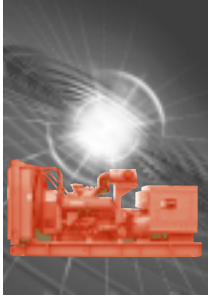
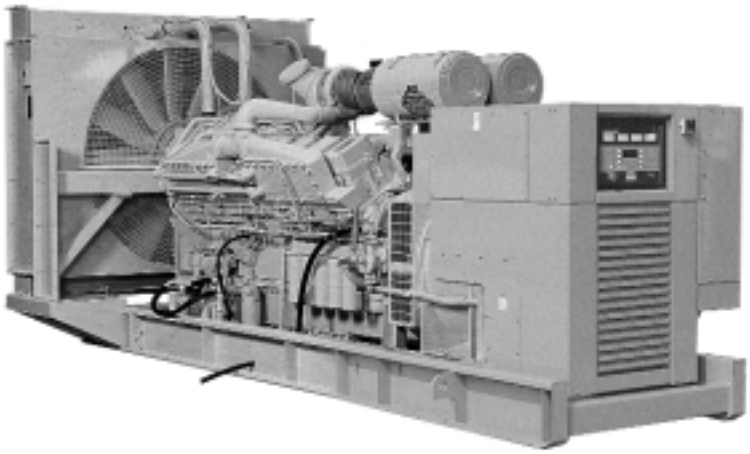


Power Generation

Diesel Powered Generating Sets 1120 kW - 1545 kW 60 Hz KTA50 Series Engines



Model 1120 DFLC with optional entrance box

Standard Genset Features

Single Source Responsibility
- Design, manufacture 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
- Electronic governor control

Cooling System
- 50°C cooling package

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
- Exceptional short circuit capability
- Low waveform distortion with non linear loads
- Permanent magnet exciter with MX321 AVR fitted as standard

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

Integrated Control System
- Totally integrated design
- Full AC instrumentation
- Safety shutdowns
- Local or Remote starting
- Emergency stop button (optional)
- CE and non CE options

Optional PCC PowerCommand Control System
- Microprocessor control
- Integrates governor and voltage regulation systems
- Superior alternator and genset protection system
- Accurate battery monitoring system
- Totally reliable and proven system

Quality Assurance
Registered Firm Certificate Number FM509 in accordance with: BS EN ISO 9001

Quality Assurance Schedule 3420/1

One Source — Engine — Alternator — Controls — Generating Set — One Name

Cummins Power Generation, Cummins Engines and Newage Alternators are all part of the same group

60 Hz Ratings				
Model Prime	**Prime kW** (kVA)	**Model Standby**	**Standby kW** (kVA)	**Engine Model**
1120 DFLC	**1120** (1400)	**1270 DFLC**	**1270** (1587)	**KTA50G3**
1286 DFLE	**1286** (1608)	**1545 DFLE**	**1545** (1931)	**KTA50G9**

A Single Source for *all* Power System Solutions

Specifications

Generator Set Performance

Voltage Regulation
Maintains voltage output to within ±0.5%.
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.

Random Frequency Variation
Will not exceed ±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 1.5%. Three-phase balanced load in the order of 5.0%.

Telephone Influence Factor
TIF better than 50.
THF to BS4999 Part 40 better than 2%.

Alternator Temperature Rise
Class H insulation. Temperature rise up to 125°C permitted.

Radio Interference
In compliance with BS800 and VDE levels G and N.

Engine

Cummins KTA50G3 and KTA50G9, sixteen-cylinder vee formation, direct injection, four-cycle diesel engines.

Type
Water cooled, turbocharged and aftercooled.

Construction
Four valves per cylinder, forged steel crankshaft and connecting rods, cast iron block, with replaceable wet liners.

Starting
24 volt negative earth, battery charging 35 amp alternator. Fitted battery tray, battery leads and connecting lugs. Cranking current 1800 amps Amps at 0°C.

Fuel System
24 volt fail safe actuator, dual spin-on paper element fuel filters, Cummins PT fuel injection systems with integral electronic governor. Dual flexible fuel lines with connectors.

Filters
Dry element air filters with restriction indicator and spin-on paper element full flow and by pass lube oil filters. Spin on corrosion resistor filter.

Cooling
High ambient 50°C radiator as standard.
Oil cooler.

Alternator

Type
Brushless, single bearing, revolving field, 4-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 BS5625 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 – self-exciting, self-regulating.
Output windings with 2/3 pitch for improved harmonics and parallelling ability.
Close coupled engine/alternator for perfect alignment.
Permanent magnet exciter with MX321 AVR fitted as standard.

Compliance Standards

To BS4999/5000 pt 99,
VDE 0530, UTE5100,
NEMA MG1-22, CEMA,
IEC 34, CSA A22.2,
AS1359, BS 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 points

Finish
Etch undercoated and finished in high gloss durable green

General
Complete set of operating and instruction manuals

Generator Set Options

Engine
- ☐ Heavy duty air cleaner
- ☐ Coolant heater and thermostat
- ☐ Fuel water separator
- ☐ Lead acid batteries, cable and fitted tray
- ☐ NiCad batteries
- ☐ Sump drain pump
- ☐ Oil and water drain taps
- ☐ CE Compliance (guarding)
- ☐ Exhaust temperature monitoring (PCC only)
- ☐ Tool kit
- ☐ Compliance to TA Luft

Cooling
- ☐ Remote radiator cooling (built to order)
- ☐ Oil temperature indication

Alternator
- ☐ Anti-Condensation heater
- ☐ Thermistors
- ☐ 105°C rise alternators

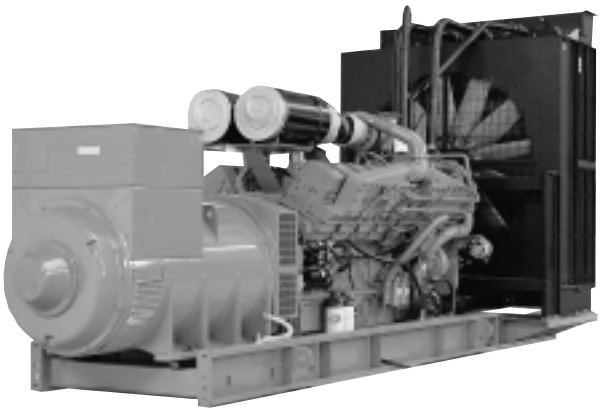
Exhaust System
- ☐ Industrial type silencer
- ☐ Residential type silencer
- ☐ Length of flexible exhaust and bellows

Fuel System
- ☐ Sub-base tanks
- ☐ Hand fuel transfer pump
- ☐ Automatic fuel transfer pump
- ☐ Free-standing 450, 900 and 1350 litre fuel tanks with stand
- ☐ Fuel tank level switch
- ☐ High fuel level warning
- ☐ Low fuel level warning
- ☐ Low fuel level shutdown

Generator Set
- ☐ Weather protective enclosures
- ☐ Silenced enclosures

Control Panel
- ☐ Refer to Control Panel literature for details of options
- ☐ 3 or 4 pole circuit breaker
- ☐ Battery charger 5 amp or 10 amp
- ☐ CE Compliance
- ☐ Cable entrance box
- ☐ Switch disconnector 3P or 4P

Technical Data



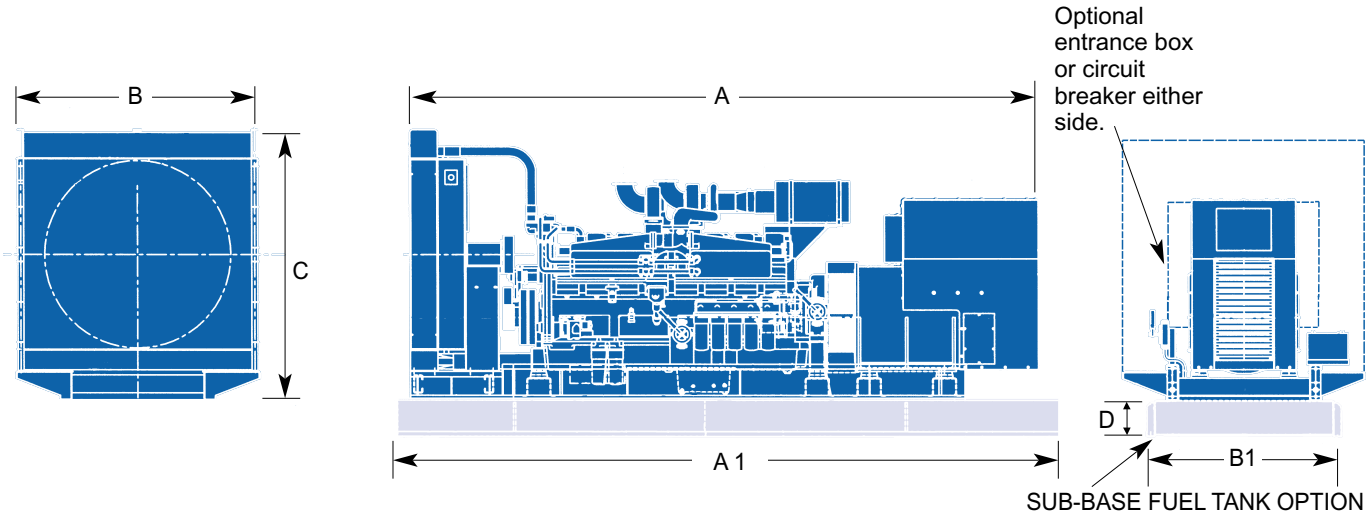
Model CP1600 with KTA50G9 Engine

Generating Sets – 60 Hz

Set output	220-480 V 60 Hz	220-480 V 60 Hz
Prime at 40°C ambient	1120 kWe 1400 kVA	1286 kWe 1608 kVA
Model (Prime)	1120 DFLC	1286 DFLE
Standby at 40°C ambient	1270 kWe 1587 kVA	1545 kWe 1931 kVA
Model (Standby)	1270 DFLC	1545 DFLE
Engine Make	Cummins	Cummins
Model	KTA50G3	KTA50G9
Cylinders	Sixteen	Sixteen
Engine build	60° Vee	60° Vee
Governor / Class	Electronic / A1	Electronic / A1
Aspiration and cooling	Turbo Aftercooled	Turbo Aftercooled
Bore and stroke	159 mm x 159 mm	159 mm x 159 mm
Compression ratio	13.9:1	13.9:1
Cubic capacity	50.3 Litres	50.3 Litres
Starting / Min °C	Unaided / 7°C	Unaided / 7°C
Battery capacity	254 Ah	254 Ah
Nett Engine output – Prime	1172 kWm	1370 kWm
Nett at flywheel – Standby	1332 kWm	1609 kWm
Speed	1800 rpm	1800 rpm
Alternator voltage regulation	±0.5%	±0.5%
Alternator insulation class	H	H
Single load step to NFPAIIO para.5.13.2.6	100%	100%
Fuel consumption (Prime) 100% load	291 l/hr	330 l/hr
Fuel consumption (Standby) 100% load	330 l/hr	392 l/hr
Lubrication oil capacity	177 Litres	204 Litres
Base fuel tank capacity – open set	2000 Litres	2000 Litres
Coolant capacity – radiator and engine	351 Litres	521 Litres*
Exhaust temp – full load prime	460°C	471°C
Exhaust gas flow – full load prime	14270 m^3/hr	16308 m^3/hr
Exhaust gas back pressure max	51 mm Hg	51 mm Hg
Air flow – radiator (50°C ambient)*	33.7 m^3/s	28.2 m^3/s
Pusher fan head (duct allowance) 50°C*	13 mm Wg	13 mm Wg*
Air intake – engine	6285 m^3/hr	6948 m^3/hr
Total heat radiated to ambient	229 kW	186 kW
Engine derating – altitude	up to 1550 m (5500 ft) prime and 1760 m (5800 ft) standby @ 40°C without derating. Above these limits refer to graphs	up to 1000 m (3300 ft) prime or standby @ 40°C without derating. Above these limits refer to graphs
Engine derating – temperature		

In accordance with ISO 8528, BS5514.
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.
*Subject to factory verification.

Dimensions and Weights – 60 Hz



Model	Engine	Dimensions and Weights (mm/kg)						Set Weight kg Dry	Set Weight kg Wet	Tank Weight kg (dry)	Tank Weight kg (wet)
		A	A1	B	B1	C	D				
DFLC	KTA50G3	5290	5690	1785	1640	2244	300	9743	10300	2755	1075
DFLE	KTA50G9	5866	5690	2033	1640	2333	300	11540	12100	2755	1075

Floor mounted circuit breaker and load terminal cubicle (for use above 2000 amps)			
Capacity amps	Width mm	Depth mm	Height mm
1600	1000	1050	1500
2000	1000	1050	1500
2500	1000	1050	1500

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.

Power Generation

See your distributor for more information.

Cummins Power Generation Limited
Manston Park, Columbus Avenue
Manston, Ramsgate
Kent CT12 5BF, UK
Telephone: +44 (0)1843 255000
Fax: +44 (0)1843 255902
Email: cpg.uk@cummins.com
www.cumminspower.com
www.cummins.com