Cat® XQP550 Rental Generator Set

Prime 550 kVA (440 kW)
50/60 Hz
EU Stage V



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 / 240 V	550	440	765	1250
		400 / 230 V	550	440	794	
		380 / 220 V	500	440	836	
60	1800	480 / 277 V	588	470	707	1250
		440 / 254 V	588	470	772	
		380 / 220 V	588	470	893	

Cat® 18 Diesel Engine	Metric	Imperial (English)
Configuration	Inline 6-cylinder, 4-Stroke-Cycle, Water Cooled, Diesel	
Bore	145 mm	5.71 in
Stroke	183 mm	7.20 in
Displacement	18.1 L	1104.5 in^3
Aspiration	Turbocharged-Aftercooled (TA)	
Compression Ratio	16.0:1	
Engine rpm	1500/1800	
Aftercooler Type	ATAAC	
Turbocharger	Single	
Fuel System	Direct Injection	
Governor Type	Electronic ECM controlled (A6E4)	
Fuel	See Fuel Specification Table	

Benefits & Features

Rental-ready Features

- Dual wall tank base with drag/tie down points and robust skid plate
- Forklift pockets
- Externally certified dual point lift
- Certified spark arrest system
- Robust busbar connection for lugged cable connection
- AC protected by limit switch on distribution door

Fuel/Emissions Strategy

- EU Stage V

Single-source Supplier

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

Cat® C18 Diesel Engine

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

After Treatment

- Diesel Emissions Fluid (DEF) Tank located in discharge box, accessible through lockable access door

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

Optional Control Panel

- ComAp InteliGen NTC, DeepSea 8620, DEIF AGC-4
  - Syncronising capabilities
  - Motorised breaker
  - Ethernet remote monitoring

Available Options

- Syncronising control panel and motorised breaker
- Anti condensation heater 230V AC
- Coolant heater 230V AC
- Permanent Magnet Generator (PMG)
- Earth leakage detection
- Lube oil sump pump
- Fuel Option Pack - Inboard mounted 3-way valve for external fuel connection, electronic fuel gauge and Bund Level Sender
- Battery option - 2x 12V 950CCA maintenance-free Cat Batteries
- Battery Isolator - Single pole (padlockable)
- 24V battery charger
- Drains option Pack - Oil and coolant drains piped to baseframe

Cat LC6100 Generator

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

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
- Five (5) main doors and two (2) service 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

- 110% spill containment of all on-board engine fluids and bund level alarm
- Low noise enclosure

Cat Connect

- Fleet management and asset tracking*

*Subject to local certifications

Standard Equipment

Generator

- LC6114K frame; 3-phase random wound, 12 lead, self-excited, 2/3 pitch
- Coastal insulation protection (CIP)

Cat® C18 Diesel Engine

- Turbocharged, air-to-air aftercooler
- Electronic ECM control

After Treatment

- Remote mounted Clean Emissions Module (CEM)
- Diesel Emissions Fluid (DEF) Tank located in discharge box, accessible through lockable access door

Air Filter

- High Efficiency two stage air cleaner, with service indicator

Cooling System

- Variable speed fan
- Package mounted radiator with vertical air discharge
- High ambient performance
- Fully guarded pusher fan
- Low coolant level shutdown
- 50% glycol mix with corrosion inhibitor

Charging System

- Charging alternator; 24V, heavy duty with integral regulator and belt guards

Starting System

- Single 24V electric starting motor

Fuel System

- 12hr dual wall fuel tank (based on 75% Prime load)
- Internal fuel fill
- Engine mounted primary and secondary fuel filter
  - Primary filter (10 micron) with integral water separator (330ml capacity)
  - Secondary filter (4 micron)
- Automatic onboard priming pump
- Mechanical fuel gauge

Control Panel

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

Distribution System

- Separate robust steel enclosures for control & distribution sections
- Distribution door protected with 24V DC shunt trip safety switch
- 4 pole, 1250A 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
- Skid plates with drag points
- 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
- External side-mounted dual point lifting frame for improved hook access
- Powder coated with Cat Rental Power decals

Exhaust System

- Certified spark arresting system
- Outlet box mounted with vertical discharge

Lube Oil System

- Single stage oil filters
- Open crankcase ventilation filter system piped to discharge box
- 500 hour oil change requirement

General

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

Fuel Specifications

Specification Standard	Grade Class	Fuel Description
EU Stage V specifies Ultra Low Sulphur Diesel		Ultra Low Sulphur Diesel Only (ULSD) ULSD with a maximum fuel sulphur level of either 15 or 20 ppm1 is required in all diesel applications with aftertreatment. Bio-diesel fuel may be used up to B20 (80% standard ULSD with 20% bio-fuel dilution by volume), provided an appropriate approved additive is used

Oil Specifications

Specification Standard	Oil Description
EU Stage V Recommended oil 15W-40 CK-4 1E1867F	CAT DEO-ULS (Preferred)

DEF Specifications

Specification Standard	DEF Description
EU Stage V DEF Requirements ISO22241-1	Diesel Exhaust Fluid

Technical Data

Cat® Generator	
Frame size	LC6114K
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 ± 0.5%
Wave form deviation Telephone Influence Factor (TIF) Harmonic Distortion (THD)	 Less than 2% Less than 2%

Cat Generator Set			
	TMI Performance No. Units	**Prime — 50 Hz EM6174**	**Prime — 60 Hz EM6176**
Power Rating	kVA (kW)	550 (440)	588 (470)
Performance Specification			
Lubricating System Oil pan capacity	L (gal)	70 (18.5)	70 (18.5)
Fuel System Fuel consumption — 100% Load 75% Load 50% Load Fuel tank capacity Running time @ 75% rating	 L/hr (gal/hr) L/hr (gal/hr) L/hr (gal/hr) L (gal) Hr	 126.3 (33.4) 94.5 (24.9) 64.3 (16.9) 1125 (297) 11.9	 129.7(34.3) 98.8 (26.13) 70.6 (18.67) 1125 (297) 11.4
After Treatment* DEF Tank Capacity	 L (gal)	 92 (24.3)	
Cooling System Ambient capability Engine & radiator coolant capacity Engine coolant capacity	 °C (°F) L (gal) L (gal)	 45 (113) 54 (14.3) 27 (7.1)	 43 (109.4) 54 (14.3) 27 (7.1)
Air Requirements Combustion air flow at 110% Load	 m^3/min (cfm)	 34.2 (1207.8)	 TBC
Exhaust System Exhaust flow at rated — dry Exhaust temperature at rated kW	 m^3/min (cfm) °C (°F)	 92 (3249) 547 (1017)	 TBA 668 (1234)

*DEF consumption is on average approximately 4% of the fuel consumption

Technical Data (continued)

Cat Generator Set			
	TMI Performance No. Units	Prime — 50 Hz EM6174	Prime — 60 Hz EM6176
Noise Rating (with enclosure) ** Sound Power*	dB(A)	97	99
@ 7 meters @ 75% load	dB(A)	70.38	70.5
@ 7 meters @ 100% load	dB(A)	71.92	73.69
@ 1 meters @ 75% load	dB(A)	79.19	82.12
@ 1 meter @ 100% load	dB(A)	81.42	83.08
Emissions data at 100% Load			
NOx	g/hp-hr	0.69	0.33
CO	g/hp-hr	0.01	0.00
HC	g/hp-hr	0.02	0.01
PM	g/hp-hr	0.00	0.01

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

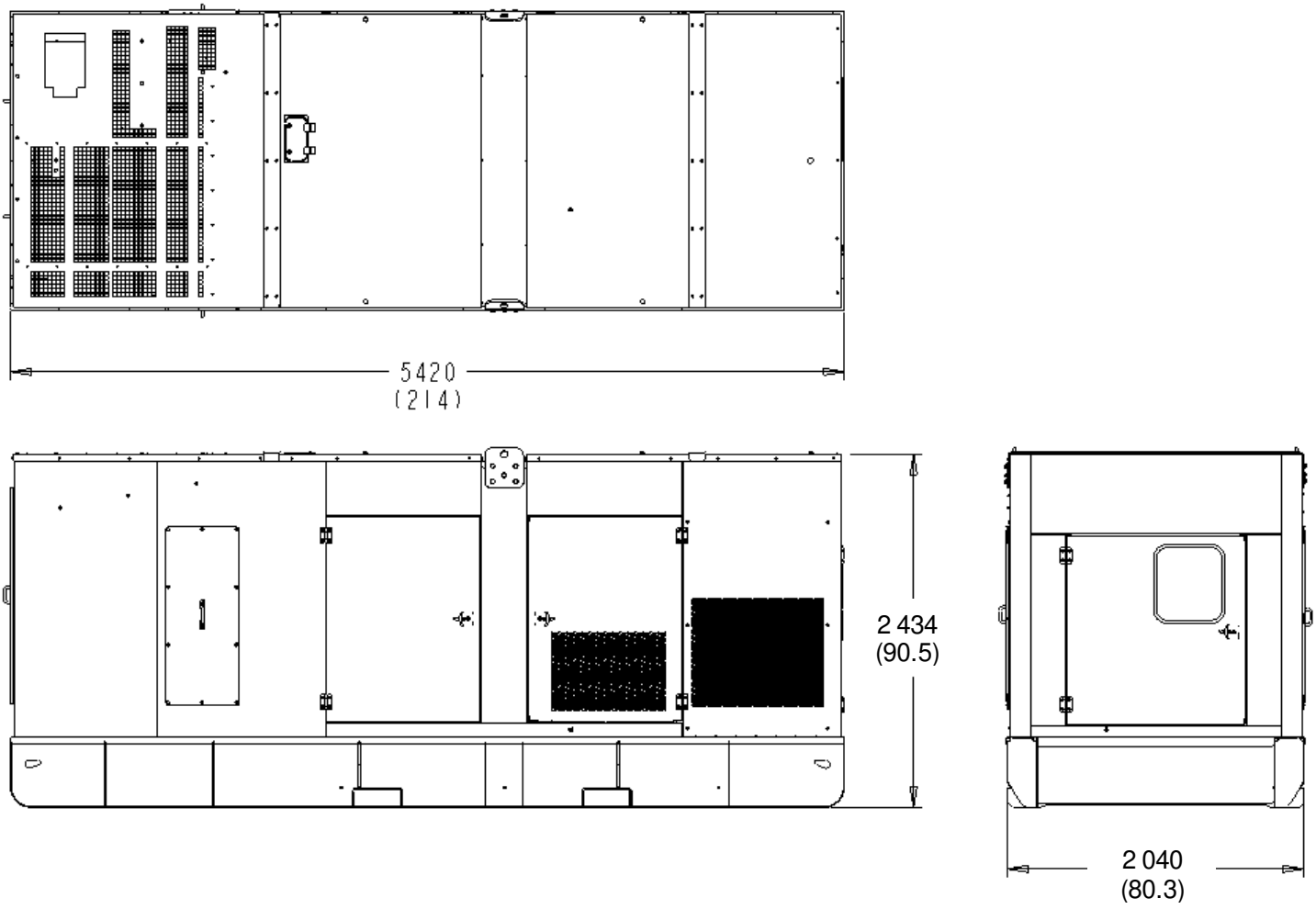
For full Engine & Emissions data please refer to TMI using the engine performance no.

Dimensions			
	Length mm (in)	Width mm (in)	Height mm (in)
Generator Set	5 420 (213.3)	2 040 (80.3)	2 434 (90.5)

Weight	
	Weight — kg (lb)
Lube Oil & Coolant — Empty Fuel Tank	6 740 (14 860)
Full Fuel Tank	7 885 (17 384)

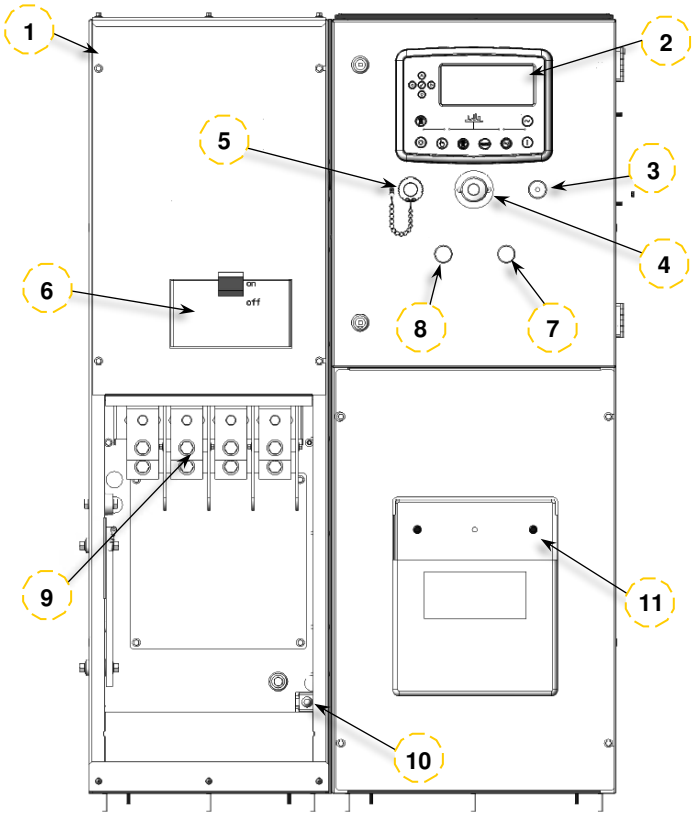
Layout for General Dimensions

Dimensions in millimeters (inches)



Control Panel and Power Distribution Layout

Item	Description
1	Steel enclosure with hinged, lockable door (not shown)
2	XQCP digital genset controller
3	Alarm Horn
4	Emergency Stop button
5	Service tool connector
6	Electrically operated 1250A Circuit Breaker
7	Emission system failure lamp
8	Low DEF level lamp
9	Main bus connection (bus bars with 14 mm holes)
10	Micro safety switch for bus bar door
11	Manual holder



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 — 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 ekW 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 35º API [16ºC (60ºF)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29ºC (85ºF) 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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