

Generator set data sheet



Model: C450D5
Frequency: 50 Hz
Fuel type: Diesel

Spec sheet:	SS11-CPGK
Noise data sheet (open):	ND50-OS550/ND50-CS550
Airflow data sheet:	AF50-550
Derate data sheet (open):	DD50-OS550/DD50-CS550
Transient data sheet:	TD50-550

Fuel consumption	Standby				Prime			
	kVA (kW)				kVA (kW)			
Ratings	450(360)				410(328)			
Load	1/4	1/2	3/4	Full	1/4	1/2	3/4	Full
US gph	6.3	11.9	17.7	24.2	5.7	10.8	15.9	21.5
L/hr	23.8	45	66.9	92	22	41	60	82

Engine	Standby rating	Prime rating
Engine manufacturer	Cummins	
Engine model	QSG12-G2	
Configuration	Cast iron, 6 cylinder	
Aspiration	Turbocharged and after cooled	
Gross engine power output, kWm	409	371
BMEP at set rated load, kPa	2772	2517
Bore, mm	132	
Stroke, mm	144	
Rated speed, rpm	1500	
Piston speed, m/s	7.2	
Compression ratio	17:1	
Lube oil capacity, L	34.1	
Overspeed limit, rpm	1725	
Regenerative power, kW	56	
Governor type	Electronic	
Starting voltage	24V Volts DC	

Fuel flow	
Maximum fuel flow, L/hr	182
Maximum fuel inlet restriction, mm Hg (clean filter)	304.8
Maximum fuel inlet temperature, °C	71

Air	Standby rating	Prime rating
Combustion air, L/sec	424	387
Maximum air cleaner restriction, kPa	6.2 (Dirty HD AC)	

Exhaust		
Exhaust gas flow at set rated load, L/sec	1029	936
Exhaust gas temperature, °C	524	507
Maximum exhaust back pressure, kPa	10.2	

Standard set-mounted radiator cooling

Ambient design, °C	50	
Fan load, kWm	14.08	
Coolant capacity (with radiator), L	48	
Cooling system air flow, m3/sec @ 12.7 mmH2O	7.15	
Total heat rejection, kW	214	191
Maximum cooling air flow static restriction kPa	0.125	

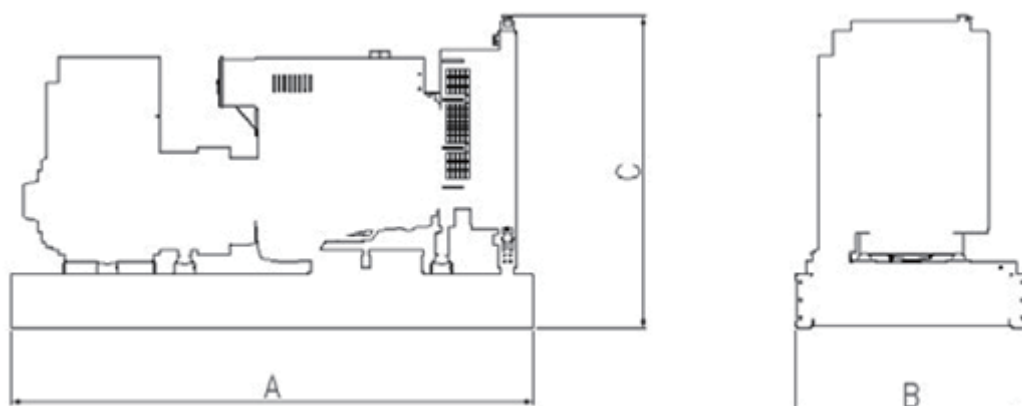
Weights*	Open	Enclosed
Unit dry weight kgs	3116	4436
Unit wet weight kgs	3799	5166

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

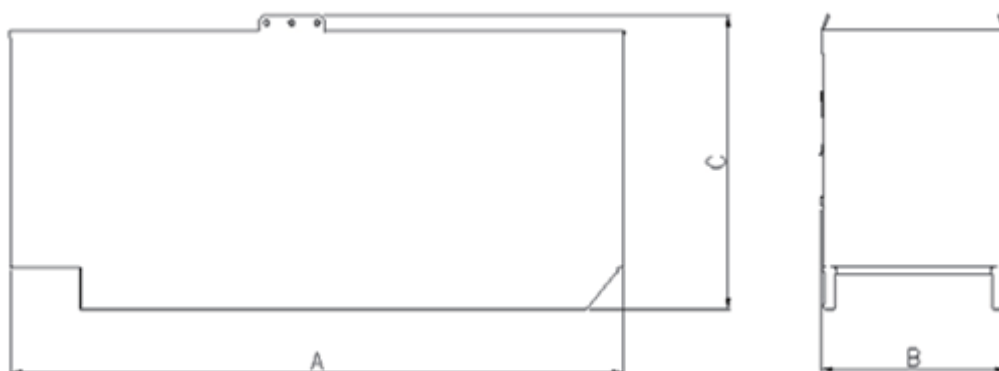
Dimensions	Length	Width	Height
Standard open set dimensions mm	3686	1100	2180
Enclosed set standard dimensions mm	5093	1564	2375

Genset outline

Open set



Enclosed set



Outlines are for illustrative purposes only. Please refer to the genset outline drawing for an exact representation of this model.

Alternator data

Connection	Temp rise °C	Duty	Alternator	Voltage
Wye, 3-phase	150/125 C	S/P	S4G	190-220V and 380-440V

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

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

Single phase output

$$\frac{\text{kW} \times \text{Single Phase Factor} \times 1000}{\text{Voltage}}$$



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