



شرکت مهندسی کاراسهند  
Engineering KARA SAHAND



## Diesel Powered Generating Sets 1200 kW - 1340 kW 50 Hz KTA50 Series Engines



### 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-hours spares and services 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

#### Alternator

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

#### Ratings

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

#### Chasis

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

#### Cooling System

- 40°C cooling package (50°C option)

#### Ready Filled

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

#### PCC PowerCommand® Control System

- PCC2100 Controller with bar graph as standard
- Microprocessor control
- Integrates governor and voltage regulation systems
- Superior alternator and genset protection system
- Accurate battery monitoring system
- Totally reliable and proven system



50 Hz Ratings			
Model Prime	Prime kW (kVA)	Standby kW (kVA)	Engine Model
C1675 D5A	1200 (1500)	1340 (1675)	KTA50GS8

## A Single Source for all Power System Solutions

Specifications May Change Without Notice



**Power  
Generation**

نشانی: تهران، بلوار آفریقا (چردن)، نرسیده به الهیه، نبش خیابان طاهری

تلفن: ۴۱-۲۶۲۱۲۴۳۹ (۰۲۱)

برج مشکی، طبقه ۶، واحد ۵

فکس: ۴۱-۲۶۲۱۲۵۱۴ (۰۲۱)

تلفن: ۰۸-۳۵۹۰۸-۲۲ (۰۲۱)

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## Generator Set Performance

### Voltage Regulation

Maintains voltage output to within  $\pm 0.5\%$ .  
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  $\pm 0.25\%$  of its mean value for constant loads – no load to full load.

## 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 35amp alternator. Cranking current 1800 amps Amps at 0°C.

### 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 for prime ratings.

### Radio Interference

In compliance with BS800 and VDE levels G and N.

### Fuel System

24 volt fail safe actuator, dual spin-on paper element fuel filters, Cummins PTfuel injection systems with integral electronic governor. Dual flexible fuel lines with connectors. Standard fuel water separator.

### 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 IP23 (NEMA1) 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 paralleling ability.

Close coupled engine/alternator for perfect alignment.

Permanent magnet exciter fitted as standard.

## Compliance Standard

To BS4999/5000 pt 99,  
VDE 0530, UTE5100,  
NEMAMG1-22, CEMA,  
IEC 34, CSAA22.2,  
AS1359, BSS5514,  
ISO 3046 and ISO 8528

## Chasis

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
- Lead acid batteries, cable and fitted tray
- Sump drain pump
- Oil and water drain taps
- CE Compliance (guarding)
- Exhaust temperature monitoring - (PCCP3100 only)
- Tool kit

### Cooling

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

### Alternator

- Anti-Condensation heater
- Thermistors
- 125/105/80°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

- Enclosed - 40 ft container
- Silenced enclosures

### Control Panel

- See separate list on ControlPanel pages
- 3 or 4 pole circuit breaker up to 2500A
- Battery charger 5 amp or 10 amp
- CE Compliance and PCC systems
- Cable entrance box
- PCCP3100 controller

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## Specifications

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## Technical Data



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Set output	380-440 V - 50 Hz
Prime Rating	1200 kWe 1500 kVA
Model Name	C1675 D5A
Standby Rating	1340 kWe 1675 kVA
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
Gross Engine output – Prime	1287 kWm
Gross Engine output – Standby	1429 kWm
Maximum load acceptance – single step (cold)	744 kW
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 system capacity	204 Litres
Base fuel tank capacity – open set (Option)	2000 Litres
Coolant capacity – radiator and engine	315 Litres
Exhaust temp – full load prime	499°C
Exhaust gas flow – full load prime	14537 m <sup>3</sup> /hr
Exhaust gas back pressure max (standby)	51 mm Hg
Air flow – radiator (40°C ambient)	21.7 m <sup>3</sup> /s
Pusher fan head (duct allowance) 40°C	13 mm Wg
Air intake – engine (prime)	5692 m <sup>3</sup> /hr
Air flow – radiator (50°C ambient)	28.4 m <sup>3</sup> /s
Pusher fan head (duct allowance) 50°C	13 mm Wg
Heat radiated by engine to ambient (Prime)	299 kW
Engine derating – altitude	RTF
Engine derating – temperature	RTF

### PRIME POWER RATING

Applicable for supplying power continuously for the duration during the period of the power outage. A 10% overload capability is available for a period of 1 hour within a 12 hour period of operation and for a maximum of 5 hours per year. Variable load should not exceed a 70% average of the Prime Power rating during any 24 hour period. This rating is applicable to installations served by a reliable normal utility source. No sustained utility parallel operation is permitted with this rating.

### 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.

Unless otherwise stated all ratings are based on the following reference conditions:

- Ambient temperature – 27°C
- Altitude above sea level – 150 metres
- Relative humidity – 60%

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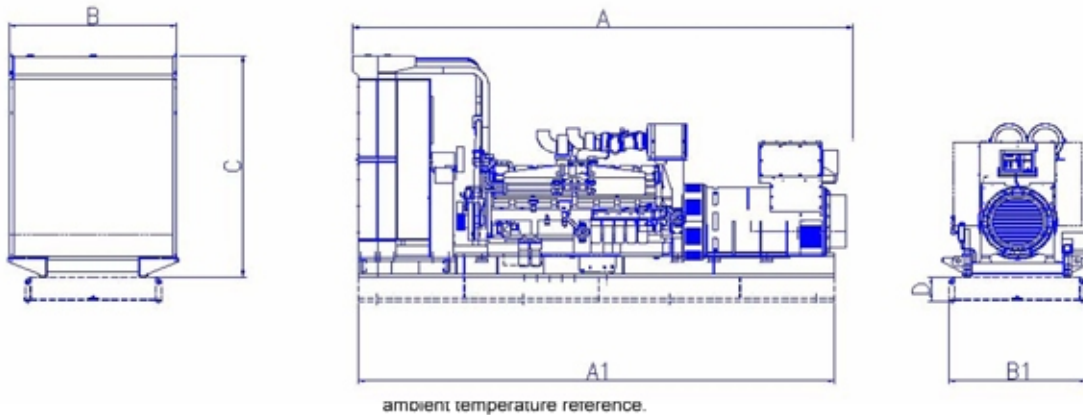
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## Dimensions and Weights - 50 Hz



Model	Engine	Dimensions (mm)						Set Weight kg Dry	Set Weight kg Wet
		A	A1	B1	B	C	D		
C1675 D5A	KTA50GS8	5811	5690	1640	1785	2241	300	10324	10626

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.

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**Power  
Generation**

See your distributor for more information

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