

Diesel Powered Generating Sets C45-D5



Standard Genset Features	Generator Set Performance	Generator Set Options
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Cummins water cooled Diesel engine,
Oil and fuel filter fitted, water separator,,
Lube-oil drain valve fitted
Electric starter & Charge alternator 12 v D.C.
Mechanical governor
Normal duty air filter
Single bearing alternator, class H/H
Standard voltage 400/230 volts 50 Hz
Exciter/Voltage reg - Torque Match as std
PCC2100 without Bargraph as standard
3 pole C/B
Bolted steel base frame with A/V mounting,
Fork lift pockets in baseframe
Single skin plastic fuel tank
Tank capacity of min 8 hours operation at
70% standby load
Loose 9 dB(A) silencer
Set mounted starting batteries
Engine & Alternator Munsell Jade Green
Chassis, Controller box and radiator black
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
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 In?uence 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.

Mechanical Options
Compliance - CE Certification (Guarding)

Fuel options
Fuel Tank deletion
Steel Fuel Tank replacing Plastic Fuel Tank

Exhaust Options
Exhaust Silencer - Industrial (9 dB), In-Line
Exhaust Bellows
Exhaust Silencer - Residential (35 dB), In-Line
Installation Kit - Industrial Silencer
Installation Kit - Residential Silencer

Warranty
Warranty - 5 Year Extended Standby Appln
Warranty - 2 Year Extended Prime Appln

Voltage Connections
254/440V
240/416V
230/400V
220/380V
127/220V
115/200V
110/190V

Engine Specification	Alternator Specification	Miscellaneous Options
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4B3.9-G2
In-line direct injection
4-cylinder diesel engine.
Type
Water cooled, four cycle, naturally aspirated

Construction
Two valves per cylinder, forged steel
crankshaft and connecting rods, cast iron
block.
Starting
12 volt negative earth. Battery charging
alternator 37 amp on engine. Cranking
current 625 amps at 0°C.
Fuel System
12 volt fail safe actuator. Spin-on paper
element fuel filters with Stanadyne fuel
pump injection system with integral
mechanical 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

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.

Coolant heater -240V
Battery Charger 240V,5A
AUTO START - AMF Module (Loose)
Packing - Export Box
4 POLE MCCB
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
C45 D5	42	38	34	30

Technical Data

Model	C45-D5	Speed	1500 rpm
Set output	380-440 V 50 Hz	Alternator voltage regulation	±1.0%
Prime Rating	30 kWe 38 kVA	Alternator insulation class	H
Standby Rating	34 kWe 42 kVA	Fuel consumption (Prime)	9.4 l/hr
Engine Make	Cummins	Fuel consumption (Standby)	10.8 l/hr
Engine Model	4B3.9-G2	Lubrication system oil capacity	10.9 Litres
Cylinders	Four	Base fuel tank capacity – open set	112 Litres
Engine build	In-line	Coolant capacity	17.2 Litres
Standard Governor/Class	Mechanical	Exhaust temp – prime	543°C
Aspiration and cooling	Natural aspiration	Exhaust gas flow – prime	106 l/s
Bore and stroke	102 mm x 120 mm	Exhaust gas back pressure max	76 mm Hg
Compression Ratio	17.3:1	Air flow – radiator*	1.71 m ³ /s
Cubic capacity	3.92 Litres	Air intake – engine (Prime)	41 Litre/s
Starting/Min °C	Unaided/-12°C	Minimum air opening to room	0.7 sq m
Battery capacity	100 A/hr	Minimum discharge opening	0.5 sq m
Gross Engine output – Prime	37kWm	Pusher fan head (duct allowance)*	10 mm Wg*
Gross Engine output – Standby	41kWm	Heat radiated by eng (Prime)	12 kWm

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)

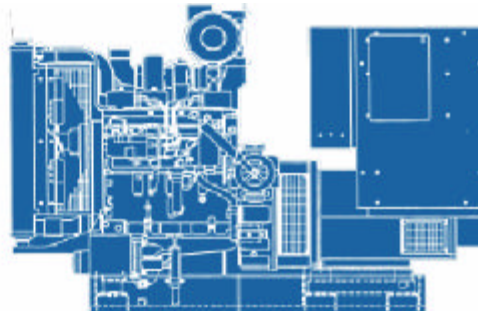
The Standby Power Rating is applicable for supplying emergency power for the duration of a utility power interruption. No overload, utility parallel or negotiated outage operation capability is available at this rating.

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 – 27oC - 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 Set (Kg)
C45-D5	4B3.9-G2	1950	1046	1284	1090	976	1525

Specifications may change without notice

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