



Prime 120 kW, 150 kVA
50/60 Hz Switchable
Low Fuel Consumption

Image shown may not reflect actual configuration

Specifications

Frequency	Voltage	Prime kW (kVA)	Speed rpm
50 Hz	380/220 V	120 (150)	1500
	400/230 V	120 (150)	1500
	415/240 V	120 (150)	1500
60 Hz	380/220 V	128 (160)	1800
	440/254 V	137 (172)	1800
	480/277 V	137 (172)	1800
	220/127 V	137 (172)	1800
	240/138 V	137 (172)	1800

Cat® C7.1 Diesel Engine	Metric	Imperial (English)
Configuration	I-6, 4-Stroke-Cycle Water Cooled Diesel ATAG2	
Bore	105 mm	4.13 in
Stroke	135 mm	5.31 in
Displacement	7.01 L	427 in ³
Aspiration	Turbocharged-Aftercooled	
Compression Ratio	18.2:1	
Engine rpm	1500-1800	
Aftercooler Type	ATAAC	
Turbocharger	Single	
Fuel System	DP210	
Governor Type	A4:E2	

Benefits & Features

Fuel/Emissions Strategy

- Cat® C7.1 high performance diesel engine
- Low Fuel Consumption

Single-source Supplier

- Factory designed and fully prototype tested with certified 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 governed engine

Cat EMCP 4.2B Control Panel

- Fully featured power metering, protective relaying, and engine/generator control and monitoring
- Simple user-friendly interface and navigation
- Automatic set-point adjustment integrated with voltage and frequency changes

Cat LC3100 Generator

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

Integrated Voltage Regulator (IVR)

- 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
- Six lockable (padlock/keylock) access doors
- Safety glass control panel viewing window with key lock or padlockable access doors
- Fuel fill and battery can only be reached through lockable access doors

Reduced Environmental Impact

- Low Fuel Consumption
- Dual wall base tank with 110% spill containment
- Bund level alarm

Rental-ready Features

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

Available Options

- CE socket box with integrated MCB and RCBO protection
- Clipsal socket box with integrated MCB and RCBO protection
- Anti-condensation heater 110 or 230 VAC
- Coolant heater 110 or 230 VAC
- 12V battery charger
- Permanent Magnet Generator (PMG)
- Earth leakage
- CE labeling
- Lube oil sump pump
- UL/CSA listed 120V, 20 amp battery charger, shock mounted and enclosed in dust-proof housing

Standard Equipment

Air Inlet

- Air cleaner, two stage cyclonic/paper with dust cup and service indicator
- Turbocharger and air-to-air aftercooler

Alternator

- LC3114J frame — 3-phase, random wound, 12 lead design, self excited, 2/3 pitch
- Coastal Insulation protection

Charging System

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

Control Panel

- EMCP 4.2B generator set mounted digital controller
- 50/60 Hz frequency switch via terminal link
- Panel mounted emergency stop switch
- IVR with EM10 excitation module
- Automatic set-point adjustment integrated with voltage and frequency changes
- Fully featured power metering, protective relaying and engine/generator control and monitoring

Cooling System

- Package-mounted radiator with high ambient performance
- Pusher fan with guards
- Coolant drain line with internal brass ball control valve piped to base-frame
- Low coolant level shutdown
- 50% coolant antifreeze with corrosion inhibitor

Distribution System

- Robust steel enclosure, separate hinged, lockable door with rust-resistant pinned hinges
- Main circuit breaker 4-pole, 250A with 24V DC shunt trip wired to distribution door safety switch
- Two-wire remote start/stop terminals and 120-240 VAC auxiliary power connection for rapid starting

Enclosure

- Sound attenuating, galvanized sheet metal enclosure with exceptional noise reduction performance
- External emergency stop switch on enclosure
- Modular panel construction with a welded roof design
- Interior walls, ceilings, and ducts insulated with precision-cut noise insulating materials
- Sealed quarter-turn compression door latches with key and padlock capabilities
- Front and rear access provided through hinged doors
- External single-point lifting
- Enclosure is powder-coated white with Cat Rental Power decals

Engine

- Cat C7.1 heavy-duty diesel engine
- Electronic Governed Engine

Exhaust System

- Integrated spark arresting silencer with flexible connectors, in separate compartment

Fuel System

- 156 gal (590 L) double-wall fuel tank, 24-hour runtime @ 75% prime rating, internal fuel fill
- Off-engine-mounted Racor fuel water separator (30 micron) with secondary engine-mounted fuel water separator
- Manual pushbutton priming pump
- Auxiliary connections for customer-supplied fuel transfer with 3-way fuel transfer system, internally mounted within the bunded area
- Mechanical fuel gauge
- Electronic fuel gauge with control panel display. high and low level fuel warning/shutdown.
- Configurable bund level sensor, low level warning and high level warning/shutdown

Standard Equipment (continued)

Generator

- LC3114J frame, three-phase, random wound, 12-lead design, self-excited, 2/3 pitch
- Coastal insulation protection
- 120 or 230 VAC anti-condensation heater available

Lube System

- On-engine primary and secondary oil filters, filler, and dipstick
- Open crankcase breather with a fumes disposal container, drain located on side of base frame
- Oil drain piped to edge of base frame with internally mounted ball valve.
- 500-hour oil change intervals

Mounting System

- Generator set soft-mounted using captive vibration mounts

- Heavy-duty steel base frame contains integral fuel tank
- Provides 110% spill containment of all engine fluids
- Forklift pockets and heavy-duty drag bar with skid plates

Starting System

- Single electric starting motor, 12V
- 2x 12V 950 CCA maintenance-free batteries (wired in parallel), with single-pole battery isolator switch
- 120/240V single-phase jacket water heater with thermostat and shut-off valves

General

- Factory testing of standard generator set
- Full manufacturer's warranty, O&M manuals

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	
Telephone Influence Factor (TIF)	Less than 2%
Harmonic Distortion (THD)	Less than 2%

Cat Generator Set			
	Units	50 Hz — Prime EM0180	60 Hz — Prime EM0178
Power Rating	kW (kVA)	120 (150)	137 (172)
Performance Specification			
Lubricating System			
Oil pan capacity	L (gal)	12.4 (3.3)	12.4 (3.3)
Fuel System			
Fuel consumption — 100% Load	L/hr (gal/hr)	33.4 (8.8)	38.2 (10.1)
75% Load	L/hr (gal/hr)	24.7 (26.5)	29.1 (7.7)
50% Load	L/hr (gal/hr)	16.4 (4.3)	19.1 (5.0)
Fuel tank capacity	L (gal)	590 (155.9)	590 (155.9)
Running time @ 75% rating	Hr	24	24
Cooling System			
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)
Air Requirements			
Combustion air flow	m³/min (cfm)	10.2 (360)	10.2 (360)
Exhaust System			
Exhaust flow at rated — dry exhaust	m³/min (cfm)	23.8 (839.8)	23.8 (839.8)
Exhaust temperature at rated kW	°C (°F)	484 (903.2)	484 (903.2)
Noise Rating (with enclosure)*			
Sound Power*			
@ 1 meter @ 100% load	dB(A)	93	96
@ 7 meters @ 100% load	dB(A)	78	82
@ 1 meters @ 75% load	dB(A)	66	69
@ 7 meters @ 75% load	dB(A)	77	82
	dB(A)	65	69

*Guaranteed sound power as per 2000/14/EC

Technical Data (continued)

Dimensions			
	Length mm (in)	Width mm (in)	Height mm (in)
Generator Set	3520 (138.6)	1120 (44.1)	2226 (87.6)

Weight	
	Weight — kg (lb)
Lube Oil & Coolant — Empty Fuel Tank	2547 (5615)
Full Fuel Tank	3124 (6887)

Rating Definitions and Conditions

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 ISO3046 standard conditions.

Prime — Applicable for supplying continuous electrical power (at variable load) in lieu of commercially purchased power. There is no limitation on the annual hours of operation and the generator can supply 10% overload power.

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.

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