Generator set data sheet

Model: C220D5E
Frequency: 50Hz
Fuel type: Diesel
kW rating: 176 Standby
160 Prime

Emissions level: Tier III

Exhaust emission data sheet:	
Sound performance data sheet:	
Cooling performance data sheet:	
Genset outline:	**A066A297**

Fuel consumption

	Standby				Prime			
	kW (kVA)				kW (kVA)			
Ratings	176 (220)				160 (200)			
Load	**25%**	**50%**	**75%**	**100%**	**25%**	**50%**	**75%**	**100%**
US gph	4,4	8,4	11,5	14,8	4,0	7,8	10,6	13,4
L/h	16,80	31,97	43,70	56,1	15,20	29,60	40,26	50,57

Engine

	Stanby rating	Prime rating
Engine manufacturer	Cummins	
Engine model	QSB7-G5	
Configuration - No. of cylinders	6	
Aspiration	Turbocharged, Air to Air Aftercooled	
Gross engine power output, kWm (bhp)	242 (324)	208 (279)
BMEP at set rated load, kPa (psi)	2537 (368)	2172 (315)
Bore, mm (in.)	107 (4,21)	
Stroke, mm (in.)	124 (4,88)	
Rated speed, rpm	1500	
Compression ratio	17,2:1	
Lube oil capacity, L (US gal)	17,4 (4,6)	
Overspeed limit, rpm	2100 ± 50	
Governor type	Electronic	
Starting Voltage	12	

Fuel flow

Maximum fuel flow, L/hr (US gph)	106 (28)
Maximum fuel inlet restriction, kPa (in Hg)	33,86 (10)
Maximum fuel inlet temperature, °C (°F)	71 (160)
Maximum fuel return line restriction, kPa (in Hg)	20,32 (6)

Air

	Stanby rating	Prime rating
Combustion air, CFM (L/s)	449,2 (212)	434,37 (205)
Maximum air cleaner restriction, kPa (in H2O)	6,23 (25)	
Alternator cooling air, m³/min (cfm)	37,02 (1308)	

Exhaust

Exhaust flow at set rated load, CFM (L/s)	1265 (597)	1205 (569)
Exhaust temperature, °C (°F)	561 (1041)	544 (1011)
Maximum back pressure, kPa (in H2O)	10,16 (40,83)	

Standard set-mounted radiator cooling

Ambient design, °C (°F)	50 (122)	
Fan load, kWm (HP)	12,69 (17)	
Coolant capacity (with radiator), L (US gal)	30 (7,93)	
Cooling system air flow, m³/min (scfm)	462 (16493,4)	
Total heat rejection, MJ/min (Btu/min)	4,72 (4475)	4,15 (3932)
Maximum cooling air flow static restriction, kPa (in H2O)	0,12 (0,5)	

Weights

Unit Open dry weight*, kgs	1672
Unit Open wet weight*, kgs	1722
Unit Enclosed dry weight*, kgs	-
Unit enclosed wet weight*, kgs	-

*Note: Weights represent a set with standard features. See outline drawings for weights of other configurations.

Alternator data

Voltage	Connection	Temp rise degrees C	Duty[1]	Winding No.	Frame Size
380	3Phase	150	S/P	311	UC274H
400	3Phase	150	S/P	311	UC274H
415	3Phase	150	S/P	311	UC274H

Notes:

[1] Standby (S) and Prime (P).

Derating factors

Standby	Rated power available up to 1000 m (3280 ft) elevation at an ambient temperature of 40°C (104°F). Above these conditions, it should be reduced by 5,7% every 300 m (1000 feet) up to 3500 m (11483 ft). For other temperature and altitude limits, consult a Cummins distributor.
Prime	Rated power available up to 1000 m (3280 ft) elevation at an ambient temperature of 40°C (104°F). Above these conditions, it should be reduced by 7,8% every 300 m (1000 feet) up to 3500 m (11483 ft). For other temperature and altitude limits, consult a Cummins distributor.

Ratings definitions

Emergency Standby Power (ESP):	**Limited-Time Running Power (LTP):**	**Prime Power (PRP):**	**Base Load (Continuous) Power (COP):**
Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528. Fuel stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.	Applicable for supplying power to a constant electrical load for limited hours. Limited-Time Running Power (LTP) is in accordance with ISO 8528.	Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.	Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) is in accordance with ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514.

Formulas for calculating full load currents:

Three phase output

$$\frac{\text{kW} \times 1000}{\text{Voltage} \times 1.73 \times 0.8}$$

Warning: Back feed to a utility system can cause electrocution and/or property damage. Do not connect to any building's electrical system except through an approved device or after building main switch is open.

For more information contact your local Cummins distributor

or visit power.cummins.com

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