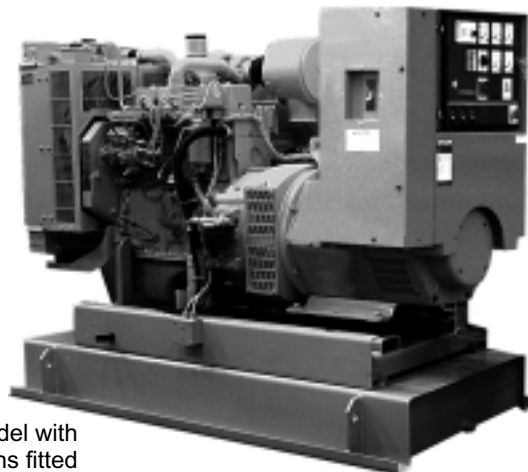


## Diesel Powered Generating Sets 30 kW - 62 kW 50 Hz 4B Series Engines



Typical model with options fitted

### Standard Genset Features

#### Single Source Responsibility

- Design, manufacturer and test of all components and accessories are made by Cummins Power Generation and Cummins companies

#### International Integrity

- Assurance and strength of a worldwide, world class corporation

#### Global Backing

- 24-hour spares and service support – in 72 countries

#### Single Source Warranty

- Complete genset covered by Cummins Power Generation comprehensive warranty

#### Packaged Self-Contained Units

- Units with built in antivibration systems with provision for base fuel tank and other accessories

#### Cummins Engine

- Heavy duty 4 cycle water cooled engine
- Designed for power generation

#### Cooling System

- 40°C cooling package (50°C option)

#### Ready Filled

- Every set comes filled with lube oil and anti-freeze

#### Alternator

- Brushless Group made machine
- Close voltage regulation
- Rotor and exciter impregnated with oil and acid resisting resin
- 12 lead reconnectable
- Exceptional short circuit capability
- Low waveform distortion with non linear loads

#### Ratings

All kW Power ratings based on a 40°C ambient temperature reference

#### Chassis

Built-in anti-vibration system  
Bonded rubber units fitted as standard  
Eliminates need for rubber mats or spring mountings

#### PCL 'Power Control' System

- CE compliant
- Full AC instrumentation
- Emergency stop button
- Safety shutdowns
- Key or Remote starting



### 50 Hz Ratings

Model Prime	Prime kW (kVA)	Model Standby	Standby kW (kVA)	Engine Model	TA-Luft Compliance
30 DGBC	30 (38)	33 DGBC	33 (41)	4B3.9G	-
42 DGCG	42 (52)	47 DGCG	47 (59)	4BT3.9G4	4.0 g/nm <sup>3</sup>
51 DGCH	51 (64)	56 DGCH	56 (70)	4BT3.9G4	4.0 g/nm <sup>3</sup>
56 DGCC	56 (70)	62 DGCC	62 (78)	4BTA3.9G1	-

# Specifications

## Generator Set Performance

### Voltage Regulation

Maintains voltage output to within  $\pm 1.0\%$ .  
At any power factor between 0.8 lagging and unity.  
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. Temperature rise up to 125°C permitted.

### Radio Interference

In compliance with BS 800 and VDE levels G and N.

## Engine

Cummins 4B3.9G, 4BT3.9G4 and 4BTA3.9G1 in-line direct injection 4-cylinder diesel engines.

### Type

Water cooled, four cycle, naturally aspirated turbo charged and after cooled.

### 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

40°C radiator as standard with 50°C ambient as option. Stone guard. Oil cooler.

## Alternator

### Type

Brushless single bearing, revolving field, pole, drip proof, screen protected.  
Class H Insulation.  
Enclosed to IP22 (NEMA 1) standard.  
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 to 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.  
Sealed solid state automatic voltage regulator type SX440 self-exciting, self-regulating.  
Output windings with 2/3 pitch for improved harmonics and paralleling ability.  
Close coupled engine/alternator for perfect alignment.

## 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

## Chassis

Fabricated and welded steel chassis  
Built-in anti-vibration mountings  
Optional sub-base fuel tank with eight hour capacity, dual flexible fuel lines, dial type fuel gauge and drain bung  
Earthing cables. Lifting lugs

### Finish

Etch undercoated and finished in high gloss durable green

### General

Complete set of operating and instruction manuals

## Generator Set Options

### Engine

- Electronic governing
- Heavy duty air cleaner
- Coolant heater and thermostat
- Lead acid batteries, cable and fitted tray
- NiCad batteries and cables
- Sump drain pump
- Oil and water drain taps
- CE Compliance (guarding)
- Exhaust temperature monitoring (PCC only)
- Low coolant level switch
- Oil temperature alarm switch
- Oil temperature gauge
- Tool kit
- Compliance to TA Luft

### Cooling

- 50°C ambient radiator
- Remote radiator cooling (built to order)
- Oil temperature indication

### Alternator

- Anti-Condensation heater
- Thermistors
- PMG Exciter and MX321 AVR
- 105°C rise alternator

### Exhaust System

- Industrial type silencer
- Residential type silencer
- Length of flexible exhaust and bellows

### Fuel System

- Sub-base tank
- Hand fuel transfer pump
- Automatic fuel transfer pump and switch
- Free-standing 450, 900 and 1350 litre fuel tanks with stand
- Options apply to base tanks or free-standing fuel tanks
- High fuel level warning
- Low fuel level warning
- Low fuel level shutdown

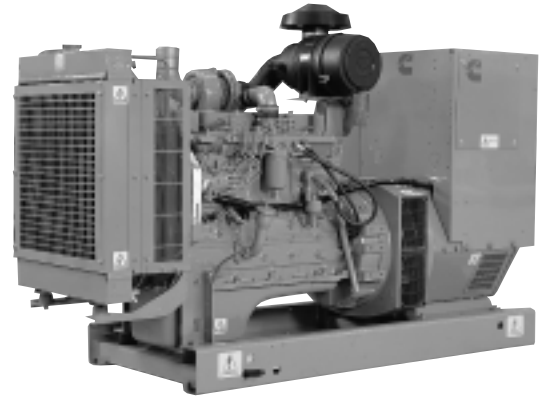
### Generator Set

- Weather protective enclosures
- Silenced enclosures

### Control Panel

- See separate list on Control Panel page
- 3 or 4 pole circuit breaker
- Battery charger 5 amp or 10 amp
- CE Compliance PCL
- Cable entrance box
- Switch disconnecter 3P or 4P

# Technical Data



## Generating Sets - 50 Hz

Set output	380-440 V 50 Hz	380-440 V 50 Hz	380-440 V 50 Hz	380-440 V 50 Hz
Prime at 40°C ambient	30 kWe 38 kVA	42 kWe 52 kVA	51 kWe 64 kVA	56 kWe 70 kVA
Model (Prime)	30 DGBC	42 DGCG	51 DGCH	56 DGCC
Standby at 40°C ambient	33 kWe 41 kVA	47 kWe 59 kVA	56 kWe 70 kVA	62 kWe 78 kVA
Model (Standby)	33 DGBC	47 DGCG	56 DGCH	62 DGCC
Engine Make	Cummins	Cummins	Cummins	Cummins
Model	4B3.9G	4BT3.9G4	4BT3.9G4	4BTA3.9G1
Cylinders	Four	Four	Four	Four
Engine build	In-line	In-line	In-line	In-line
Governor/Class	Mechanical	Mechanical	Mechanical	Mechanical
Aspiration and cooling	Natural aspiration	Turbocharged	Turbocharged	Turbocharged
Bore and stroke	102 mm x 120 mm	102 mm x 120 mm	102 mm x 120 mm	102 mm x 120 mm
Compression ratio	17.3:1	16.5:1	16.5:1	16.5:1
Cubic capacity	3.92 Litres	3.92 Litres	3.92 Litres	3.92 Litres
Starting/Min °C	Unaided/-12°C	Unaided/-12°C	Unaided/-12°C	Unaided/-12°C
Battery capacity	165 A/hr	165 A/hr	165 A/hr	165 A/hr
Nett Engine output – Prime	34 kWm	47 kWm	57 kWm	64 kWm
Nett at flywheel – Standby	38 kWm	52 kWm	62 kWm	71 kWm
Speed	1500 rpm	1500 rpm	1500 rpm	1500 rpm
Alternator voltage regulation	±1.0%	±1.0%	±1.0%	±1.0%
Alternator insulation class	H	H	H	H
Single load step to NFPA110	100%	100%	100%	100%
Fuel consumption (Prime) 100% load	9.7 l/hr	13.0 l/hr	15.0 l/hr	15.0 l/hr
Fuel consumption (Standby) 100% load	10.6 l/hr	14.0 l/hr	15.8 l/hr	17.0 l/hr
Lubrication oil capacity	9.5 Litres	9.5 Litres	9.5 Litres	9.5 Litres
Base fuel tank capacity – open set	195 Litres	197 Litres	197 Litres	195 Litres
Coolant capacity – radiator and engine	19 Litres	19.2 Litres	19.2 Litres	20 Litres
Exhaust temp – full load prime	596°C	518°C	518°C	475°C
Exhaust gas flow – full load prime	432 m³/hr	651 m³/hr	651 m³/hr	598 m³/hr
Exhaust gas back pressure max	76 mm Hg	76 mm Hg	76 mm Hg	76 mm Hg
Air flow – radiator*	2.26 m³/s	2.26 m³/s	2.26 m³/s	2.27 m³/s
Air intake – engine	144 m³/hr	259 m³/hr	259 m³/hr	248 m³/hr
Minimum air opening to room	0.7 sq m	0.7 sq m	0.7 sq m	0.7 sq m
Minimum discharge opening	0.5 sq m	0.5 sq m	0.5 sq m	0.5 sq m
Pusher fan head (duct allowance)*	10 mm Wg*	13 mm Wg*	13 mm Wg*	10 mm Wg*
Total heat radiated to ambient	10.8 kW	16.0 kW	17.6 kW	15.5 kW
Derate factors	RTF	RTF	RTF	RTF

In accordance with ISO 8528, ISO 3046.

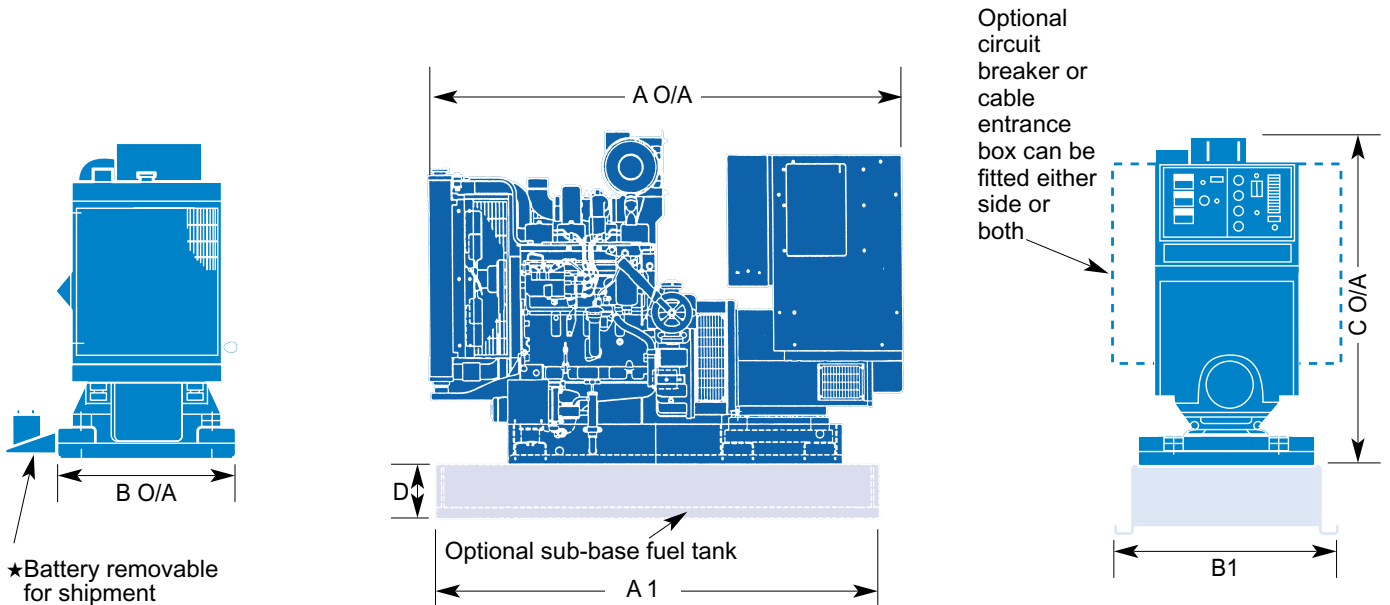
Prime: Continuous running at variable load for unlimited periods with 10% overload available for 1 hour in any 12 hour period.

Standby: Continuous running at variable load for duration of an emergency.

Prime and standby ratings are outputs at 40°C (104°F) ambient temperature reference.

RTF = Refer to factory.

# Dimensions and Weights – 50 Hz



Model	Engine	Length A mm	A1 mm	Width B1 mm	B mm	Height C mm	D mm	Set weight kg wet	Set weight kg dry	Sub base Tank. Dry Weight kg	Sub base Tank. Wet Weight kg
DGBC	4B3.9G	1720	1675	840	675	1345	200	800	772	150	310
DGCG	4BT3.9G4	1810	1675	840	675	1245	200	850	822	150	310
DGCH	4BT3.9G4	1810	1675	840	675	1245	200	920	892	150	310
DGCC	4BTA3.9G1	1846	1675	840	675	1245	200	975	932	150	310

**NOTE 1:**

- ★ Battery/tray extends out 260 mm from side when fitted.
- ★ Dry and Wet weights of sets do NOT include fuel tank or contents.

Set weights are **without** sub-base tank. Dimensions and weights are for **guidance** only. Do not use for installation design. Ask for certified drawings on your specific application. Specifications may change without notice.



Your local distributor: