

Diesel Powered Generating Sets C450 D6



Standard Genset Features

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 , IP23
Standard voltage 480/277 volts 60 Hz
Exciter/Voltage reg - Torque Match as std
PCC2100 without Bargraph
3 pole MCCB
Welded steel base frame with A/V mounting,
Anti Vibration Mounts
Single skin metal fuel tank
Tank capacity of min 12 hours operation at
70% standby load
Loose 9 dB(A) silencer
Set mounted starting battery
Engine & Alternator Munsell Jade Green
Radiator and Guarding black
Packing under shrunk plastic film
Operation & Maintenance manual
Standard set of labels

Engine Specification

Cummins QSX15G9
In-line direct injection
6-cylinder diesel engine.
Type
Water cooled, four cycle
Turbocharged charge air cooled
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 Stanadyne fuel
pump injection system with integral
Electronic governor. Dual flexible fuel lines
and connectors. Standard fuel water
separator.
Filters
Air cleaner with dry element and restriction
indicator. Spin-on full flow lube oil filter.
Cooling
50°C radiator as std
Stone guard. Oil cooler. Drain Tap

Generator Set Performance

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.

Alternator Specification

Type
Brushless single bearing, revolving field,
pole, drip proof, screen protected.
Class H Insulation.
IC 01 cooling system.
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.

Generator Set Options

Mechanical Options
Compliance - CE Certification (Guarding)
Fuel options
Fuel Tank deletion
Exhaust Options
Exhaust Silencer - Industrial (9 dB), In-Line
Exhaust Bellows
Exhaust Silencer - Residential (25 dB), In-Line
Installation Kit - Industrial Silencer
Warranty
Warranty - 5 Year Extended Standby Appl
Warranty - 2 Year Extended Prime Appl

Voltage Connections

277/480V, 3 Phase
254/440V, 3 Phase
240/416V, 3 Phase
230/400V, 3 Phase
220/380V, 3 Phase
127/220V
115/200V, 3 Phase
110/190V, 3 Phase

Miscellaneous Options

Coolant heater -240V
Battery Charger 240V,5A
PCC3201 for paralleling
Packing - Export Box
Packing - Export Box

Compliance Standards

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	
	ESP	PRP	ESP	PRP
C450 D6	562.5	512.5	450.0	410.0

TECHNICAL DATA

Model	C450 D6	Speed	1800 rpm
Set output	380-480 V 60 Hz	Alternator voltage regulation	±1.0%
Prime Rating	410 kW/513 kVA	Alternator insulation class	H
Standby Rating	450 kW/563 kVA	Fuel consumption (Prime)	87 l/hr
Engine Make	Cummins	Fuel consumption (Standby)	93 l/hr
Engine Model	QSX15G9	Lubrication system oil capacity	91 Litres
Cylinders	Six	Base fuel tank capacity – open set	900 Litres
Engine build	In-line	Coolant capacity	65.9 Litres
Standard Governor/Class	Electronic/Class G2	Exhaust temp – prime	468°C
Aspiration and cooling	Turbocharged Charge Air Cooled	Exhaust gas flow – prime	1510 l/s
Bore and stroke	137 mm x169 mm	Exhaust gas back pressure max	76 mm Hg
Compression Ratio	17:1	Air flow – radiator*	10.93m ³ /s
Cubic capacity	15 Litres	Air intake – engine (Prime)	651 Litre/s
Starting/Min °C	Unaided / -4°C	Minimum air opening to room	2.35 sq m
Battery capacity	100 A/hr	Minimum discharge opening	1.7 sq m
Gross Engine output – Prime	507 kW/m	Pusher fan head (duct allowance)*	13 mm Wg
Gross Engine output – Standby	560 kW/m	Heat radiated by eng (Prime)	42 kW/m

PRIME POWER (PRP)

Prime power is available for an unlimited number of annual operating hours in variable load applications, in accordance with ISO8528-1.

A 10% overload capability is available for a period of 1 hour within a 12-hour period of operation, in accordance with ISO 3046-1.

STANDBY POWER RATING (ESP)

The Standby Power Rating 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.

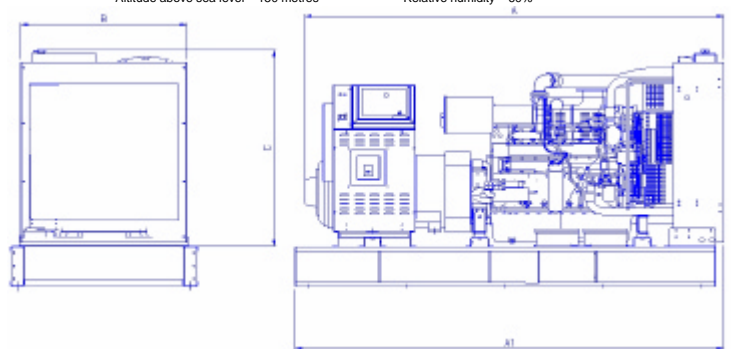
The Standby Power rating is only applicable for emergency and standby applications where the generator set serves as the back up to the normal utility source.

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

Model	Engine	Length (mm)	Width (mm)	Height (mm)	Set weight wet (Kg)	Set weight dry (Kg)	Enclosed Weight Wet (Kg)
C450 D6	QSX15G9	3433	1500	1913	2065	4089	3994

Specifications may change without notice

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