |

NOTE: For reference only - do not use for installation design. Please contact your local dealer for exact weight and dimensions. (General Dimension Drawing #2066001).

Performance No.: DM6493

Feature Code: 512DE1Y

Gen. Arr. Number: 1662716

Source: European Sourced

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