

Diesel Powered Generating Sets C500 D5



Standard Genset Features	Generator Set Performance	Generator Set Options
Cummins water cooled Diesel engine, Oil and fuel filter fitted, water separator Lube-oil drain valve fitted Electric starter & Charge alternator 24 v D.C. Electronic governor Normal duty air filter Single bearing alternator, class H/H Standard voltage 400/230 volts 50 Hz Exciter/Voltage reg - Torque Match as standard PCC2100 with Bargraph as standard Steel base frame with A/V mounting, Engine, Alternator, Chassis & Control Box Munsell Jade Green Radiator Packing under shrunk plastic film Operation & Maintenance manual Standard set of labels	Voltage Regulation Maintains voltage output to within $\pm 1.0\%$. At any power factor between 0.8 and 1.0 At any variations from No load to Full load At any variations from Cold to Hot. At speed droop variations up to 4.5%. Frequency Regulation Isochronous under varying loads from no load to 100% full load when electronic governor is fitted Random Frequency Variation Will not exceed $\pm 0.25\%$ of its mean value for constant loads – no load to full load. Waveform Total harmonic distortion open circuit voltage waveform in the order of 1.8%. Three-phase balanced load in the order of 5.0%. Telephone Influence Factor (TIF) TIF better than 50. THF to BS 4999 Part 40 better than 2%. Alternator Temperature Rise Class H insulation. Radio Interference In compliance with BS 800 and VDE levels G and N.	Fuel options Fuel Tank Exhaust Options Exhaust Silencer - Industrial In-Line Exhaust Bellows Exhaust Silencer - Residential , In-Line Installation Kit - Industrial Silencer Installation Kit - Residential Silencer Voltage Connections 240/416V, 230/400V, 220/380V, 127/220V, 115/200V, 110/190V Miscellaneous Options 3 pole or 4 pole Circuit Breaker Optional Set mounted starting batteries Coolant Heater 240V Battery Charger 240V,5A Automatic Transfer Switches Packing - Export Box
Engine Specification	Alternator Specification	Compliance Standards
QSX15G8 In-line direct injection 6-cylinder diesel engine. Type Water cooled, four cycle, turbocharged Construction Two valves per cylinder, forged steel crankshaft and connecting rods, cast iron block. Starting 24 volt negative earth. Battery charging alternator 35 amp on engine. Cranking current 640 amps at 0°C. Fuel System 24 volt fail safe actuator. Spin-on paper element fuel filters with fuel pump injection system with integral electronic governor. Dual flexible fuel lines and connectors. Standard fuel water separator. Filters Air cleaner with dry element. Spin-on full flow lube oil filter. Cooling 40°C ambient temperature standard Stone guard. Oil cooler. Drain Tap	Type Brushless single bearing, revolving field, pole, drip proof, screen protected. Class H Insulation, IP23 Protection Fully interconnected damper winding. AC exciter and rotating rectifier unit. Epoxy coated stator winding. Rotor and exciter impregnated with tropical grade insulating oil and acid resisting polyester resin. Dynamically balanced rotor BS 5625 grade 2.5. Sealed for life bearings. Layer wound mechanically wedged rotor Exciter Triple dipped in moisture, oil and acid resisting polyester varnish and coated with anti-tracking varnish. Output windings with 2/3 pitch for improved harmonics and paralleling ability. Close coupled engine/alternator for perfect alignment.	To BS4999/5000 pt 99, VDE 0530, UTE5100, NEMA MG1-22, CEMA, IEC 34, CSA A22.2, AS1359, BSS 5514, ISO 3046 and ISO 8528

Model name	kVA		kWe	
	Standby	Prime	Standby	Prime
C500 D5	500	450	400	360

Technical Data

Model	C500 D5	Speed	1500rpm
Set output	380-440 V 50 Hz	Alternator voltage regulation	±1.0%
Prime Rating	360 kWe 450 kVA	Alternator insulation class	H
Standby Rating	400 kWe 500 kVA	Fuel consumption (Prime)	103 l/hr
Engine Make	Cummins	Fuel consumption (Standby)	123 l/hr
Engine Model	QXS15G8	Lubrication system oil capacity	91.0 Litres
Cylinders	Six	Base fuel tank capacity – open set	1200 Litres
Engine build	In-line	Coolant capacity	65.9 Litres
Standard Governor/Class	Electronic	Exhaust temp – prime	488°C
Aspiration and cooling	Turbocharged and Charge Air Cooled	Exhaust gas flow – prime	1255 l/s
Bore and stroke	137 mm x 169 mm	Exhaust gas back pressure max	76 mm Hg
Compression Ratio	17.0:1	Air flow - radiator	10.44 m³/s
Cubic capacity	15 Litres	Air intake – engine (Prime)	540 Litres/s
Starting/Min °C	10°C	Minimum air opening to room	2.81 m²
Battery capacity	100 A/hr	Minimum discharge opening	1.87 m²
Gross Engine output – Prime	444 kWm	Pusher fan head (duct allowance)	13 mm Wg
Gross Engine output – Standby	500 kWm	Heat radiated by eng (Prime)	33 kWm

PRIME POWER

Prime Power is available continuously during the period of power outage in a variable load application. Variable load should not exceed a 70% average of the prime power rating during any 24 hour period. A 10% overload capability is available for a period of 1 hour within a 12 hour period of operation.

STANDBY POWER

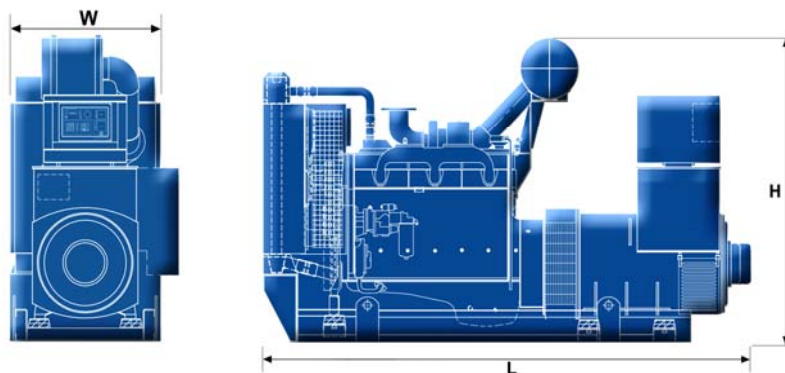
The Standby Power is applicable for supplying emergency power for the duration of a utility power interruption. No overload, utility parallel or negotiated outage operation capability is available at this rating. In installations served by unreliable utility sources (where outages last longer or occur more frequently), where operation is likely to exceed 200 hours per year, the prime power rating should be applied. The Standby Power rating is only applicable for emergency and standby applications where the generator set serves as the back up to the normal utility source.

All ratings are based on the following reference conditions:

- Ambient temperature : 27°C

- Altitude above sea level : 150 metres

- Relative humidity : 60%



Dimensions and Weights

Open Version

Model	Engine	Length (mm)	Width (mm)	Height (mm)	Dry weight without tank (Kg)	Wet weight without tank (Kg)
C500 D5	QXS15G8	3494	1500	1807	3700	3860

Enclosed Version

Model	Engine	Length (mm)	Width (mm)	Height (mm)	Dry weight with tank (Kg)	Wet weight with tank (Kg)
C500 D5	QXS15G8	5300	2100	2700	6980	8190

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