

Diesel Powered Generating Sets C33 D5



Standard Genset Features

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.
Electronic governor
Normal duty air filter
Single bearing alternator, class H/H , IP23
Standard voltage 400/230 volts 50 Hz
Exciter/Voltage reg - Torque Match as std
PCC1301 with display unit
4 pole MCB
Welded steel base frame with A/V mounting,
Fork lift pockets in baseframe
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 4B3.3G1
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 45 amp on engine. Cranking
current 550 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
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, IP23 Protection

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 system options

Low Fuel Level Shutdown

Exhaust Options

Exhaust Silencer - Industrial (9 dB), In-Line
Exhaust Silencer - Residential (25 dB), In-Line
Flexible and fixing kit for Industrial silencer
Flexible and fixing kit for Residential 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

115/200V, 3 Phase

110/190V, 3 Phase

220-240V, 1 Phase

Miscellaneous Options

Coolant heater -240/120V

Battery Charger 110-277V, 3A

Electronic Governing

Automatic Transfer Switches

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
C33 D5	33	30	26	24

TECHNICAL DATA

Model	C33 D5	Speed	1500 rpm
Set output	380 440 V 50 Hz	Alternator voltage regulation	±1.0%
Prime Rating	24 kWe 30 kVA	Alternator insulation class	H
Standby Rating	26.4 kWe 33 kVA	Fuel consumption (Prime)	7.1 l/hr
Engine Make	Cummins	Fuel consumption (Standby)	8.0 l/hr
Engine Model	4B3.3G1	Lubrication system oil capacity	7.5 Litres
Cylinders	Four	Base fuel tank capacity – open set	144 Litres
Engine build	In-line	Coolant capacity	7.9 Litres
Standard Governor/Class	Mechanical	Exhaust temp – prime	448°C
Aspiration and cooling	Naturally Aspirated	Exhaust gas flow – prime	89 l/s
Bore and stroke	95mmx115mm	Exhaust gas back pressure max	75 mm Hg
Compression Ratio	18.2:1	Air flow – radiator*	1.45 m ³ /s
Cubic capacity	3.3 Litres	Air intake – engine (Prime)	35 Litre/s
Starting/Min °C	Unaided/-4°C	Minimum air opening to room	0.50 sq m
Battery capacity	70 A/hr	Minimum discharge opening	0.30 sq m
Gross Engine output – Prime	32kWm	Pusher fan head (duct allowance)*	10 mm Wg*
Gross Engine output – Standby	36kWm	Heat radiated by eng (Prime)	6.3 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.

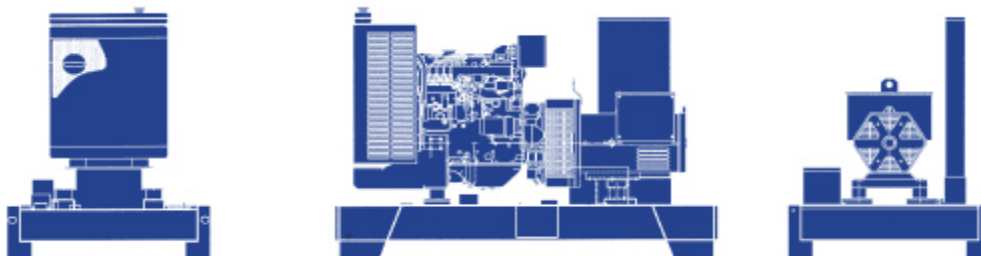
The Standby Power rating is only applicable for emergency and standby applications where the generator set serves as the back up to the normal utility source.

All ratings are based on the following reference conditions:

- Ambient temperature – 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)
C33 D5	4B3.3G1	1753	930	1256	645	580	923

Specifications may change without notice

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