



The 3516B diesel generator sets are made to meet your mission critical, continuous, standby and prime applications. Producing reliable power from 1750 to 2500 kVA at 50 Hz, each generator set has been designed to meet ISO 8528-5 transient response requirements and to accept 100 percent rated load in one step. Our integrated control system keeps you connected through on-site and remote monitoring options. We offer easy-to-use EMCP control panel options, combining your management and diagnostic tools in one. The EMCP 4.4 controller provides multi-generator set paralleling capability, giving you the ability to add generator sets to match your growing power requirements. It's not just quality that matters but customization, choose from a broad range of accessories and bolt-on system expansion attachments. Find flexible packaging to fit unique spatial requirements and environmental conditions. Our 3516B generator sets are developed for such prerequisites, so that you can meet your specific power needs.

**Specifications**

Generator Set Specifications	
Minimum Rating	1750 kVA
Maximum Rating	2250 kVA
Emissions/Fuel Strategy	Low Fuel, Low Emissions
Voltage	380 to 11000 Volts
Frequency	50 Hz
Speed	1500 rpm
Duty Cycle	Standby, Mission Critical, Prime, Continuous

Engine Specifications	
Engine Model	3516B TA, V-16, 4-Stroke Water-Cooled Diesel
Bore	170 mm / 6.69 in
Stroke	190 mm / 7.48 in
Displacement	4210.64 l / 69 in
Compression Ratio	14.0:1
Aspiration	TA
Fuel System	Electronic unit injection
Governor Type	Adem™ 3

Generator Set Dimensions	
Length - Minimum	5928 mm / 233.4 in
Length - Maximum	251.7 mm / 6377 in
Width - Maximum	2286 mm / 90 in

Height - Maximum	2367 mm	93.2 in
Dry Weight - Genset (minimum)	14470 kg	31900 lb
Dry Weight - Genset (maximum)	18290 kg	40320 lb

## Benefits and Features

### Cat Generator Set Package

- Cat generator set packages have been fully prototype tested
- Accepts 100% block load in one step and meets NFPA 110 loading requirements
- Conform to ISO 8528-5 steady state and transient response requirements

### Cat 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

### SR5 Alternator

- Superior motor starting capability minimizes need for oversizing alternator
- Designed to match performance and output characteristics of Cat diesel engines
- Robust Class H insulation

### EMCP 4 Control Panel

- User-friendly interface and navigation
- Scalable system to meet a wide range of installation requirement
- Expansion modules and site-specific programming for specific customer requirements

### Cooling System

- Designed to operate in standard ambient temperatures up to 50°C (122°F)
- Contact your Cat Dealer for specific ambient and altitude capabilities

### Certifications

- IBC Seismic Certification
- EU Certification of Conformance (CE)
- EEC Declaration of Conformity

### One Safe Source

- Components used in the generator set are selected at the design stage to provide optimum package performance
- The generator set is fully assembled at a Caterpillar facility following our quality guidelines
- Each generator set package is tested before leaving the Caterpillar facility
- Cat product support, including dealer service, parts and warranty covers the entire Cat power system

### World Wide Product Support

- Cat dealers have over 1,800 dealer branch stores operating in 200 countries
- Your local Cat dealer provides extensive post-sale support, including maintenance and repair agreements

## Standard Equipment

### Air Inlet System

- Air Cleaner; single element canister type

### Air Inlet

- Air Cleaner

### Cooling

- Package mounted radiator

### Exhaust

- Exhaust flange outlet

### Fuel

- Fuel priming pump
- Secondary fuel filter
- Primary fuel filter with integral water separator

### Generator

- IP23 Protection
- Matched to the performance and output characteristics of Cat engines

### Power Termination

- Bus Bar

### Control Panels

- Programmable protective relaying functions:
- Low coolant temperature
- Reverse power (kW) (32)
- Low coolant level
- Environmental sealed front face
- KVAR/PF modes
- 6 Customer programmable digital inputs
- Reverse reactive power (kVAr) (32RV)
- Reactive droop capability
- Over / under voltage (2 7/ 59)
- 0 True RMS AC metering, 3-phase, +/-2% accuracy
- EMCP 4.2B
- Operating hours
- Power Factor (per phase & average)
- Coolant temperature
- Digital indication for:
- kVA (per phase, average & percent)
- 3-phase voltage sensing
- 4 Programmable relay outputs (Form A)
- 4 Programmable relay outputs (Form A)
- kW (per phase, average & percent)
- Failure to start (overcrank)

- Alarm acknowledge
- Low oil pressure
- Oil pressure (psi, kPa or bar)
- Accessory module data link
- Generator set packages include Caterpillar's Voltage Regulator
- 24 Volt DC operation
- Auto/start/stop control
- Min / max exciter
- Amps (per phase & average)
- Controls:
- Speed adjust
- Limiter and exciter diode monitor
- Generator mounted - rear facing
- Overspeed - Emergency stop
- RPM - DC volts
- Cat Connect
- Warning / shutdown with common LED indication of shutdowns for:
- High coolant temperature
- DC volts
- PLC functionality
- Serial annunciator module data link
- kW-hr (total) - kVAR-hr (total)
- 1 Programmable digital outputs
- Customizable screens
- Frequency (Hz)
- IVR includes:
- Text alarm/event descriptions
- 1 Programmable relay outputs (Form C
- Over / under frequency (81 o/u)
- Load histogram feature
- Communications:
- 3 Analog inputs
- RFI suppression
- Overcurrent (50 / 51)
- Emergency stop pushbutton
- Engine cool-down timer
- Volts (L-L & L-N)
- Number of I/O varies on options selected:

- Emergency stop - Failure to start (overcrank)
- Engine cycle crank
- Customer data link (Modbus RTU)
- Lamp test

### Control Panel

- EMCP 4 Genset Controller

### Cooling System

- ATAAC - 3516E Package Radiators shipped installed
- Certified standard PGS provided

### Exhaust System

- Flanged faced outlet(s)
- Dry exhaust manifold

### Fuel System

- Fuel priming pump
- Flexible fuel lines - shipped loose
- Secondary fuel filters
- Fuel cooler; not included with packages without radiator

### General

- Paint - Caterpillar Yellow except rails and radiators gloss black
- Right hand servicing
- SAE Standard rotation
- Flywheel and flywheel housing - SAE No. 00
- Caterpillar yellow with high gloss black rails and radiator

### Generator and Attachments

- Low Voltage:
- 6 Leads
- Internal excitation
- Form wound
- Class H insulation, Class F temperature rise at 40C ambient (105C prime / 130C standby)
- Permanent magnet
- Winding temperature detectors
- Anti Condensation Space Heater
- Permanent magnet
- NEMA Class H insulation
- Class H temperature rise at 40C ambient (125C prime / 150C standby)
- Busbar connections, right side extension box, bottom cable entry
- NEMA standard hole pattern
- Winding temperature detectors

- 3 Phase brushless, salient pole
- Medium Voltage:
- High Voltage:
- Form wound - Permanent magnet
- Random wound
- NEMA Class H insulation, Class H temperature rise at 40C ambient (125C prime / 150C standby)
- Busbar connections, top center mounted, top cable entry
- NEMA standard hole pattern
- Winding temperature detectors

### **Governing System**

- ADEM A3

### **Literature**

- English

### **Lubrication System**

- Gear type lube oil pump
- Oil filter, filler and dipstick
- Integral lube oil cool
- Lubricating oil
- Oil drain lines and valve
- Fumes disposal

### **Mounting System**

- Anti-vibration mounts (shipped loose)
- Rubber anti-vibration mounts (shipped loose)
- Rails - engine / generator / radiator mounting

### **Starting System**

- 24 Volt electric starting motor
- Battery disconnect switch
- Battery and battery rack w/cables
- 45 Amp charging alternator

## **Optional Equipment**

### **Control System**

- EMCP 4.3, EMCP 4.4

### **Exhaust**

- Exhaust mufflers

### **Air Inlet System**

- Single element filter
- Dual element air cleaner

### Generator

- Anti-condensation heater
- Permanent magnet excitation (PMG)
- Oversize and premium generators
- Internal excitation (IE)

### Cooling System

- Optional installed radiators
- Coolant
- Standard ambient ATAAC radiators
- Optional installed ATAAC radiators
- Water level switch gauges
- Standard ambient radiators

### Power Termination

- Circuit breakers, UL listed
- Circuit breakers, IEC compliant

### Crankcase System

- Explosion relief valves
- No explosion relief valves
- Ventilation system

### Control Panels

- Load share module
- Generator temperature monitoring & protection
- Remote monitoring software
- EMCP 4.2
- EMCP 4.3
- EMCP 4.4
- Digital I/O module

### Exhaust System

- Y-Adapters
- Flange and exhaust expanders
- Flanges
- Exhaust offset
- Tier 4 clean emissions module
- Tier 4 clean emission MOD Kits
- Mufflers
- Clean emission parts
- Tier 4 dosing cabinet
- Elbows

- Flexible fittings

### Fuel System

- Primary Fuel Filter
- Fuel Priming Pumps (Tier 4) - Manual or electric

### General

- US aid emblem
- Special paint (Colors other than Caterpillar yellow or high performance paints)
- The following options are based on regional and product configuration:
- EEC Declaration of Conformity
- Integral & sub-base fuel tanks
- CSA Certification
- Automatic transfer switches (ATS)
- Enclosures: sound attenuated, weather protective
- EU Certificate of Conformance (CE)
- Seismic Certification per applicable building codes: IBC 2000, IBC 2003, IBC 2006, IBC 2009, CBC 2007
- Integral & sub-base UL listed dual wall fuel tanks
- UL 2200 package

### Starting/Charging

- Jacket water heater
- Charging alternator
- Battery chargers
- Oversize batteries
- Heavy-duty starting system
- Air starting motor with control and silencer

### Generators and Attachments

- Low / Medium voltage: 380/400/415 volts, 3 phase 1500 rpm. RW, PM, No. of Leads = 6, Pitch = .6667: 1600 and 1800 Frames
- Thermostate for space heater
- Space heater
- Low / Medium voltage: 380/400/415 volts, 3 phase 1500 rpm. RW, IE, No. of Leads = 6, Pitch = .6667: 1600 Frame
- Generator conversion
- Differential current transformers (DCT) 8.7 kV and 15 kV classes
- Alternator air cleaner
- Differential current transformers (DCT)

### Instrumentation

- Pyrometer and thermocouples

### Lubrication System



- Oil level regulator
- Prelube pumps
- Lube oil in standard sump

### Mounting System

- IBC vibration isolators
- Spring type vibration isolators
- Puck style low efficiency isolators

### Mounting

- Spring-type vibration isolator
- IBC isolators
- Rubber anti-vibration mounts

### Power Connections

- Neutral ground connections
- Center post busbar
- Right side power connections
- Ground cables between generator and terminal box
- Rear power connections
- 2700 Frame, four lead, four terminal
- Left side power connections
- Low voltage circuit breakers

### Special Tests / Reports

- PGS test report @ 0.8 power factor
- Torsional vibration analysis reports
- PGS test report @ 1.0 power factor
- Fuel consumption test
- generator test report
- Standard engine test charge
- OSHPD certification
- Generator set fuel consumption test
- Canadian Standards Association certification
- IBC certification

### Starting and Charging

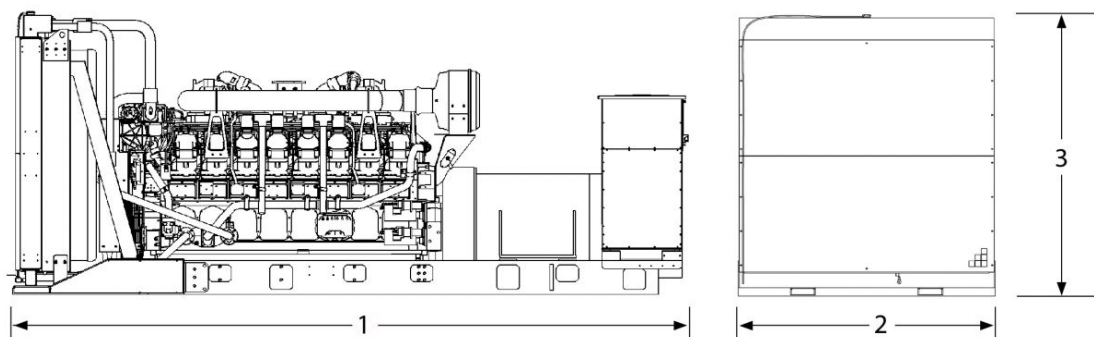
- Starter cover
- 24 Volt battery set - Dry
- Electric starting motors
- Engine barring device
- Air starting motors
- Jacket water heaters

- Air pressure regulator
- 10, 20, 35 and 50 amp battery chargers

### Extended Service Coverage

- Platinum, Gold and Silver coverage

### Dimensional Art



Dimensions	Dimension 1	Dimension 2	Dimension 3
Genset dimensions	6377 mm (251.7 in)	2286 mm (90.0 in)	2367 mm (93.2 in)

The International System of Units (SI) is used in this publication. CAT, CATERPILLAR, their respective logos, ADEM, EUI, S•O•S, "Caterpillar Yellow" and the "Power Edge" trade dress, as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.