



**Prime 50 Hz 500 kVA (400 kW)  
50/60Hz Switchable Rating  
EU Stage IIIA**

Image shown may not reflect actual configuration

### Specifications

Frequency	Voltage	Prime kW (kVA)	Speed rpm
50 Hz	380/220V	400 (500)	1500-1800
	400/230V	400 (500)	1500-1800
	415/240V	400 (500)	1500-1800
60 Hz	380/220V	420 (525)	1500-1800
	440/254V	420 (525)	1500-1800
	480/277V	420 (525)	1500-1800
	220/127V	420 (525)	1500-1800
	240/138V	420 (525)	1500-1800

Cat® C15 ACERT™ Diesel Engine	Metric	Imperial (English)
Configuration	C15 ACERT ATAAC I-6 4-stroke water cooled diesel	
Bore	137 mm	5.39 in
Stroke	171 mm	6.73 in
Displacement	15.2 L	928 in <sup>3</sup>
Aspiration	Air-to-air Aftercooled	
Compression Ratio	16.8:1	
Engine rpm	1500-1800	
Aftercooler Type	ATAAC	
Turbocharger	Single	
Fuel System	MEUI™	
Governor Type	Cat ADEM™ Control System	

## Benefits & Features

### Fuel/Emissions Strategy

- Meets Stage IIIA emissions standards

### Single-source Supplier

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

### Cat C15 ACERT Diesel Engine

- Uses ACERT technology
- Four-stroke diesel engine combines consistent 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 LC6100 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
- 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 power is discontinued if the distribution door is opened
- Emergency stop on control panel and enclosure

### Reduced Environmental Impact

- Meets Stage IIIA emissions standards
- 110% spill containment of on-board engine fluids
- Bund level alarm (dual wall tank option)
- 79 dB(A) Sound Pressure @ 75% load 1 m
- 67 dB(A) 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, 5 amp battery charger, enclosed in dust-proof housing
- Charging alternator; 24V, heavy duty with integral regulator and belt guards

### Control Panel

- EMCP 4.2B generator set 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, 800A 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 and 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 C15 ACERT heavy-duty diesel engine
- Electronic ADEM A4 controls

### Exhaust System

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

### Fuel System

- 280 gal (1061 L) dual wall fuel tank, 11-hour runtime @ 75% prime rating, internal fuel fill
- 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

- LC6114F 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 baseframe
- Oil drain piped to edge of baseframe 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



### Standard Equipment (continued)

- Provides 110% spill containment of all engine fluids
- Forklift pockets and heavy duty drag bar with skid plates

#### 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	LC6114F
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-hertz
Voltage regulation	Less than ± 0.5%
Wave form deviation:	
Telephone Harmonic Factor (THF)	Less than 2%
Harmonic Distortion (THD)	Less than 2%

## Technical Data (continued)

Cat Generator Set			
	Units	Prime 50 Hz EM0430	Prime 60Hz EM1246
<b>Power Rating</b>	kW (kVA)	400 (500)	420 (525)
<b>Performance Specification</b>			
<b>Lubricating System</b> Oil pan capacity	L (gal)	53	
<b>Fuel System</b> Fuel consumption 100% Load 75% Load 50% Load Fuel tank capacity Running time @ 75% rating	L/hr L/hr L/hr L Hr	110.2 86.8 62 965 11	121 99.7 69.2 965 10
<b>Cooling System</b> Ambient capability Engine & radiator coolant capacity Engine coolant capacity	°C L L	50 48 9.5	35 @ 90% 48 9.5
<b>Air Requirements</b> Combustion air flow	m <sup>3</sup> /min	35	35
<b>Exhaust System</b> Exhaust flow at rated – dry exhaust Exhaust temperature at rated kW	m <sup>3</sup> /min °C	30.7 471.3	35.4 458.7
<b>Noise Rating (with enclosure)</b> @ 7 meters (23 feet) @ 50% of rating @ 7 meters (23 feet) @ 75% of rating @ 7 meters (23 feet) @ 100% of rating  @ 1 meters (23 feet) @ 50% of rating @ 1 meters (23 feet) @ 75% of rating @ 1 meters (23 feet) @ 100% of rating	dB(A) dB(A) dB(A)  dB(A) dB(A) dB(A)	65 67 70  77 79 81	69 70 71  79 82 83
<b>Emissions (not to exceed data)</b> NOx CO HC PM	g/hp-hr g/hp-hr g/hp-hr g/hp-hr	3.49 1.10 0.06 0.07	4.79 1.73 0.02 0.16



## Technical Data (continued)

Dimensions			
	Length mm (in)	Width mm (in)	Height mm (in)
Generator Set	5103 (200.9)	1954 (76.79)	2292 (90.2)

Weight	
	Weight — kg (lb)
Lube Oil & Coolant — Empty Fuel Tank	5977 (13,176)
Fuel Tank 200 Gallons of Fuel	6317 (13,926)
Full Fuel Tank	6879 (15,165)

## Standard Features and Options

### Rental Ready Features

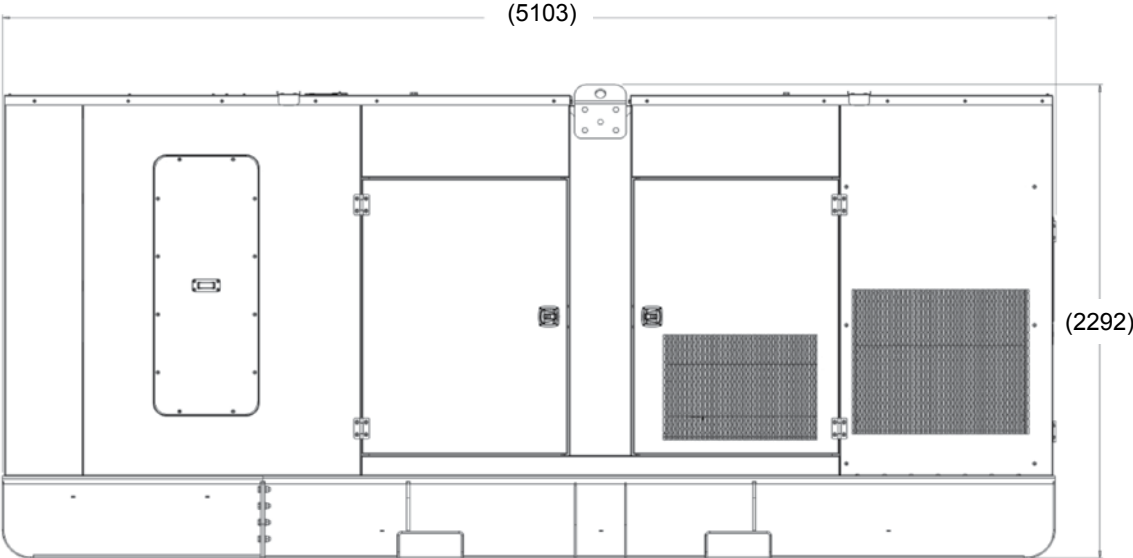
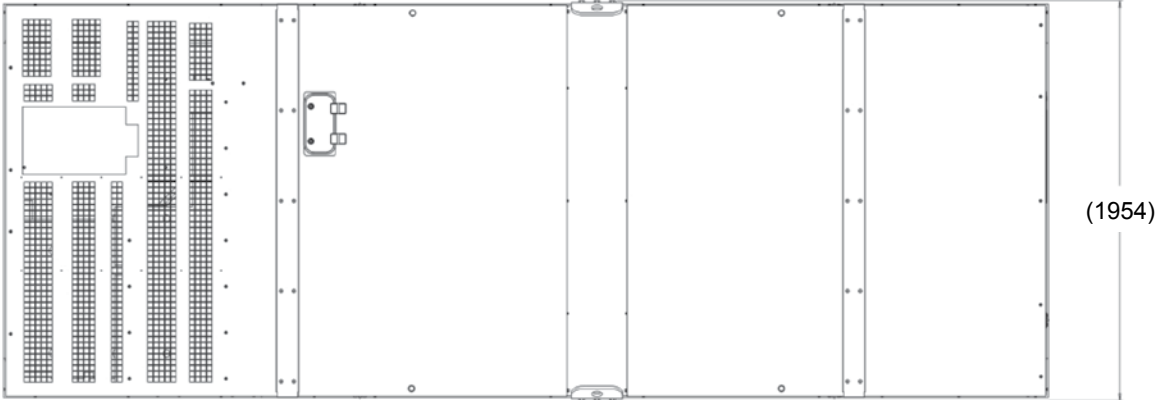
- Forklift pockets
- Integrated heavy-duty drag bar with robust skid plate
- Fully certified dual point lift
- Coolant and oil drains piped to baseframe
- EMC certified
- Fully certified spark arresting generator set
- 50/60 Hz frequency switch via terminal link
- Optimized cable entry for easy hook-up

### Available Options

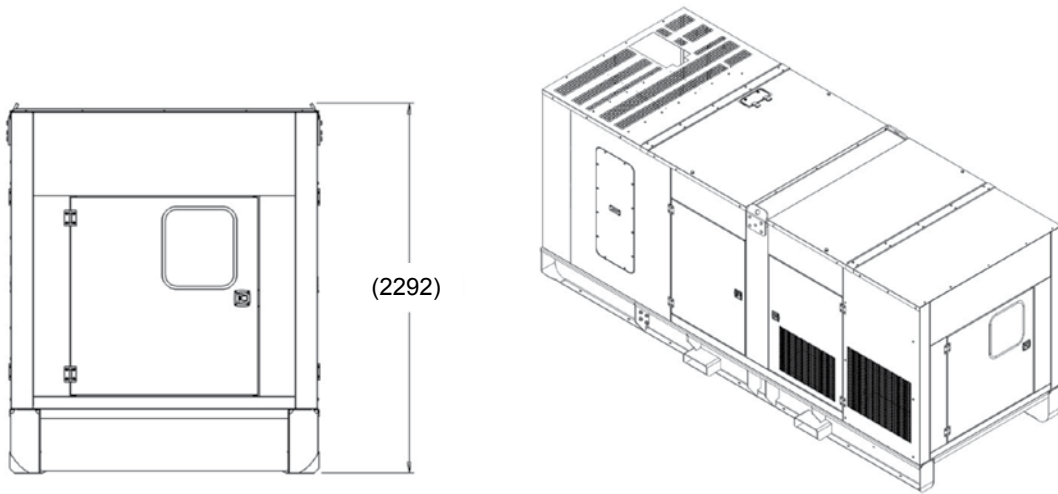
- Synchronising control panel and motorized breakers
- Low voltage 60 Hz configuration with appropriately sized breaker and power cables
- Anti-condensation heater 230 VAC
- Coolant heater 230 VAC
- 24V battery charger
- Permanent Magnet Generator (PMG)
- Earth leakage
- CE labeling (also available for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

### General Layout Dimensions

Dimensions in millimeters

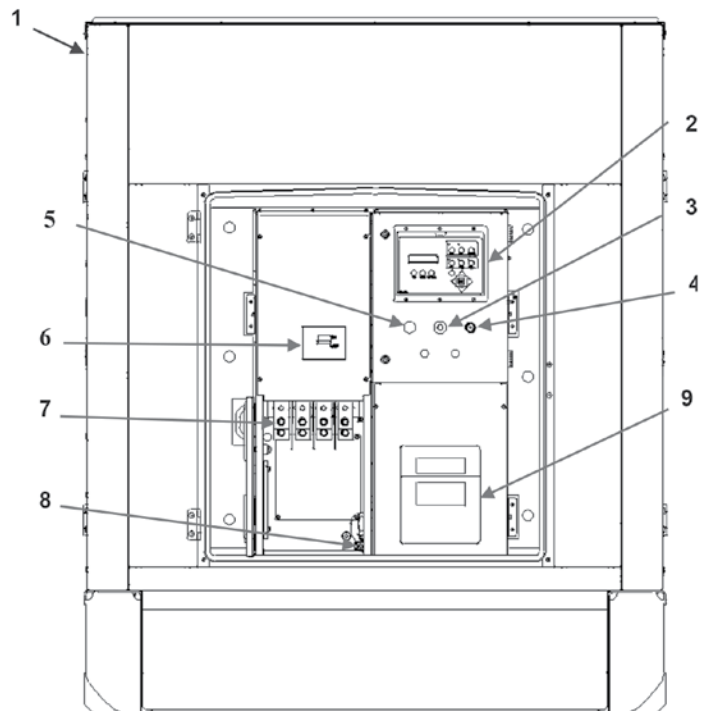


## General Layout Dimensions (continued)



## 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 molded case, 800A
7	Main buss connection (buss bars with 14 mm holes)
8	Micro safety switch for buss bar door
9	Manual holder



This view has enclosure door and breaker door with buss 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.

**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.

**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.

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

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