



250 KVA Diesel Generator

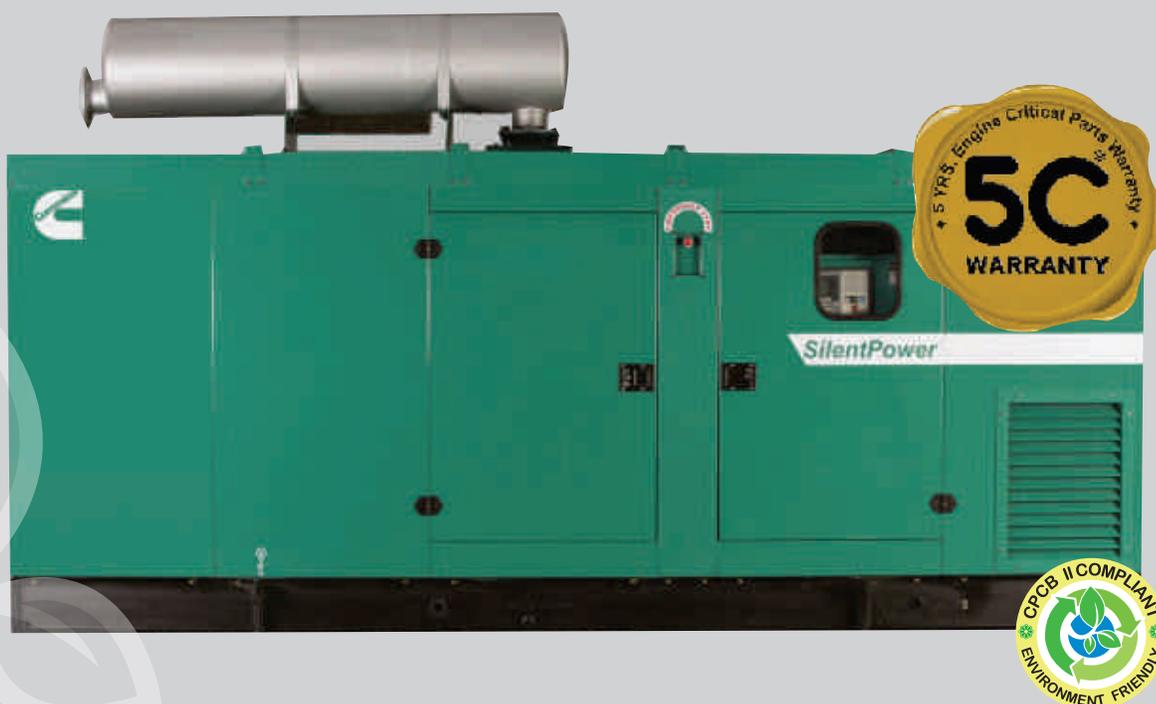
Technical data sheet



Diesel Generator Set

L8.9 Series

250 kVA, 200 kW Prime



Latest Technology Product with Global Cummins® Platform

- The Cummins® L8.9 series heavy-duty engine and world class Stamford alternator powered diesel generator set
- Best in class fuel economy at average operating range
- Advanced in-cylinder technology to meet latest emission norms without any after-treatment device
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- Smart aesthetic and superior finish
- Compact in size with optimum power to weight ratio

Environment Friendly Power

- Class defining technology engine is designed to meet stringent exhaust emission tests as per revised MoEF norms, thus offering environment friendly power
- Cummins® diesel generator sets are available with the lowest noise levels in its range

Lowest Operating Cost and Comprehensive Warranty

- Highly reliable and durable product
- L8.9 series engine designed to have maximum efficiency at average operating loads, making total cost of operation (TCO) lowest in its range.
- 500 Hours/ 1 year service interval
- Industry acknowledged best-in-class comprehensive warranty on the entire package including rubber components

Single Source Power Assurance

- All the major components – the engine, alternator, control system and canopy are designed, manufactured and tested by Cummins India.
- Best and largest customer support network in India, capable of providing round-the-clock service and spares support
- All these things put together, Cummins® offers you SINGLE SOURCE POWER ASSURANCE

Engine

- Cummins® L8.9 series, 6 cylinder, in-line 4 stroke, radiator cooled engine
- Well designed air handling system with
 - Dry type, Replaceable paper element air cleaner with restriction indicator
 - Air to air aftercooler
 - Optimised turbocharger for increased altitude capabilities
- Best in class fuel economy with
 - Inline fuel system with A1 class electronic governing
 - Dual fuel filter system: Pre filter including water separator and main filter
- Standard integral set-mounted radiator system, designed and tested for 50°C ambient temperature
- Full flow spin on lube oil filter
- Plate type lube oil cooler
- First fill of lube oil and coolant
- Electrical starter motor with soft start engagement feature
- Battery charging alternator
- 2 x 12 V DC batteries



Alternator

- Stamford UC27 alternator frames from Cummins Generator Technologies
- Brushless type, Screen protected, Revolving field, Self excited alternator conforming to IS/IEC 60034-1
- Better motor starting capability
- Best in class efficiency
- Compact design with sealed bearings for longer life and lesser maintenance
- Impregnation on all wound components for better mechanical strength

Control Panel

Control panel is manufactured with 14/16 gauge CRCA sheet and is powder coated for weather-proof and long lasting finish. The control panel consists of the following parts:

- PS0600 controller
 - Aluminum bus bars with suitable capacity with incoming/outgoing terminals
- Indicating lamps for 'Load ON' and 'Set Running'
- Instrument fuses duly wired and ferruled
- Circuit breakers of suitable rating with overload and short circuit protections

PS0600 Features

Cummins® PowerStart™ PS0600 control is a microprocessor based generator set monitoring and control system. AMF Functionality is inbuilt and this control includes an intuitive operator interface that allows for complete generator set control as well as system metering, fault annunciation, configuration, and diagnostics.



- AMF Functionality
- Intuitive operator interface which includes LED backlit 128X64 pixel graphic display with tactile feel soft-switches. Indications - Generator set, Utility Status Lamp.
- Remote Start-Stop
- Engine Metering: Oil pressure, Engine temperature, Starting battery voltage, Engine running hours
- AC Alternator Metering: L-L Voltage and L-N Voltage, Current (phase and total), kVA (phase and total) and Frequency, kwh, Total & per phase (kw & kVA), PF, Utility Voltage and Freq.
- Engine Protection: Low lube oil pressure, High/Low coolant temperature, Battery Over/Under/Weak Volts, Fail to Crank/Start, Sensor failure, Cranking lockout, Low fuel level.
- AC Alternator Protection: Over/Under Voltage, Over/Under Frequency, Loss of AC Sensing, Overspeed, Over Current.
- Data Logging: Engine Hours, Control Hours and upto 5 recent fault codes
- Configurable glow plug control
- 12/24 Volt DC operation
- Sleep mode
- Modbus interface (RS485 RTU)
- InPower compatible (PC based service tool)
- Certifications - meets the requirement of relevant ISO, EN, Mil Std. and CE standards
- Maintenance due alarm based on Engine Run Time and due date
- Exercisor scheduler

Silencer

- Hospital grade silencer suitably optimized to meet stringent noise emission standards laid down by MoEF / CPCB

Mounting Arrangement

- Engine and alternator are mounted on a common MS fabricated base frame with AVM pads.
- Base frame with integral fuel tank is provided with drain plug, air vent, inlet and outlet connection, level indicator and provision for cleaning

Optional

- **Engine:** Coolant heater, lube oil heater, Heavy duty air cleaner.
- **Alternator:** PMG
- **Control Panel:** - PC3.3
 - Bargraph for PC3.3 Panel with kW, Power factor, Frequency, Current, Voltage
 - Remote HMI
 - Microprocessor / relay based AMF control Panel

Acoustic Enclosure

- Specially designed to meet stringent MoEF/ CPCB norms of 75 dBA @ 1mtr at 75% load under free field conditions
- The acoustic enclosure is made of CRCA sheets in munsel green shade and a structural/ sheet metal base frame painted in black
- High quality noise absorbant and fire-retardant grade acoustic insulation material (Rockwool) complying to IS 8183
- Base lifting for easy handling at customer site

- Designed to have optimum serviceability
- Air inlet louvers specially designed to operate at rated load
- Made on special purpose CNC machines for consistency in quality and workmanship
- 11 tank pretreatment process and UV resistant powder coating of all parts to withstand extreme environment
- Use of special hardware for longer life
- Flush styling - no projections
- Fluid drains for lube oil and fuel
- Fuel filling arrangement inside the enclosure

Technical Data

Generator Set Specification

Model	C250D5P
Duty	Prime
Power Rating kVA / kWe	250/200
No. of Phases	3
Output Voltage and Frequency (V and Hz)	415 V, 50 Hz
Power Factor	0.8 (lagging)
Current (A)	348
RPM	1500

Engine specification

Make	Cummins®
Model	6L8.9TAA-G4
MoEF Certified Power (bhp)	335
Required Power for Rated kVA (bhp)	303
Cooling	Liquid cooled (EG Compleat 50:50)
Aspiration	Turbocharged, Charge air cooled
No. of cylinders	6, In-line
Bore (mm) x Stroke (mm)	114 x 145
Compression ratio	16.6:1
Displacement (litre)	8.9
Fuel	High Speed Diesel
Fuel consumption @75% load with radiator and fan* (litre/hr)	43.43
Fuel consumption @100% load with radiator and fan* (litre/hr)	59.35
Performance class of generator set	ISO 8528-5 G2
Starting system	24 V DC Electrical
Lube oil specification	CI4+ 15W40
Lube oil sump capacity, High-Low level (litre)	30-20
Total lubrication system capacity (litre)	34
Total coolant capacity (litre)	36.8
Exhaust pipe size (inch)	6
Total wet weight (Engine+Radiator)** (kg)	961
Length x Width x Height (Engine) (mm)	1128 x 791 x1277
Mean piston speed (m/s)	7.2
Combustion air intake @100% load (±5%) (cfm)	637
Exhaust Temperature (°C)	499

Alternator specification

Make	Stamford (CGT)
Alternator Frame	UCI274K
Enclosure	IP 23
Voltage regulation (Max.)	±1%
Class of Insulation	H Class
Winding Pitch	2/3
Stator Winding	Double layer lap
Rotor	Dynamically Balanced
Waveform distortion/ Total Harmonic Distortion	No load < 1.5 %, Non distorting balanced linear load < 5 %
Maximum Unbalanced Load across phases#	less than or equal to 25%
Telephonic Harmonic factor	< 2%

* Fuel consumption data is based on diesel having specific gravity of 0.85 and conforming to IS:1460. Fuel consumption tolerance is +5%

With the condition that none of the phases exceeds its rated current

Rating Definitions

Prime Power (PRP):

Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528.

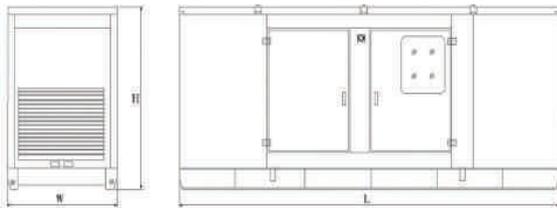
Conformance Standards

- IS/IEC 60034-1
- IS 1460
- ISO 8528
- ISO 3046
- ISO 9001
- IS 13018

Typical Enclosed Genset Dimensions

Genset Model	Rating (kVA)	Length (mm)	Width (mm)	Height (mm)	Wet Weight ^{##} (kg)	Standard Fuel tank Capacity (litre)
C250D5P	250	4800	1500	2025	4065	450

^{##}Approximate weight



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