

Diesel generator set C series



Specification sheet
200 kWe, 250 kVA Prime



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Lowest life cycle cost

'C series' design features have made Cummins® diesel, the standard for comparison of operating economy, reliability and long life. When all cost factors like initial purchase, fuel, lube oil, maintenance and overhaul are considered, the bottom line will show that this **Cummins® 'C series'** will deliver the lowest life cycle cost.

Heavy duty, durable and emission compliant

Cummins® 'C series' diesel engine comes with heavy duty features, bigger size camshaft, optimized turbo-matching and is yet compact in size with optimum power to weight ratio making it the obvious choice for your long-term power needs.



The genset powered by the reliable **Cummins® 'C series'** diesel engine meets stringent exhaust emission tests as per MOEF norms without sacrificing fuel efficiency at normal operating loads.

Silent Power

Cummins® 250 kVA enclosure is so designed as to have optimum performance and serviceability over the complete operating range. The enclosure is compact with integral fuel tank and is designed for ease in maintenance. The powder coated enclosure is manufactured on latest CNC machines to ensure superior finish and durability.

Single source power assurance

Design, manufacture and testing of engine, alternator, enclosure and other accessories is done by Cummins Group of companies for that optimum performance integrity and is backed by countrywide product support network with single source responsibility for the entire package.

Standard scope

Engine: Cummins® 'C series', direct injection, water cooled engine, 6 cylinder, in-line, 4 stroke, rated at 1500 RPM, conforming to ISO 3046 / BS 5514 has the following specifications:

- **Digital electronic governor**
- In-line fuel pump
- Optimised turbocharger
- Stainless steel exhaust flexible coupling
- Silencer
- Radiator
- Coolant inhibitor
- Plate-type lube oil cooler
- Spin-on filters - coolant, fuel & lube oil
- Dry-type, heavy duty replaceable paper element air cleaner with restriction indicator
- Flywheel housing and flywheel to suit single bearing alternator
- Electrical starter motor
- Battery charging alternator
- First fill lube oil

Alternator: Stamford brushless alternator

- Self-excited, self regulated
- Class 'H' insulation
- Salient pole revolving field
- Single bearing
- Digital automatic voltage regulator (part of PCC 1301)

Genset controller: Cummins **PowerCommand**® **PCC 1301** microprocessor based integrated generator set monitoring, metering, protection and control system with built-in torque matched Volts/Hz overload control.



Single control for all genset functions:

- Digital governing
- Digital voltage control
- Engine control
- Operator interface
- Protection
- Advanced control functions

Standard features of genset controller:

Engine

Metering	Protection
- RPM	- Low lube oil pressure
- Battery voltage	- High water temp.
- Lube oil pressure	- High /low DC voltage
- Coolant temp.	- Weak battery
- Running hours	- Overspeed

Alternator

Metering	Protection
- 3 phase voltage (L-L and L-N)	- Under voltage
- 3 phase current	- Over voltage
- Frequency	- Over current
- kVA	- Under/ over-frequency
	- Loss of sensing

Others

- Battle switch function
- Delay start/ stop
- Configurable cranking cycle
- Sleep mode time

Accessories:

- Silencer suitably optimized to meet stringent sound emission standards laid down by MOEF / CPCB
- Base rail with integral fuel tank (375 litres capacity) is provided with drain plug, air vent, inlet and outlet connection, level indicator, manhole etc.
- 2 x 12 V dry, uncharged batteries with connecting leads and terminals

Acoustic enclosure:

- Specially designed to meet stringent MOEF/ CPCB norms of 75 dBA @ 1mtr at 75% load under free field conditions
- Designed to have optimum serviceability
- Air inlet louvers specially designed to operate at rated load even at 50 deg C air inlet temp.
- Made on special purpose CNC machines for consistency in quality and workmanship
- Powder coated for long lasting service life and superior finish
- With UV resistant powder coating, can withstand extreme environments
- Use of stainless steel hardware
- Insulation material meets exacting IS 8183 specs for better attenuation



Control panel: Powder coated control panel manufactured with 14 / 16 gauge CRCA sheet provides:

- MCCB of suitable rating with overload and short circuit protection
- Combined meter for KW, kVA and PF
- KWh meter
- Current transformers
- Aluminum busbars of suitable capacity with incoming and outgoing terminations
- Indicating lamps for "DG On" and "Load On"
- Instrument fuses/ MCB duly wired and ferruled

Optionals

Engine: Coolant heater with thermostatic switch and lube oil heater

Alternator: Thermistors, space heater

Control panel: AMF control panel, battery charger, remote/ auto start panel, auto/ manual synchronizing panel, audio-visual annunciation and indication lamps for engine faults

Others: Mobile sets with canopy

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 Accessories shown are not part of standard equipment
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Technical data

Generator set specifications

Model	C 250 D5 P
Prime Power Rating kVA	250
Output Voltage and Frequency	415 Volts, 50 Hz
Power Factor	0.8 (lag)
No. of phases	3 phase

Engine specifications

Make	Cummins
Model	6CTAA8.3G4
No. of cylinders	6, in- line
Aspiration	Turbocharged-Air to air cooled
Bore x Stroke	114 mm x 135 mm
Displacement	8.3 ltrs
Output - Prime	310 bhp / 231 KW
Fuel consumption @ 75% load with Radiator & Fan	40.8 ltr/hr
Fuel consumption @ 100% load with Radiator & Fan	53.3 ltr/hr
Typical lube oil consumption @ full load	0.14 ltr/hr
Total wet weight (engine + radiator)	968 kg
Length x Width x Height (engine)	1129 x 711 x 1171 mm
Compression Ratio	15.3 : 1
Piston Speed	6.75 m/s
Governor / Class	Electronic / A1
Lubricating oil sytem capacity	39 ltrs
Coolant capacity (engine + radiator)	42 ltrs
Combustion air intake @ 100% load (+/- 5%)	17.1 m ³ /min
Fan air flow across radiator	23976 cfm
Exhaust Temperature	523 °C
Battery Capacity / Rating	180 AH, 2 X 12 V

Alternator specifications

Make	Stamford
Frame size / Model No.	HC4C
Voltage Regulation	± 1%
Insulation	Class H
Standard Enclosure	IP 23
Winding Pitch	2 / 3 Pitch
Stator Winding	Double layer lap
Rotor	Dynamically balanced
Wave form distortion	No load < 1.8 %, non distorting balanced linear load < 5 %
Telephone Interference Factor	Better than 50
Total Harmonic Factor	Better than 2%

Conformance standards

IS 4722, BS 5000, IEC 34 / 1, ISO 8528, BS 5514, ISO 3046

Rating definition

- Prime power rating is applicable for supplying continuous electric power (at variable load) in lieu of commercially purchased power.
- Prime power is available for an unlimited number of hours per year in a variable load application.
- 10% overload is available for 1 hour in every 12 hours of operation.
- Rating definition is as per ISO 3046 / BS 5514.
- Fuel consumption data is based on diesel having specific gravity of 0.85 and conforming to IS:1460/ Equivalent
- Oil consumption data is based on oil having specific gravity of 0.89 and meeting CH4 API categories
- Fuel consumption tolerance is +5%

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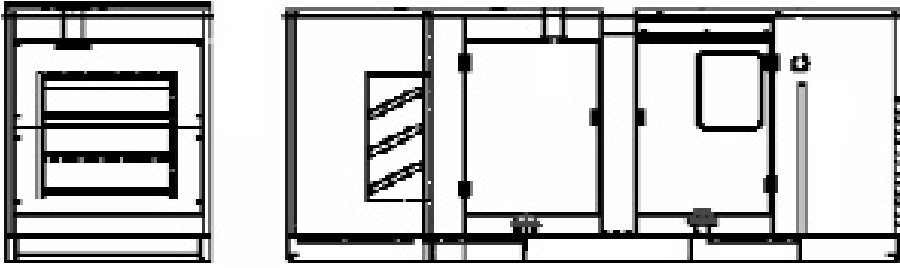
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Typical enclosure dimensions*

Genset Model	Rating (kVA)	Length (mm)	Width (mm)	Height (mm)	Weight (kgs.) (Dry)
C 250 D5 P	250 kVA	4850	1700	2050	5424



Typical diesel generator set dimensions

Genset Model	Rating (kVA)	Length (mm)	Width (mm)	Height (mm)	Weight (kgs.) (Dry)
C 250 D5 P	250 kVA	2875	1379	1636	2093

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*Dimensions of the enclosure are excluding the silencer
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