Cat® DG450
Gas Generator Sets

Image shown might not reflect actual configuration

Engine Model	Cat® CG18 In-line 6, 4-cycle Natural Gas
Bore x Stroke	145 mm x 183 mm (5.7 in x 7.2 in)
Displacement	18.1 L (1106.3 in³)
Compression Ratio	10.5:1
Aspiration	Turbocharged, Air-to-Air Aftercooled
Fuel System	Venturi – Mixer
Governor	Electronic ADEM™ A4 - G2 Class* capable

Model	Standby / Demand Response Power	Limited Time Power (LTP)	Emission Strategy
DG450	60 Hz		U.S. EPA Certified for Emergency and Non-Emergency
	450 ekW (562.5 kVA)	400 ekW (500 kVA)	

PACKAGE PERFORMANCE

Performance	Standby	Demand Response	LTP
Performance Number	EM6245	EM6186	EM7086
Frequency, Hz	60		
Genset power rating with fan @ 0.8 power factor, ekW	450	450	400
Fuel Consumption			
Utility Fuel Pressure – Standard Pressure, psi#	1.25 – 1.5		
Utility Fuel Pressure – Low Pressure (optional), psi#	0.25 – 1.5		
100% load with fan, CFH (m³/hr)	5035 (142.6)	5050 (143)	4576 (129.6)
75% load with fan, CFH (m³/hr)	3814 (108)	3955 (112)	3778 (107)
50% load with fan, CFH (m³/hr)	2811 (79.6)	2910 (82.4)	2677 (75.8)
Cooling System[1]			
Radiator air flow restriction (system), kPa (in. water)	0.12 (0.48)		
Radiator air flow, CFM (m³/min)	24826 (703)		
Engine coolant capacity, L (gal)	27 (7.2)		
Radiator coolant capacity, L (gal)	62 (16.4)		
Total coolant capacity, L (gal)	89 (23.6)		
Inlet Air			
Combustion air inlet flow rate, lb/hr (m³/min)	6175 (40)	6571 (42.5)	5889 (38)
Exhaust System			
Exhaust stack gas temperature, °C (°F)	528 (982)	518 (964)	531 (988)
Exhaust gas flow rate, lb/hr (m³/min)	6424 (113)	6819 (124)	6112 (111)
Exhaust system backpressure (minimum allowable), kPa (in. water)	1 (4.02)		
Exhaust system backpressure (maximum allowable), kPa (in. water)	5 (20.1)		
Heat Rejection			
Heat rejection to coolant (total), kW (BTU/min)	159 (9042)	162 (9213)	154 (8757)
Heat rejection to atmosphere to aftercooler, kW (BTU/min)	163 (9269)	180 (10236)	151 (8587)
Heat rejection to atmosphere from engine, kW (BTU/min)	103 (5857)	103 (5857)	94 (5345)
Heat rejection to exhaust (total) kW (BTU/min)	466 (26501)	484 (27524)	446 (25363)

PACKAGE PERFORMANCE (contd.)

Lube System	
Sump Refill with Filter, L (gal)	40 (10.6)
Maximum oil temperature, °C (°F)	110 (230)
Maximum oil capacity, L (gal)	35 (9.3)
Minimum oil capacity, L (gal)	23 (6.1)

Emissions	Standby	Demand Response	LTP
Meets EPA Stationary Emergency and Non-Emergency Limits (g/bhp-hr)	NOx: 2.0 CO: 4.0 VOC: 1	NOx: 1.0 CO: 2.0 VOC: 0.7	NOx: 1.0 CO: 2.0 VOC: 0.7

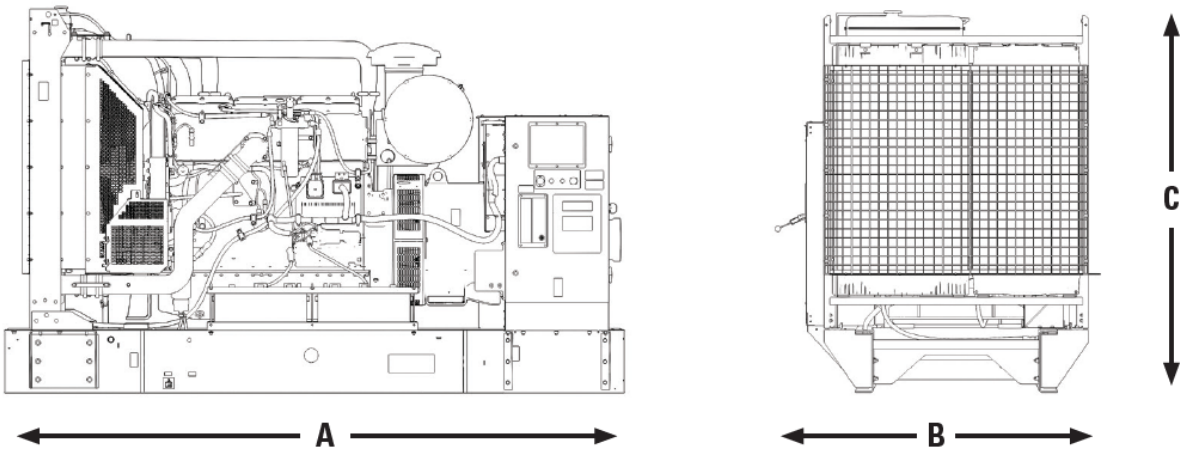
ALTERNATOR DATA

Alternator[2]						
Duty Cycle		Standby/Demand Response				
Phase		3-Phase				
Voltages, V		480/277	240/139	208/120	240/120	600/346
Current, Amps		677	1353	1561	1353	541
Frame: LC6114D Excitation: SE	Temperature Rise @ 40°C	130	130			
	Motor Starting Capability @ 30% Voltage Dip, skVA	824	824			
Frame: LC6114F Excitation: SE	Temperature Rise @ 40°C	105	105	130	130	
	Motor Starting Capability @ 30% Voltage Dip, skVA	1310	1310	1001	1001	
Frame: LC6114G Excitation: SE	Temperature Rise @ 40°C			105	105	
	Motor Starting Capability @ 30% Voltage Dip, skVA			1009	1009	
Frame: LC7224H Excitation: AREP	Temperature Rise @ 40°C			80	80	
	Motor Starting Capability @ 30% Voltage Dip, skVA			1479	1479	
Frame: LC6124D Excitation: AREP	Temperature Rise @ 40°C					130
	Motor Starting Capability @ 30% Voltage Dip, skVA					1287
Frame: LC6124F Excitation: AREP	Temperature Rise @ 40°C					105
	Motor Starting Capability @ 30% Voltage Dip, skVA					1574

ALTERNATOR DATA

Alternator[2]						
Duty Cycle		LTP				
Phase		3-Phase				
Voltages, V		480/277	240/139	208/120	240/120	600/346
Current, Amps		601	1203	1388	1203	481
Frame: LC6114C Excitation: SE	Temperature Rise @ 40°C	130	130			
	Motor Starting Capability @ 30% Voltage Dip, skVA	802	802			
Frame: LC6114D Excitation: SE	Temperature Rise @ 40°C	105	105	130	130	
	Motor Starting Capability @ 30% Voltage Dip, skVA	824	824	627	627	
Frame: LC6114F Excitation: SE	Temperature Rise @ 40°C	80	80	105	105	
	Motor Starting Capability @ 30% Voltage Dip, skVA	1310	1310	1001	1001	
Frame: LC6114G Excitation: SE	Temperature Rise @ 40°C			80	80	
	Motor Starting Capability @ 30% Voltage Dip, skVA			1009	1009	
Frame: LC6124D Excitation: AREP	Temperature Rise @ 40°C					105
	Motor Starting Capability @ 30% Voltage Dip, skVA					1287
Frame: LC6124F Excitation: AREP	Temperature Rise @ 40°C					80
	Motor Starting Capability @ 30% Voltage Dip, skVA					1574

WEIGHTS & DIMENSIONS



On Narrow Skid Base

Length "A" mm (in)	Width "B" mm (in)	Height "C" mm (in)	Dry Weight kg (lb)
3542 (139)	2011 (79)	2085 (82.2)	4689 (10337)

On Wide Skid Base

Length "A" mm (in)	Width "B" mm (in)	Height "C" mm (in)	Dry Weight kg (lb)
4986 (196)	2170 (85)	2080 (82)	5017 (11060)

Note: General configuration not to be used for installation. See general dimension drawings for detail.

APPLICABLE CODES AND STANDARDS:

CSA C22.2 No 100-04, UL142, UL489, UL869, cUL/UL2200, NFPA 37, NFPA 70, NFPA 99, NFPA 110, IBC, IEC60034-1, ISO 3046, ISO 8528, NEMA MG 1-33.

STANDBY POWER: Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby rated ekW. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

DEMAND RESPONSE POWER: Output available with varying load when participating in a demand response or economic dispatch program. Average power output is 70% of the standby rated ekW. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

LIMITED TIME POWER (LTP): A Prime-rated generator set under Limited Time Power guidelines can run for a maximum of 500 hours per year with an average load factor of up to 100%.

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

1 CFH = 1000 BTU/HR

Fuel Rates are based on LHV (lower heat values) of 905 BTU/SCF for Natural Gas @77°F (25°C) and 498.6 ft (152m) above sea level.

Additional ratings may be available for specific customer requirements. For higher temperatures and elevations follow derate specification. Contact your Cat representative for details.

DEFINITIONS AND CONDITIONS

1 For ambient and altitude capabilities consult your Cat dealer.
Air flow restriction (system) is added to the existing restriction from the factory.

2 Generator temperature rise is based on a 40°C (104°F) ambient per NEMA MG1-32.

Operating Fuel Pressure is the fuel pressure required to be delivered at the genset base frame rail connection. Recommended gas regulator to be used in conjunction if the gas supply pressure is above this range.

* Governing Class capability as per ISO-8528-5. Consult your local Cat dealer for configuration and site specific transient performance classification.

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LEHE20516-07 (09/24)