

# Cat® XQP150 Rental Generator Set



**Prime 150 kVA (120 kW)**  
**50/60 Hz Switchable**  
**Best Specific Fuel Consumption**

Image shown may not reflect actual configuration.

## Specifications

Frequency Hz	Speed (rpm)	Voltage	Prime		Output Amps (A)	Breaker Rating (A)
			kVA	kW		
50	1500	415 / 240V	150	120	209	280
		400 / 230V	150	120	217	
		380 / 220V	150	120	228	
60	1800	480 / 277V	169	135	203	250
		440 / 254V	169	135	222	
		380 / 220V	160	128	243	
		240 / 139V	169	135	407	630
		220 / 127V	169	135	444	

Cat® C9 ACERT™ Diesel Engine	Metric	Imperial (English)
Configuration	Inline 6-cylinder, 4-Stroke-Cycle, Water Cooled, Diesel	
Bore	105 mm	4.13 in
Stroke	135 mm	5.31 in
Displacement	7.01 L	427 in <sup>3</sup>
Aspiration	Turbocharged-Aftercooled (TA)	
Compression Ratio	18.2:1	
Engine rpm	1500 – 1800	
Aftercooler Type	ATAAC	
Turbocharger	Single	
Fuel System	Direct Injection, Rotary Pump	
Governor Type	Electronic Governor, Mechanical Actuator	
Fuel	See Fuel Specification Table	

## Benefits & Features

### Rental-ready Features

- 24 hr dual wall fuel tank
- Forklift pockets
- Integrated heavy duty drag bar with robust skid plate base
- Externally certified single point lift
- Coolant and oil drains piped to baseframe
- Externally certified spark arrest silencer
- 50/60 Hz frequency switch via terminal link
- Optimized cable entry for easy hook-up
- Robust busbar connection for lugged cable connection
- Sound isolated side mounted control panel with integrated power distribution access
- AC protected by limit switch on distribution door

### Fuel/Emissions Strategy

- Best fuel efficiency

### Single-source Supplier

- Factory designed and fully prototype tested with torsional vibration analysis available
- ISO 9001:2000 compliant facility

### Cat C7.1 Diesel Engine

- Four-stroke diesel engine combines consistent performance and excellent fuel economy with minimum weight
- Electronic governor, mechanical actuator

### XQCP Control Panel

- Fully featured power metering, protective relaying, engine/generator control and monitoring
- Simple, user-friendly interface and navigation
- Single point interface for voltage and frequency adjustment

### Cat LC3100 Generator

- Designed to match performance and output characteristics of Cat diesel engines
- Coastal insulation protection
- Self (Shunt) excitation

### Available Options

- CE socket box with integrated MCB & RCBO protection
- Clipsal socket box with integrated MCB & RCBO protection
- 220-240V 3-phase 60 Hz configuration available with appropriately sized breaker and power cables.
- Anti condensation heater 110V or 230V AC
- Coolant heater 110V or 230V AC
- 12V battery charger
- Permanent Magnet Generator (PMG)
- Earth leakage detection
- Lube oil sump pump

### Automatic Voltage Regulator (AVR)

- Three-phase sensing
- Adjustable Volts-per-Hertz regulation
- Provides precise control, excellent block loading, and constant voltage in the normal operating range

### Enclosure

- Galvanized sheet steel construction
- Two coat polyester powder-coated finish
- 6 Access doors for improved service access
- Secure design with safety glass control panel viewing window and padlockable or keylock access doors
- Fuel fill, battery and controls accessible only through lockable access doors

### Environmental Considerations

- Dual wall base tank with 110% spill containment
- Bund Level alarm
- Low noise enclosure
- Inboard mounted 3-way valve for external fuel connection

### Cat Connect

- Fleet management and asset tracking\*

\*Subject to local certifications.

## Standard Equipment

### Generator

- LC3114J frame; 3-phase random wound, 12 lead, self excited, 2/3 pitch
- Coastal insulation protection (CIP)

### Cat C7.1 Diesel Engine

- Turbocharged, air-to-air aftercooler
- Electronic governor, mechanical actuator

### Air Filter

- Air cleaner, cyclonic/paper with dust cup and service indicator

### Cooling System

- Package mounted radiator with vertical air discharge
- High ambient performance
- Fully guarded pusher fan
- Low coolant level shutdown
- Coolant piped to base via radiator-mounted ball valve
- 50% glycol mix with corrosion inhibitor

### Charging System

- Charging alternator; 12V, heavy duty with integral regulator and belt guards

### Starting System

- Single 12V electric starting motor
- 2 x 12V 950CCA maintenance-free batteries (connected in parallel) with padlockable single-pole isolator switch

### Fuel System

- 24 hr dual wall fuel tank (based on 75% Prime load)
- Internal fuel fill
- Off-engine mounted Racor fuel water separator (30 micron) with secondary engine-mounted fuel filter
- Auxiliary connections for remote supply with 3-way valve
- 3-way valve internally mounted within banded area
- Mechanical fuel gauge
- Electronic fuel gauge with panel display, low fuel level warning and shutdown

### Control Panel

- XQCP set mounted digital controller
- 50/60 Hz frequency switch (via terminal link)
- AVR with D350 excitation module
- Panel & enclosure mounted emergency stop

### Distribution System

- Single robust steel enclosure for controls & distribution
- Separately hinged distribution door with 12V DC shunt trip safety switch
- 4 pole, 250A main circuit breaker
- Two-wire remote start/stop terminals and AC aux power connection for rapid starting

### Mounting System

- Heavy duty steel baseframe with integral fuel tank (dual wall)
- Provides 110% spill containment including all on-board fluids
- Forklift pockets
- Heavy duty drag bar with skid plates
- Generator set soft mounted using captive vibration mounts

### Enclosure

- Sound attenuating, galvanised sheet steel enclosure with exceptional noise reduction performance
- Interior walls, ceilings and ducts insulated with precision cut noise insulating materials
- Sealed quarter-turn compression latches with key or padlock capabilities
- Front and rear service access provided through hinged doors
- External single point lift
- Powder coated with Cat Rental Power decals

### Exhaust System

- Integrated certified spark arresting silencer with flexible connectors
- Outlet box mounted with vertical discharge

### Lube Oil System

- On-engine primary and secondary oil filters, dipstick and oil filler
- Open crankcase breather with fumes disposal container and drain point
- Oil piped to edge of baseframe with internally mounted ball valve
- 500 hour oil change requirement

### General

- Factory Tested
- Full manufacturer's warranty, O&M manuals

## Fuel Specifications

Specification Standard	Grade Class	Fuel Description
EN 590	Grade A to F & Class 0 to 4	European automotive fuel (DERV)
ASTM D975	1-D S15	U.S. special purpose light middle distillate
		15 ppm sulphur
ASTM D975	2-D S15	U.S. special purpose light middle distillate
		15 ppm sulphur
JIS K2204	No. 1	Japanese automotive diesel. Different classes correspond to season and district where used
	No. 2	
	No. 3	
	Special No. 3	
BS 2869	Class A2	Fuel oil for agriculture and industrial engines (red diesel)
MIL-DTL-83133 NATO F34	JP-8	Aviation kerosene fuels – acceptable when used with appropriate lubricity additive, and must meet minimum requirements of Caterpillar Specification for Diesel Fuel. The lubricity of these fuels must not exceed wear scar diameter of 0.52 mm (0.02047 in) as per ISO 12156-1
MIL-DTL-83133 NATO F35		
MIL-DTL-5624 NATO F44	JP-5	
MIL-DTL-38219 (USAF)	JP-7	
NATO XF63		
ASTM D1655	JET A	
	JET A1	
B5-B7		Blend of biodiesel meeting EN 14214 or ASTM D6751 with EN 590 or ASTM D975 standard mineral diesel fuels.
B7-B20		

## Technical Data

Cat Generator	
Frame size	LC3114J
Pitch	2/3
No. of poles	4
Excitation	Static regulated, brushless, self excited
Number of bearings	Single bearing, close coupled
Insulation	Class H
Temperature rise	125/40°C
Enclosure	Drip proof IP23
Overspeed capability — % of rated	25%
Voltage regulator	3-phase sensing with adjustable volts per hertz
Voltage regulation	Less than $\pm 0.5\%$
Wave form deviation	Less than 2%
Telephone Harmonic Factor (THF)	
Total Harmonic Content (THC)	Less than 2%

### Technical Data (continued)

Cat Generator Set			
	TMI Performance No. Units	Prime – 50 Hz	Prime – 60 Hz
<b>Power Rating</b>	kVA (kW)	150 (120)	172 (137)
<b>Performance Specification</b>			
<b>Lubricating System</b>			
Oil pan capacity	L (gal)	12.4 (3.3)	12.4 (3.3)
<b>Fuel System</b>			
Fuel consumption — 100% Load	L/hr (gal/hr)	59.7 (8.8)	38.2 (10.1)
75% Load	L/hr (gal/hr)	24.7 (6.5)	29.1 (7.7)
50% Load	L/hr (gal/hr)	16.4 (4.3)	19.1 (5.0)
Fuel tank capacity	L (gal)	590 (156)	590 (156)
Running time @ 75% rating	Hr	24	20.3
<b>Cooling System</b>			
Ambient capability	°C (°F)	51 (124)	49 (120)
Engine & radiator coolant capacity	L (gal)	21 (5.5)	21 (5.5)
Engine coolant capacity	L (gal)	9.5 (2.5)	9.5 (2.5)
<b>Air Requirements</b>			
Combustion air flow	m³/min (cfm)	10.2 (360)	14.4 (508.2)
<b>Exhaust System</b>			
Exhaust flow at rated — dry	m³/min (cfm)	23.8 (839.8)	30.6 (1079)
Exhaust temperature at rated kW	°C (°F)	484 (903)	407 (764.6)
<b>Noise Rating (with enclosure)*</b>			
<b>Sound Power*</b>			
@ 7 meters @ 75% load	dB(A)	93	97
@ 7 meters @ 100% load	dB(A)	65.4	68.7
@ 1 meter @ 75% load	dB(A)	66.3	68.7
@ 1 meter @ 100% load	dB(A)	74.7	78.3
	dB(A)	75.6	78.1

\*Guaranteed sound power as per 2000/14/EC.

## Dimensions and Weights

Length (L) mm (in)	Width (W) mm (in)	Height (H) mm (in)	With Lube Oil & Coolant Kg (lb)	With Fuel (Full Tank), Lube Oil & Coolant Kg (lb)
3520 (138.6)	1120 (44.1)	2226 (87.6)	2547 (5615)	3124 (6887)

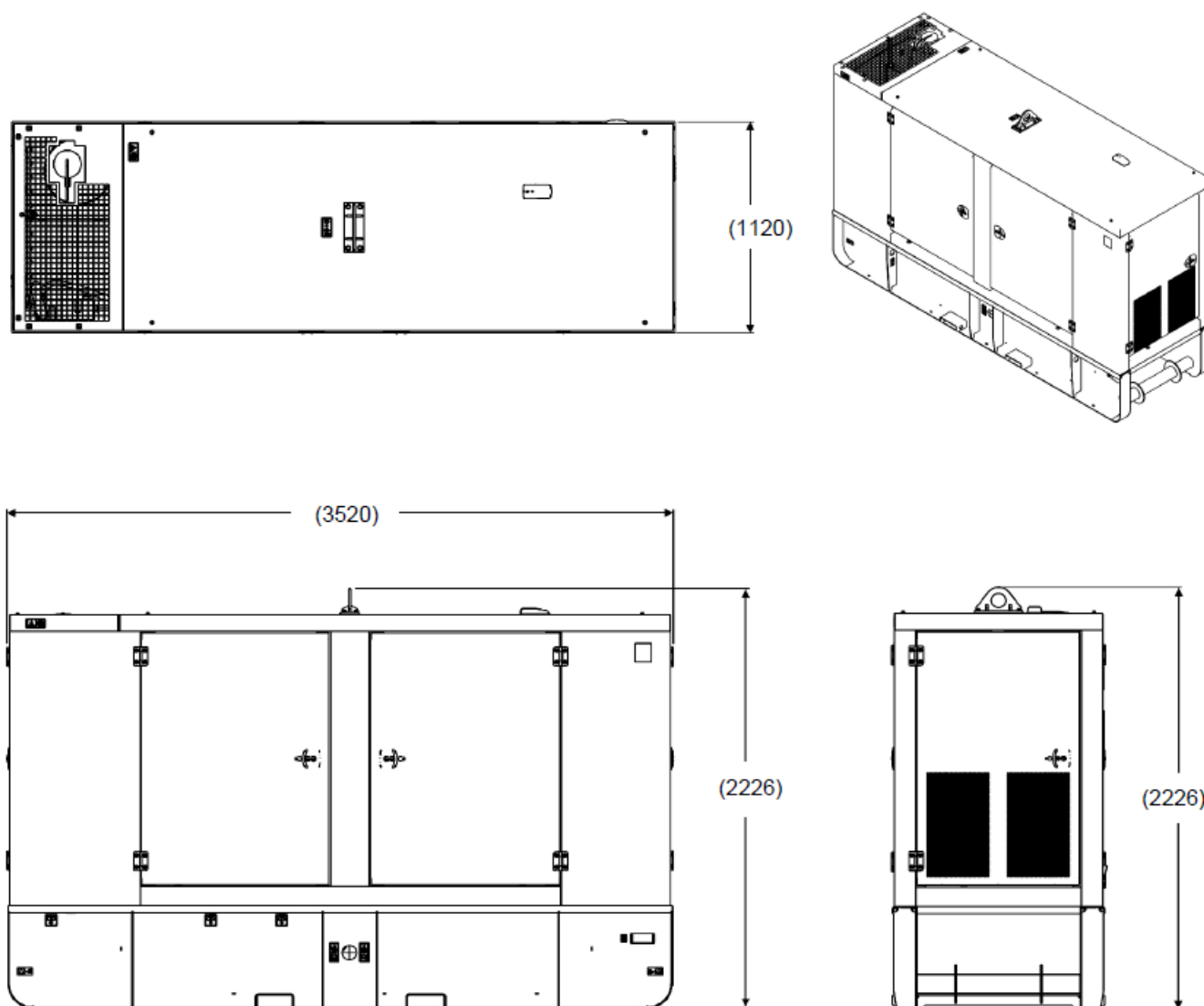
## Socket Box Options

Sockets	15A	16A	32A	50A	63A	125A
Clipsal*	1	–	–	2	–	–
CEE Form*	–	2x1ph+N+E	2x3ph+N+E	–	1x3ph+N+E	1x3ph+N+E

\* Busbar connection is standard. Distribution sockets are optional.

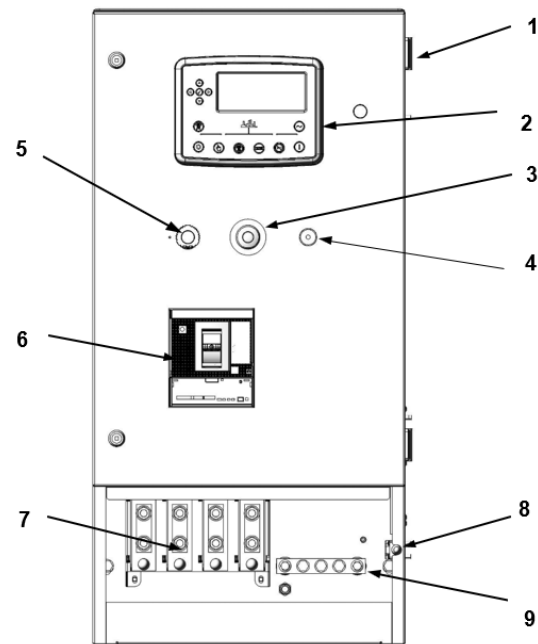
## General Layout Images

Pictures shown may not reflect actual configuration



## Control Panel & Power Distribution Layout

Item	Description
1	Steel enclosure with hinged, lockable door
2	XQCP Control Panel
3	Emergency Stop button
4	Alarm
5	Service tool connector
6	Circuit breaker. 4-pole molded case
7	Main bus connection (bus bars with M12 studs)
8	Micro safety switch for bus bar door
9	Main earth terminal



## Ratings Definition

**Designed to Meet Specifications:** ISO 8528, EN 12601, EN 60204-1, ISO 3046, IEC 60034.

**Ratings** are based on SAE J1349 standard conditions. These ratings also apply at ISO 3046 standard conditions.

**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 kW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year.

**Fuel rates** are based on fuel oil of 35° API {16°C (60°F)} gravity having an LHV of 42780 kJ/kg (18390 Btu/lb) when used at 29°C (85°F) and weighing 838.9 g/litre (7.001 lb/U.S. gal).

Additional ratings may be available for Specific customer requirements, contact your Caterpillar Representative for details. For information regarding Low Sulphur fuel and biodiesel capability and consult your Cat Dealer.

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