# Cat® C18 Diesel Generator Sets



## Standby & Prime: 60 Hz



Image shown might not reflect actual configuration.

Engine Model	Cat® C18 In-line 6, 4-cycle Diesel
Bore x Stroke	145 mm x 183 mm (5.7 in x 7.2 in)
Displacement	18.13 L (1106.3 in³)
Compression Ratio	14:1
Aspiration	Turbocharged Air-to-Air Aftercooled
Fuel Injection System	Electronic Unit Injection
Governor	Electronic ADEM™ A4 – G3 Class* capable

Model	Standby	Prime	Emission Strategy
C18	650 ekW, 812 kVA	600 ekW, 750 kVA	EPA TIER II

## PACKAGE PERFORMANCE

Performance	Standby	Prime
Frequency	6	D Hz
Genset Power Rating	812 kVA	750 kVA
Genset power rating with fan @ 0.8 power factor	650 ekW	600 ekW
Emissions	EPA	TIER II
Performance Number	EM3838	EM3839
Fuel Consumption		
100% load with fan, L/hr (gal/hr)	181.7 (48.0)	166.7 (44.0)
75% load with fan, L/hr (gal/hr)	137.2 (36.2)	125.1 (33.0)
50% load with fan, L/hr (gal/hr)	95.0 (25.1)	88.8 (23.4)
25% load with fan, L/hr (gal/hr)	56.6 (14.9)	53.4 (14.1)
Cooling System <sup>1</sup>		
Radiator air flow restriction (system), kPa (in. water)	0.12 (0.48)	0.12 (0.48)
Radiator air flow, m³/min (CFM)	900 (31783)	900 (31783)
Engine coolant capacity, L (gal)	20.8 (5.5)	20.8 (5.5)
Radiator coolant capacity, L (gal)	77 (20.3)	77 (20.3)
Total coolant capacity, L (gal)	97.8 (25.8)	97.8 (25.8)
Inlet Air		
Combustion air inlet flow rate, m³/min (CFM)	65.4 (2309)	63.3 (2235.4)
Max. Allowable Combustion Air Inlet Temp, °C (°F)	48 (119)	48 (118)
Exhaust System		
Exhaust stack gas temperature, °C (°F)	425.9 (798)	403.8 (758)
Exhaust gas flow rate, m³/min (CFM)	159.1 (5618)	148.2 (5233)
Exhaust system backpressure (maximum allowable), kPa (in. water)	10.0 (40.0)	10.0 (40.0)
Heat Rejection		
Heat rejection to jacket water, kW (BTU/min)	208 (11828)	190 (10805)
Heat rejection to exhaust (total), kW (BTU/min)	662 (37647)	600 (34121)
Heat rejection to aftercooler, kW (BTU/min)	249 (14160)	230 (13079)
Heat rejection to atmosphere from engine, kW (BTU/min)	122 (6938)	113 (6426)

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## C18 Diesel Generator Sets Electric Power



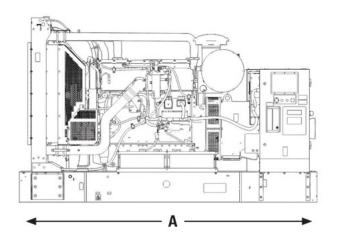
Emissions (Nominal) <sup>2</sup>	Standby	Prime
NOx, mg/Nm³ (g/hp-hr)	2053.7 (4.61)	1,994.4 (4.43)
CO, mg/Nm³ (g/hp-hr)	95.3 (0.21)	64.0 (0.15)
HC, mg/Nm³ (g/hp-hr)	34.1 (0.09)	34.0 (0.09)
PM, mg/Nm³ (g/hp-hr)	13.0 (0.03)	10.6 (0.03)

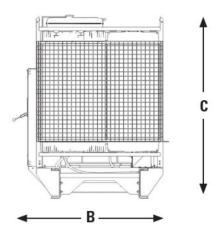
Alternator <sup>3</sup>											
Duty Cycle		Standby				Prime					
Phase			3-Phase				3-Phase				
Voltages, V		208	220	240	480	600	208	220	240	480	600
Current, Amps	Current, Amps		2132	1955	977	782	2082	1968	1804	902	722
Frame: LC7224H Excitation: AREP	Temperature Rise @ 40°C		150	130	130	150		125	105	105	125
	Motor Starting Capability @ 30% Voltage Dip, skVA		1829	2147	2147	1598		1829	2147	2147	1598
Frame: LC7224J Excitation: AREP	Temperature Rise @ 40°C	150	130	105	105	105	125	105	105	105	105
	Motor Starting Capability @ 30% Voltage Dip, skVA	1930	2142	2512	2512	2512	1930	2142	2512	2512	2512
Frame: LC7224L Excitation: AREP	Temperature Rise @ 40°C	105	105	80	80	105	105	80	80	80	80
	Motor Starting Capability @ 30% Voltage Dip, skVA	1917	2129	2501	2501	2503	1917	2129	2501	2501	2503
Frame: LC7224N Excitation: AREP	Temperature Rise @ 40°C	105	80			80	80	80			80
	Motor Starting Capability @ 30% Voltage Dip, skVA	2403	2666			3368	2403	2666			3368
Frame: LC7224P Excitation: AREP	Temperature Rise @ 40°C	80					80				
	Motor Starting Capability @ 30% Voltage Dip, skVA	2392					2392				

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#### **WEIGHTS & DIMENSIONS**





Dim "A"	Dim "B"	Dim "C"	Dry Weight
mm (in)	mm (in)	mm (in)	kg (lb)
3512 (138)	1746 (69)	2322 (92)	4863 (10721)

**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, UL489, UL869, UL2200, IBC, IEC60034-1, ISO 3046, ISO 8528, NEMA MG 1-22, NEMA MG 1-33 and facilitates the compliance to NFPA 37, NFPA70, NFPA 99, NFPA110.

**Note:** Codes may not be available for all model configurations. Site level review needed for NFPA 70. Please consult your Cat Dealer for availability.

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

**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.

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

## **DEFINITIONS AND CONDITIONS**

- <sup>1</sup> For ambient and altitude capabilities consult your Cat dealer. Air flow restriction (system) is added to existing restriction from factory.
- <sup>2</sup> Emissions data measurement procedures are consistent with those described in EPA CFR 40 Part 89, Subpart D & E and ISO8178-1 for measuring HC, CO, PM, NOx. Data shown is based on steady state operating conditions of 77° F, 28.42 in HG and number 2 diesel fuel with 35° API and LHV of 18,390 BTU/lb. The nominal emissions data shown is subject to instrumentation, measurement, facility and engine to engine variations. Emissions data is based on 100% load and thus cannot be used to compare to EPA regulations which use values based on a weighted cycle.
- <sup>3</sup> UL 2200 Listed packages may have oversized generators with a different temperature rise and motor starting characteristics. Generator temperature rise is based on a 40° C ambient per NEMA MG1-32.
- \*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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