Cummins Power Generation
C900 D5
Diesel Generator Set

> **Specification sheet**
> **C900 D5**
> **50Hz**
> **Our energy working for you.™**

Power Generation

Made by Cummins Power Generation

Cummins Power Generation commercial diesel generator sets integrate the universal design, production and testing standard of Cummins, providing fully reliable and integrated power generation systems with optimum performance for applications in standby power, prime power and continuous operation.

In accordance with the standard of ISO8528-2005 and GB/T2820-2009 AC Generator Sets Driven by Reciprocating Internal Combustion Engine.

Certified to ISO9001 and ISO9002 for generator set design and manufacture.

Cummins provides full quality assurance and is responsible for the warranty of generator sets including engine, alternator and control system.

National specialized service network ensures 24 hours after-sale service and the supply of parts and accessories.

Standard Features of Generator Set

Engine: Cummins QSK23 series engine.

Type：Four-stroke, water cooled, turbocharged and air-to-air aftercooled.

Structure：Cast steel crankshaft, connecting rod, cast iron cylinder block.

Cooling system：Built-in water circulating pump and thermostat improves working efficiency of engine.

Filter：Cummins Fleetguard series high-precision filter.

Alternator: Stamford HC series permanent magnet generator （PMG）- offering enhanced motor starting and fault-clearing short-circuit capacity.

Type：Revolving magnetic field, single bearing, 4 pole, brushless, drip proof structure, in accordance with GB755, BS5000, and IEC34-1.

Stator：Taper slot structure, 2/3 pitch windings, effectively suppressing waveform distortion of third harmonic current and output voltage under non-linear load.

Rotor：Flexible driving disc connected to engine directly, perfect damper winding reduces parallel oscillation.

Cooling system：Directly drive centrifugal blower fan.

Control System: PowerCommand® control system based on microprocessor.

Short-Circuit Protection: Schneider breaker, AmpSentry™ patent protection, PowerCommand® controller.

Base Frame: Bolted steel base frame with A/V mounting, complex seismic structure and bottom oil tank.

Radiator: Standard genset mounted radiator.

Standard Accessories: Exhaust elbow, exhaust bellows, exhaust silencer, etc.

Genset model	Standby Power		Prime Power		Engine	Alternator	Control System
	kVA	kW	kVA	kW			
C900 D5	900	720	820	656	QSK23-G3	HCI634H	PCC2100

230/400VAC，50Hz，0.8PF（lagging）3phase

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Power Generation

Generator Set Specifications

	Standby	Prime
Voltage regulation (no load to full load)	±1%	
Steady-state voltage variation	±1%	
Frequency regulation (no load to full load)	Isochronous	
Steady-state frequency variation	±0.25%	
EMC compatibility	BS EN 61000-6-4 / BS EN 61000-6-2	
Fuel consumption, g/kw·h(L/hr)@100% load	197（178）	195（161）
Battery starting capacity, A/hr	180*4	
Total coolant capacity (with engine and water tank), L	127	
Bottom oil tank capacity, L	NA	

Engine Specifications

Model	QSK23-G3
Configuration	Cast iron, in-line, 6-cylinder
Displacement, L	23.15
Compression ratio	16.0:1
Aspiration	Turbocharged and air-to-air aftercooled
Fuel system	Direct injection
Bore* stroke, mm	170*170
Rated speed, rpm	1500
Governor type	Electronic
Starting voltage	24V, negative ground
Battery charging alternator	24V,35A
Cold starting current, CCA	1800 (-18℃)
Lube oil capacity, L	103
Combustion air (standby), m³/s	0.9
Coolant capacity, L	47
Maximum fuel flow, L/hr	684
Maximum fuel inlet resistance, mmHg	203

Generator Specifications

Protection class	IP23
Insulation system	Class H
Standard temperature rise	Standby, 150℃（at 40℃ ambient temperature）
Exciting type	PMG
AC waveform total harmonic distortion	<1.5% no load, <5% 3-phase balanced linear load
Telephone influence factor（TIF）	<50（per NEMA MG1-22.43）
Telephone harmonic factor（THF）	<2%

Exhaust Specifications

	Standby	Prime
Exhaust gas flow at rated load, L/S	2463	2259
Exhaust gas temperature, ℃	543	532
Maximum exhaust back pressure, kPa	10	

Cooling System Specifications

Radiator ambient design, ℃	40
Minimum air inlet (outlet) area, m²	3.11（2.4）
Radiator tank capacity, L	80
Radiator cooling air flow(standby), m³/s	13.1
Total heat rejection, kW	73.1
Maximum cooling air flow static resistance, Pa	124.5

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PowerCommand® 2100

The PowerCommand® control system is a microprocessor based generator set monitoring, and control system.

The control provides an operator interface to the genset, digital voltage regulation, digital governing and generator set protective functions.

The PowerCommand® 2100 generator set control is suitable for use on a wide range of generator sets in nonparalleling applications.

The PowerCommand® 2100 can be configured for any frequency, voltage and power connection configuration from 120 to 600 VAC for 50 Hz or 60 Hz operation.

Power for the control is derived from the generator set starting batteries. The control functions over a voltage range from 8 VDC to 35 VDC.

Major features

- 12 or 24 VDC battery operation.
- Digital engine speed governing (optional) to provide isochronous frequency regulation.
- Digital voltage regulation with 3-phase sensing.
- AmpSentry™ protection for true alternator overcurrent protection.
- Digital AC output metering with optional analog metering.
- Battery monitoring system to sense and warn against a weak battery condition.
- Digital alarm and status message display.
- Generator set monitoring – Displays status of all critical engine and alternator generator set functions.
- Smart starting control system – Integrated fuel ramping to limit black smoke and frequency overshoot.

Control system

Includes all functions to locally or remotely start and stop, and protect the generator set.

Control switch – RUN/OFF/AUTO

OFF mode – the generator set is shut down and cannot be started.

RUN mode – the generator set will execute its start sequence.

AUTO mode – the generator set can be started with a start signal from a remote device.

LED indicating lamps – includes LED indicating lamps for the following functions:

- Generator set running.
- Not-in-auto mode.
- Common warning.
- Five LED indicating lamps that are configurable for colour and function.
- Low oil pressure warning.
- High engine temperature warning.
- Low oil pressure shutdown.
- Overspeed shutdown.
- Fail to start.

Emergency stop switch

Immediate shut down of the generator set on operation.

Base engine protection

- Overspeed shutdown.
- Low oil pressure warning/shutdown.
- High engine temperature warning/shutdown.
- Underspeed/sensor fail shutdown.
- Fail to start/fail to crank.
- Low/high battery voltage.

Options

- Analog AC metering panel.
- Key type mode selector switch.
- Exhaust temperature monitoring.
- PowerCommand network.
- CAN engine interface (optional on some models).
- Refer to the PowerCommand Controls Technical Bulletin for detailed information (S1409d).

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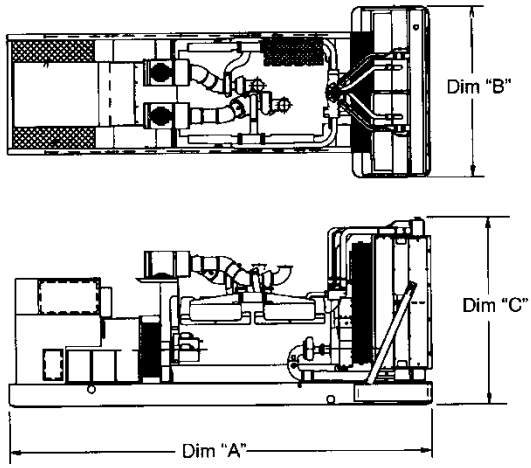
Standard Generator Set

Model	Dim “A”（mm）	Dim “B”（mm）	Dim “C”（mm）	Weight* Dry Weight（kg）
C900 D5	4169	1689	2120	6682

Standard Outline Drawings of Generator Set



The outlines are for illustrative purposes only, not used for installation design.

Please refer to genset outline drawing for exact representation of this model for installation design.

Ratings Definitions:

Emergency Standby Power (ESP):
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 GB.T2820/ISO 8528. The effective oil limited power is in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

Limited-time Running Power (LTP):
Applicable for supplying power to a constant electrical load for limited hours. Limited-time Running Power (LTP) is in accordance with GB.T2820/ISO 8528.

Prime Power (PRP):
Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with GB.T2820/ISO 8528. A 10% overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

Base Load (Continuous) Power (COP):
Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) is in accordance with GB.T2820/ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514.

East Asia, Cummins Power Generation

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