



Prime 275 kVA (220 kW)  
 50 Hz  
 EU Stage IIIA  
 50/60 Hz Switchable Rating

Image shown may not reflect actual configuration

### Specifications

Frequency	Voltage	Prime kW (kVA)	Speed rpm
50 Hz	380/220V	220 (275)	1500-1800
	400/230V	220 (275)	1500-1800
	415/240V	220 (275)	1500-1800
60 Hz	380/220V	237.5 (297)	1500-1800
	440/254V	250 (312.5)	1500-1800
	480/277V	250 (312.5)	1500-1800
	220/127V	250 (312.5)	1500-1800
	240/138V	250 (312.5)	1500-1800

Cat® C9 ACERT™ EU Stage IIIA Diesel Engine	Metric	Imperial (English)
Configuration	C9 ACERT ATAAC I-6 4-stroke water cooled diesel	
Bore	112 mm	4.4 in
Stroke	149 mm	5.9 in
Displacement	8.8 L	537 in3
Aspiration	Air-to-air Aftercooled	
Compression Ratio	16.1:1	
Engine rpm	1500-1800	
Aftercooler Type	ATAAC	
Turbocharger	Single	
Fuel System	MEUI™	
Governor Type	Cat® ADEM™ Control System	
Fuel	See Fuel Specifications Table (page 4)	

## Benefits & Features

### Fuel/Emissions Strategy

- EU Stage IIIA emissions compliant

### Single-source Supplier

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

### Cat C9 ACERT Diesel Engine

- Four-stroke diesel engine combines performance and excellent fuel economy with minimum weight
- ECM electronic engine control

### Cat EMCP 4.2B Control Panel

- Fully featured power metering, protective relaying and engine/generator control and monitoring
- Simple, user-friendly interface and navigation
- Single point interface for voltage and 50/60 Hz speed adjustment

### Optional Cat EMCP 4.4 Control Panel

- Synchronising capabilities
- Motorised breaker
- Ethernet remote monitoring
- Large screen interface

### Cat LC5100 Generator

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

### Environmentally-friendly Design

- 110% spill containment of all engine fluids
- Non-metallic fuel tank provides > 24-hour run time at 75% prime load
- Two-way valve and external fuel ports to easily switch between onboard and external fuel source
- Solar battery maintainer

### 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
- Five access doors for ease of maintenance
- Secure design with 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
- Tested for 4G dual point lifting eye and lifting points on the base frame

### Rear Customer Access

- 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
- Emergency stop on control panel and enclosure

### Reduced Environmental Impact

- EU Stage IIIA emissions compliant (EU IIIA model)
- 110% spill containment of on-board engine fluids
- Bund level alarm (dual wall tank option)
- 77 dB Sound Pressure @ 75% load 1 M
- 66 dB Sound Pressure @ 75% load 7 M
- Inboard mounted 3-way fuel valve connection for external fuel connection

## Standard Equipment

### Air Inlet

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

### Charging System

- 230V, 5A battery charger, enclosed in dust-proof housing
- Charging alternator; 24V, heavy duty with integral regulator and belt guards

### Control Panel

- EMCP 4.2B genset mounted digital controller
- Full engine and generator monitoring and fault protection
- 50/60 Hz frequency switch via terminal link
- Panel-mounted emergency stop switch
- IVR with EM10 excitation module

### Cooling System

- Variable speed pusher fan
- Package-mounted radiator with vertical air discharge provides 50°C ambient capability at prime @ 50 Hz
- Fully guarded
- Coolant heater, fuse protected, thermostatically controlled, automatically disconnected on start-up
- 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

- Separate load and control sections
- Robust hook-up point for lugged cable connection
- Circuit breaker DC shunt trip coil activated on any monitored engine or electrical fault
- Robust steel enclosure, separate hinged, lockable door with rust-resistant pinned hinges
- Main circuit breaker 4-pole, 630A with 24V DC shunt trip wired to distribution door safety switch; 36 kA-interrupting capacity at 380/415V 50/60 Hz
- Two-wire remote start/stop terminals, 230 VAC auxiliary power connection for rapid starting

### Enclosure

- Sound attenuating, galvanized sheet metal enclosure limits overall noise
- 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
- External side-mounted dual point lifting frame – improved hook-up access
- Enclosure is powder coated white with Cat Rental Power decals

### Engine

- Cat C9 ACERT heavy duty diesel engine
- Electronic ADEM A4 controls

### Exhaust System

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

### Fuel System

- Dual wall tank – usable volume 190 gal (717 L); run time @ 75% prime load: 13.5 hours
- Engine-mounted primary and secondary fuel filter
  - Primary filter (10 micron) with integral water separator (330 ml capacity)
  - Secondary 4 micron secondary fuel filter
- Manual pushbutton priming pump
- Auxiliary connections for customer-supplied fuel transfer with 3-way fuel transfer system, internally mounted within the bund area
- Mechanical fuel gauge
- Electronic fuel gauge with control panel display, high and low level fuel warnings
- Configurable bund level sensor, low level warning and high level warning/shutdown

### Generator

- LC5114J frame, three-phase, random wound, 12-lead design, self-excited, 2/3 pitch
- Coastal insulation protection
- 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 to the heavy duty, fabricated steel base frame
- 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



## Standard Equipment (continued)

### Starting System

- Single electric starting motor, 24V
- Two 950 CCA maintenance-free 12V batteries with padlockable single-pole battery isolator
- 230V single-phase jacket water heater with thermostat

### General

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

## Fuel Specifications

Specification Standard	Grade Class	Fuel Description
EN590	Grade A to F and Class 0 to 4	European automotive fuel (DERV)
JIS K2204	No1	Japanese automotive diesel. Different classes correspond to season and district where used.
	No2	
	No3	
	Special No3	
BS2869	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 Perkins Specification for Diesel Fuel. The lubricity of these fuels must not exceed wear scar diameter of 0.52 mm (0.02047 inch) 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 EN14214 or ASTM D6751 with EN590 or ASTM D975 standard mineral diesel fuels
B7-B20		

## Technical Data

Cat Generator	
Frame size	LC5114J
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
Overspeed capability (% of rated)	25%
Voltage regulator	3-phase sensing with adjustable Volts-per-Hz
Voltage regulation	Less than ± 0.5%
Wave form deviation: Telephone Harmonic Factor (THF) Total Harmonic Content (THC)	Less than 2% Less than 4%

Materials and specifications are subject to change without notice.



Technical Data (continued)

Generator Set			
	Units	Prime – 50 Hz EM1549	Prime – 60 Hz EM1551
<b>Power Rating</b>	kW (kVA)	220 (275)	250 (312.5)
<b>Performance Specification</b>			
<b>Lubricating System</b> Oil pan capacity	L	39	
<b>Fuel System</b> Fuel consumption			
100% Load	L/hr	59.7	75.7
75% Load	L/hr	48.1	59.9
50% Load	L/hr	35.5	43.8
Fuel tank capacity	L/hr	717	717
Running time @ 75% rating	Hr	13.5	11
<b>Cooling System</b> Ambient Capability	°C	35	35
Engine & Radiator coolant capacity	L	48	48
Engine coolant capacity	L	13.9	13.9
<b>Air Requirements</b> Combustion air flow	m <sup>3</sup> /min	16.0	22.2
<b>Exhaust System</b> Exhaust flow at rated – dry exhaust	m <sup>3</sup> /min	42.9	57.4
Exhaust temperature at rated kW	°C	671.1	658.2
<b>Noise Rating**</b> @ 7 meters (23 feet) @ 50% of rating	dB(A)	TBC	TBC
@ 7 meters (23 feet) @ 75% of rating	dB(A)	66.4	68
@ 7 meters (23 feet) @ 100% of rating	dB(A)	TBC	TBC
@ 1 meters (23 feet) @ 50% of rating	dB(A)	TBC	TBC
@ 1 meters (23 feet) @ 75% of rating	dB(A)	77	79
@ 1 meters (23 feet) @ 100% of rating	dB(A)	TBC	TBC
<b>Emissions (not to exceed data)</b> NOx	g/hp-hr	5.34	5.76
CO	g/hp-hr	2.58	1.85
HC	g/hp-hr	0.08	0.09
PM	g/hp-hr	0.06	0.09



## Technical Data (continued)

Dimensions			
	Length mm (in)	Width mm (in)	Height mm (in)
Generator Set	4065 (160)	1400 (55)	2124 (84)

Weight	
	Weight — kg (lb)
Lube Oil & Coolant — Empty Fuel Tank	3880 (8553)
Fuel Tank 200 Gallons of Fuel	4058 (8946)
Full Fuel Tank	4518 (9960)

## Standard Features and Options

### Rental-ready Features

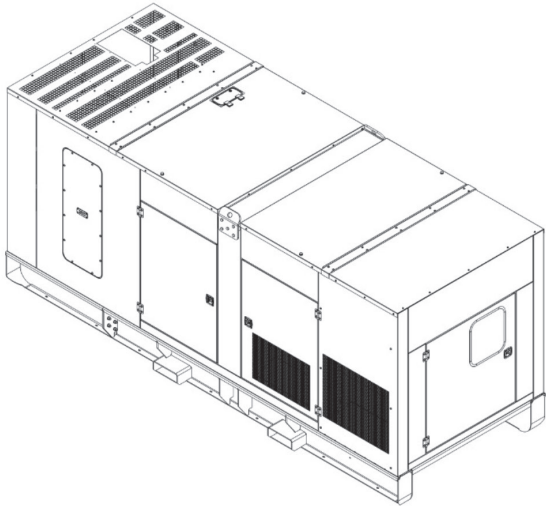
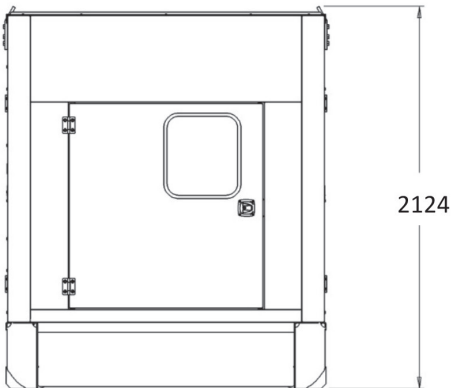
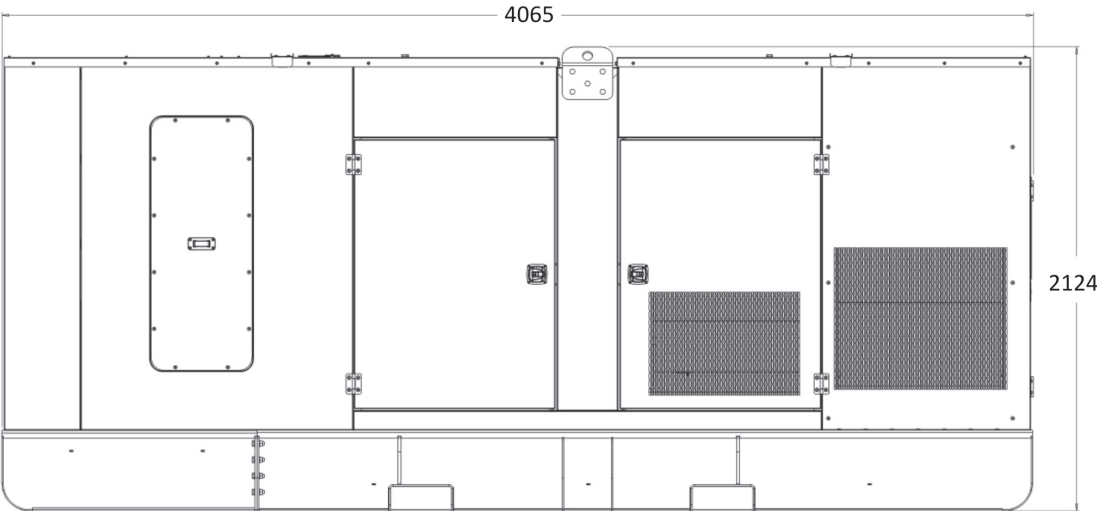
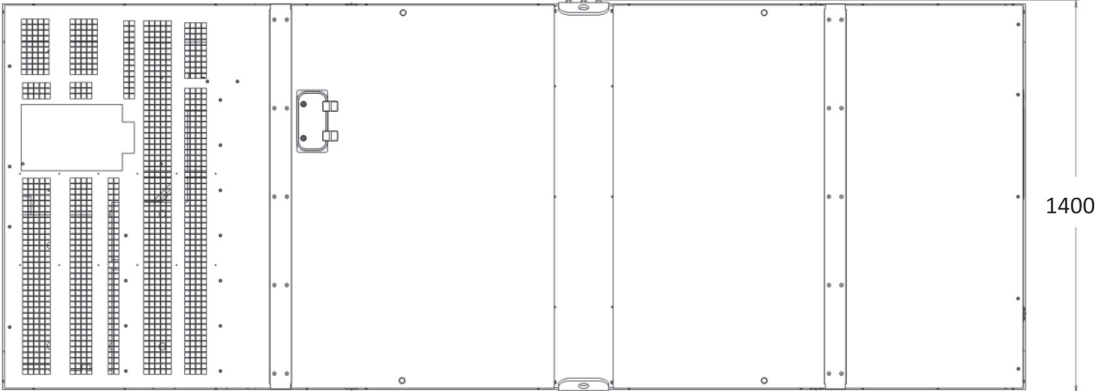
- Forklift pockets
- Integrated heavy duty drag bar with robust skid plate
- Fully certified dual point lift
- Coolant and oil drains piped to base frame
- EMC certified
- Fully certified spark arresting genset
- 50/60 Hz frequency switch via terminal link
- Optimized cable entry for easy hook-up

### Available Options

- Synchronising control panel and motorised breakers
- Low voltage 60 Hz configuration with appropriately sized breaker and power cables
- Anti-condensation heater 230 VAC
- Coolant heater 230 VAC
- 24V battery charger
- Permanent Magnet Generator (PMG)
- Earth leakage
- CE labelling (also available for BSFC)
- Lube oil sump pump

### General Layout Dimensions

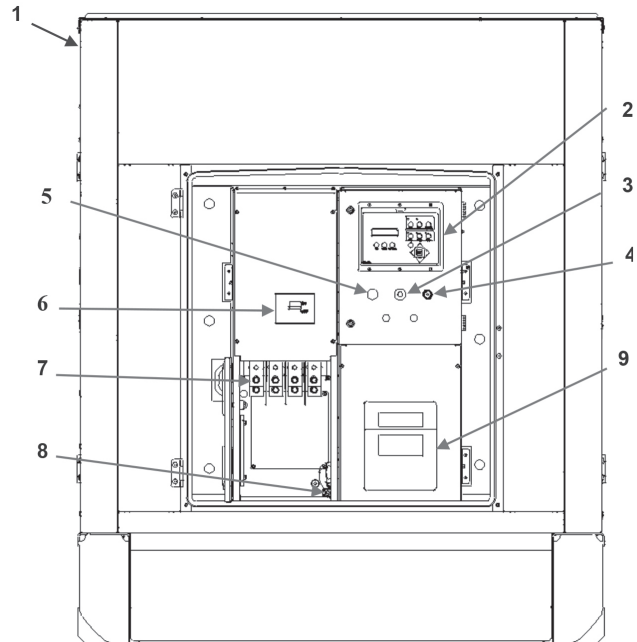
Dimensions in millimeters



## Control Panel and Power Distribution Layout

Item	Description
1	Steel enclosure with hinged, lockable door (not shown)
2	EMCP 4.2B digital genset controller
3	Emergency stop
4	Alarm sounder
5	Cat ET service tool connector
6	Circuit breaker, 4-pole moulded case, 800A
7	Main bus connection (bus bars with 14 mm holes)
8	Micro safety switch for bus bar door
9	Manual holder

View shown has enclosure door and breaker door with bus bar viewing window not shown.



## Ratings Definitions and Conditions

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

**Meets the Following EU Directives (when the CE option is selected):** 2006/42/EC, 2006/95/EC, 2004/108/EC, 2000/14/EC.

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

[www.Cat.com/rentalpower](http://www.Cat.com/rentalpower)

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