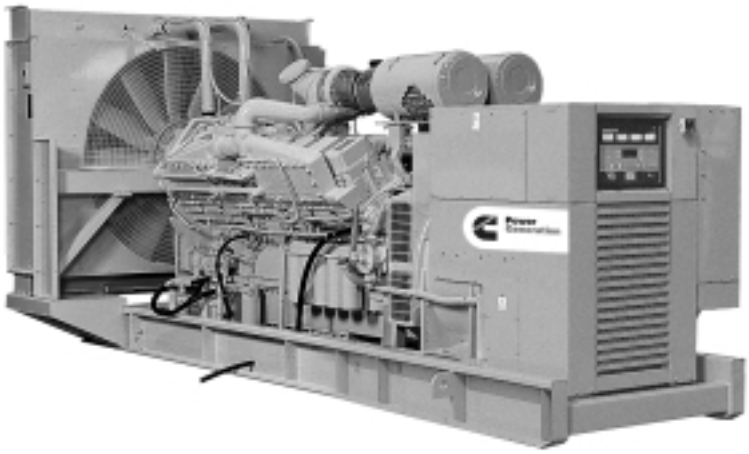
Power Generation

Diesel Powered Generating Sets 1200 kW - 1340 kW 50 Hz KTA50GS8 Series Engine



Typical model with optional entrance box

Standard Genset Features

Single Source Responsibility
Design, manufacture and testing of engine, alternator, control system and complete generating set are all produced by companies within the Cummins Group

International Integrity
Assurance and strength of a worldwide major corporation backing the product

Global Backing
24 hour spares and service availability in 72 countries

Single Source Warranty
Total product guaranteed by Cummins Power Generation

Packaged Self-Contained Units
Integrated unit with built-in anti-vibration system, control panel, starting system and provision for base fuel tank and other accessories

Cummins Engine
- Heavy duty 4 cycle water cooled engine
- Electronic governor control

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
- 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

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

Alternative PCL 'Power Control' System
- CE compliant
- Full AC instrumentation
- Emergency stop button
- Safety shutdowns
- Key or Remote starting

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

50 Hz Ratings				
Model Prime	**Prime kW** (kVA)	**Model Standby**	**Standby kW** (kVA)	**Engine Model**
1200 DFLF	**1200** (1500)	**1340 DFLF**	**1340** (1675)	**KTA50GS8**

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 KTA50GS8 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. 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 40°C radiator as standard with 50°C ambient as option. 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, BSS5514,
ISO 3046

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

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
- ☐ Tool kit
- ☐ 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)

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

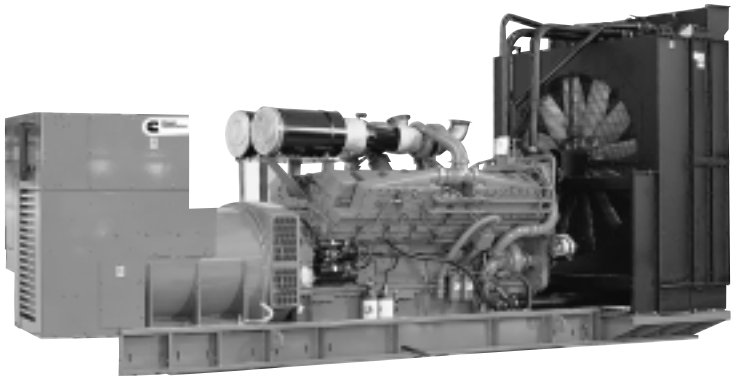
Exhaust System
- ☐ Industrial type silencer
- ☐ Residential type silencer
- ☐ Length of flexible exhaust and bellows

Fuel System
- ☐ Sub-base 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
- ☐ See separate list in Control Panel data sheet
- ☐ 3 or 4 pole circuit breaker
- ☐ Battery charger 5 amp or 10 amp
- ☐ CE Compliance PCL and PCC systems
- ☐ Cable entrance box

Technical Data



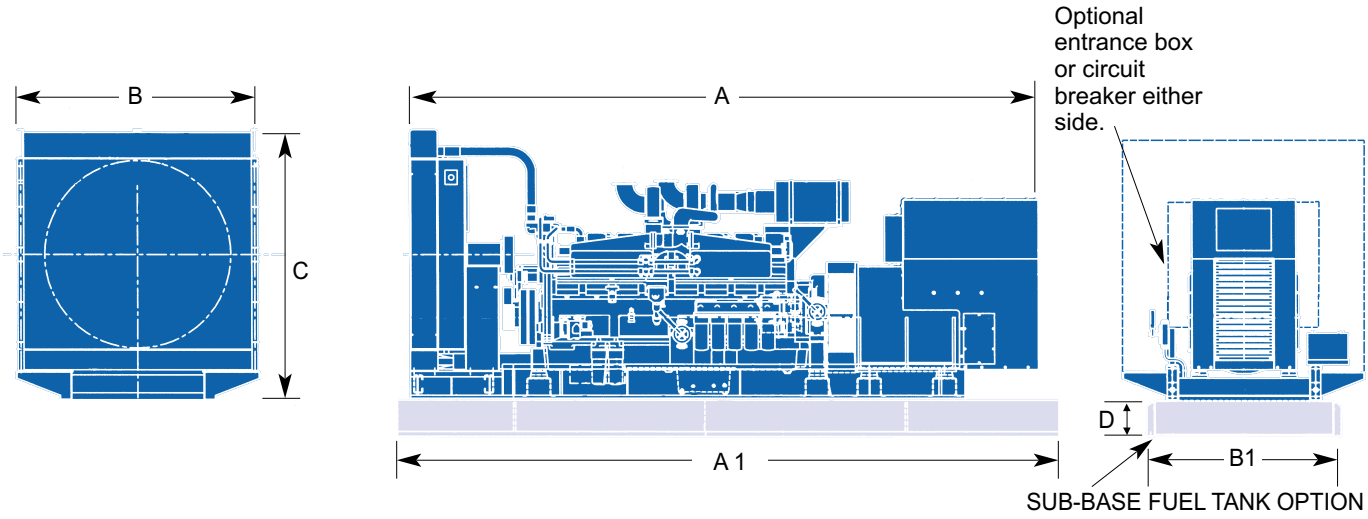
Typical Model with 50°C radiator fitted.

Generating Sets – 50 Hz

Set output	380-440 V 50 Hz
Prime at 50°C ambient	1200 kWe 1500 kVA
Model (Prime)	1200 DFLF
Standby at 50°C ambient	1340 kWe 1675 kVA
Model (Standby)	1340 DFLF
Engine Make	Cummins
Model	KTA50GS8
Cylinders	Sixteen
Engine build	60° Vee
Governor / Class	Electronic / A1
Aspiration and cooling	Turbo Aftercooled
Bore and stroke	159 mm x 159 mm
Compression ratio	14.9:1
Cubic capacity	50.3 Litres
Starting / Min °C	Unaided / 7°C
Battery capacity	254 A/hr
Nett Engine output – Prime	1287 kWm
Nett Engine output – Standby	1429 kWm
*Maximum load acceptance – single step (cold)	744 kWe
Speed	1500 rpm
Alternator voltage regulation	±0.5%
Alternator insulation class	H
Single load step to NFPA110	100%
Fuel consumption (Prime) 100% load	309 l/hr
Fuel consumption (Standby) 100% load	345 l/hr
Lubrication oil capacity	204 Litres
Base fuel tank capacity – open set	2000 Litres
Coolant capacity – radiator and engine	315 Litres
Exhaust temp – full load prime	490°C
Exhaust gas flow – full load prime	14490 m^3/hr
Exhaust gas back pressure max (standby)	51 mm Hg
Air flow – radiator (40°C ambient)†	21.7 m^3/s
Pusher fan head (duct allowance) 40°C†	13 mm Wg
Air intake – engine (prime)	5600 m^3/hr
Air flow – radiator (50°C ambient)†	28.4 m^3/s
Pusher fan head (duct allowance) 50°C†	12 mm Wg
Total heat radiated to ambient	254 kW

*In accordance with BS5514 and ISO3046.
Prime: Continuous running at variable loads for an unlimited time with a 10% overload capability for 1 hour in every 12. Alternator in accordance with ISO8528-3.
Standby: Continuous running at variable load for duration of an emergency.
†Subject to factory verification.
For derate factors refer to factory.

Dimensions and Weights – 50 Hz



2000 Model	Engine	Dimensions and Weights (mm/kg)						Set Weight kg Dry	Set Weight kg Wet	Tank Weight kg (wet)	Tank Weight kg (dry)
		A	A1	B1	B	C	D				
DFLF	KTA50GS8	5866	5690	1640	1785	2241	300	10457	11135	2755	1075

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.

See your distributor for more information.

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