

# Product Specifications For 3516E (50 Hz)



## Generator Set Specifications

Maximum Rating	3500 kVA
Minimum Rating	3000 kVA
Emissions/Fuel Strategy	Tier 2 Equivalent - 1800 rpm
Voltage	380 to 11000 volts
Frequency	50 Hz
Speed	1800 rpm
Duty Cycle	Standby, Mission Critical

## Engine Specifications

Engine Model	3516E, V-16, 4-Stroke Water-Cooled Diesel
Bore	170 mm
Stroke	215 mm
Displacement	78.1 l
Compression Ratio	14.7:1
Aspiration	ATAAC
Fuel System	Electronic Unit Injection
Governor Type	Adem™5

## Generator Set Dimensions

Length - Minimum	8513 mm
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<b>Length - Maximum</b>	8513 mm
<b>Width - Minimum</b>	2640 mm
<b>Width - Maximum</b>	2460 mm
<b>Height - Minimum</b>	3342 mm
<b>Height - Maximum</b>	3342 mm
<b>Dry Weight - Genset (minimum)</b>	21600 kg
<b>Dry Weight - Genset (maximum)</b>	23000 kg

## 3516E (50 Hz) Standard Equipment

### Air Inlet System

Air cleaner; single element canister type

### Control System

Text alarm/event descriptions  
 Emergency stop pushbutton  
 IVR includes reactive droop capability  
 KVAR / PF modes  
 EMCP 4.2B  
 3 Phase voltage sensing  
 Generator mounted - rear facing  
 Generator set packages include:  
 24 Volt DC operation  
 Caterpillar's voltage regulator  
 RFI suppression  
 Environmental sealed front face  
 Limiter and exciter diode monitor  
 Min / max exciter  
 Controls:  
 Speed adjust  
 Alarm acknowledge  
 Auto/start/stop control  
 Engine cycle crank  
 Engine cool  
 Customizable screens  
 PLC functionality  
 Lamp test

Load histogram feature  
Accessory module data link  
Reverse power (kW) (32)  
6 Customer programmable digital inputs  
3 Phase  
+/- 2% accuracy  
High coolant temperature  
0 True RMS AC metering  
Programmable protective relaying functions:  
Reverse reactive power (kVAr) (32RV)  
Communications:  
Generator phase sequence  
Over/under voltage (27/59)  
Overcurrent (50/51)  
RPM  
Number of I/O varies on options selected  
Overspeed  
Serial annunciator module data link  
Low coolant temperature  
4 Programmable relay outputs (Form A)  
1 Programmable relay outputs (Form C)  
3 Analog inputs  
Over/under frequency (81 o/u)  
Digital indication for:  
Low coolant level  
Failure to start (overcrank)  
Cat connect  
1 Programmable digital outputs  
DC volts  
Operating hours  
Coolant temperature  
Oil pressure (psi, kPa or bar)  
Amps (per phase & average)  
Power factor (per phase & average)  
Frequency (Hz)  
Volts (L-L & L-N)  
kW (per phase, average & percent)  
kVA (per phase, average & percent)  
kVAr (per phase, average & percent)  
Warning/shutdown with common LED indication of shutdowns for: Low oil pressure - High coolant temperature - Overspeed - Emergency stop - Failure to start (overcrank) - Low coolant temperature - Low coolant level -  
Low oil pressure  
kW-hr (total)  
kVAr-hr (total)

## **Cooling System**

ATAAC - 3516E package radiators shipped installed

Certified standard PGS provided

## **Exhaust System**

Flanged faced outlet(s)

Dry exhaust manifold

## **Fuel System**

Secondary fuel filters

Fuel cooler; not included with packages without radiator

Flexible fuel lines - shipped loose

## **General**

Right hand servicing

Caterpillar yellow with high gloss black rails and radiator

SAE standard rotation

Flywheel and flywheel housing - SAE No. 00

## **Generator And Attachments**

NEMA standard hole pattern

Medium voltage:

Anti-condensation space heater

NEMA Class H insulation system, Class H temperature rise at 40C ambient (125C prime/150C standby)

Winding temperature detectors

High voltage:

Busbar connections, right side extension box, bottom cable entry

Form wound

Low voltage: Random wound - Internal excitation (IE) - Winding temperature detectors - NEMA Class H insulation system, Class H temperature rise at 40C ambient (125C prime/150C standby) - Busbar connections, top center mounted, top cable entry - NEMA standard hole pattern

6 Lead

Permanent magnet excitation (PMG)

3 Phase brushless, Salient pole

Class H insulation, Class F temperature rise at 40C ambient (105C prime / 130C standby)

## **Governing System**

ADEM A5

## **Literature**

Parts book

Operation & Maintenance Manual

## **Lubrication System**

Integral lube oil cool

Oil filter, filler and dipstick

Oil drain lines and valve

Gear type lube oil pump

Lubricating oil

Fumes disposal

## **Mounting System**

Rails - Engine/generator/radiator mounting

Anti-vibration mounts (shipped loose)

Rubber anti-vibration mounts - shipped loose

## **Starting System**

24 Volt electric starting motor

Battery disconnect switch

Battery and battery rack w/cables

45 Amp Charging alternator

## **3516E (50 Hz) Optional Equipment**

### **Control System**

EMCP 4.4

### **Air Inlet System**

Single element filter

Dual element air cleaner

### **Cooling System**

Standard ambient radiators

Water level switch gauges

Optional installed ATAAC radiators

Optional installed radiators

Coolant

Standard ambient ATAAC radiators

### **Crankcase System**

Ventilation system

No explosion relief valves

Explosion relief valves

### **Exhaust System**

Y Adapters

### **Fuel System**

Fuel priming pumps (Tier 4) - Manual or electric

Primary fuel filter

## **General**

Special paint (Colors other than Caterpillar yellow or high performance paints)  
US aid emblem

## **Generators And Attachments**

Space heater

Differential current transformers (DCT) 8.7 kV and 15 kV classes

Low / Medium voltage: 380/400/415 volts, 3 phase 1500 rpm. RW, IE, No. of Leads = 6, Pitch = .6667: 1600  
Frame

Alternator air cleaner

Thermostat for space heater

Low / Medium voltage: 380/400/415 volts, 3 phase 1500 rpm. RW, PM, No. of Leads = 6, Pitch = .6667: 1600  
and 1800 Frames

Generator conversion

## **Instrumentation**

Pyrometer and thermocouples

## **Lubrication System**

Oil level regulator

Prelube pumps

Lube oil in standard sump

## **Mounting System**

Puck style low efficiency isolators

Spring type vibration isolators

IBC vibration isolators

## **Power Connections**

Neutral ground connections

Center post busbars

Right side power connections

## **Special Tests / Reports**

Generator set fuel consumption test

PGS Test report @ 1.0 power factor

Standard engine test charge

Canadian Standards Association certification

Generator test report

IBC Certification

OSHPD Certification

Fuel consumption test

Torsional vibration analysis reports

PGS Test report @ 0.8 power factor

## **Starting And Charging**

Starter cover

Air pressure regulator

10, 20, 35 and 50 Amp Battery chargers

24 Volt battery set - Dry

Jacket water heaters

Air starting motors

Electric starting motors

Engine barring device

## **Extended Service Coverage**

Platinum, Gold and Silver coverage