

## Model: C1000E6

Powered by CUMMINS



### Generator Specification

Service	PRP <sup>(1)</sup>	ESP <sup>(2)</sup>
Power (kVA)	910	1000
Power (kW)	728	800
Rated speed (r.p.m)	1800	
Standard voltage (V)	440/254V	
Rated at power factor(cos phi)	0.8	



AGG Power gensets are compliant with ISO 9001 and CE standard, which include the following directives:

- 2006/42/EC Machinery safety.
- 2006/95/EC Low voltage
- EN 60204-1: 2006+A1: 2009, EN ISO 12100: 2010, EN ISO 13849-1: 2008, EN 12601 : 2010

#### (1) PRP (Prime Power):

According to ISO8528-1, prime power is the maximum power available during a variable power sequence, which may be run for an unlimited number of hours per year, between stated maintenance intervals. The permissible average power output during at 24 hours period shall not exceed 80% of the prime power. 10% overload available for governing purposes only.

#### (2) ESP (Standby Power):

According to ISO 8528-1, It is defined as the maximum power available, under the agreed operating conditions, for which the generating set is capable of delivering for up to 500 hours of operation per year (of which no more than 300 hours for continuative use) with the maintenance intervals and procedures being carried out as prescribed by the manufacturers. No overload capability is available.

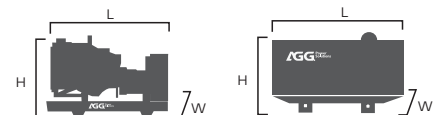
Powers Voltage (V)	ESP		PRP		Standby Amps
	KVA	KW	KVA	KW	
480/277	1000	800	910	728	1202.8
440/254	1000	800	910	728	1312.2
380/220	1000	800	910	728	1519.4
220/127	1000	800	910	728	2624.4

### Performance Data

Model	C1000E6	
Engine brand	Cummins	
Engine model	QSK23G3	
Speed control type	Electronic	
Phase	3	
Control system	Digital	
Starter motor voltage	24V	
Frequency	60HZ	
Engine speed (RPM)	1800	
Fuel Consumption (L/H)	100% standby power	212
	100% prime power	189
	75% prime power	139
	50% prime power	97

#### Standard reference Conditions

Note: Standard reference condition 25°C (77°F) air inlet temp, 100m(328ft) A.S.L 30% relative humidity. Fuel consumption dat with diesel fuel with specific gravity of 0.85 and conforming to BS 2869: 1998 , Class A2



### Dimension and Weight

Dimension	Open	Silent
Length (L)	REQ	REQ
Width (W)	REQ	REQ
Height (H)	REQ	REQ
Net Weight	REQ	REQ
Fuel Tank (L)	REQ	REQ

## ■ Engine Specification: QSK23G3

Basic technical data	
No. of cylinders	6
Cylinder arrangement	In-line
Cycle	4 stroke
Induction system	Turbocharged&Low Temperature
Compression ratio	16.0:1
Bore	170mm
Stroke	170mm
Displacement	23.15L
Engine idle speed	750 RPM
Approximate engine weight	2805kg

Cooling system	
Coolant capacity-engine	46.5L
Maximum coolant friction head external to engine:	
-1800 rpm	48 KPA
-1500 rpm	34 kPA
Maximum static head of coolant above engine crank centerline	18.3m
Standard Thermostat (Modulating) Range	76.5 -90°C
Minimum Pressure Cap	69 KPA
Maximum Top Tank Temperature for Standby / Prime Power	104/ 100°C

Fuel system	
Injection system	Cummins HPI-PT
Governor type	Electronic
Maximum Fuel Flow to Injection Pump	684l/h
Maximum fuel inlet temperature	70°C
Total drain flow (constant for all loads)	662l/h

Air intake system	
Maximum intake air restriction with heavy duty air cleaner:	
-Dirty element	25 in H2O
-Clean element	15 in H2O

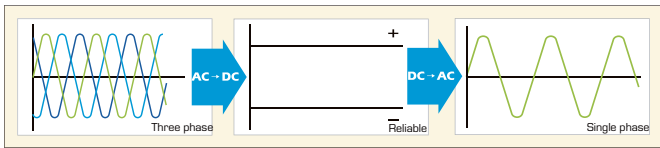
Lubrication system	
Engine oil pressure for engine protection devices:	
— Idle speed(Minimum )	145kPa
— Governed speed(Maximum )	345-448kPa
Maximum oil temperature	120 °C
Minimum required lube system capacity-sump plus filters	TBD

Electrical system	
Cranking motor (Heavy duty, positive engagement)	24V
Battery charging system, negative ground	35 ampere
Maximum allowable resistance of cranking circuit	0.002 ohm
Minimum recommended battery capacity- cold soak	1800 CCA

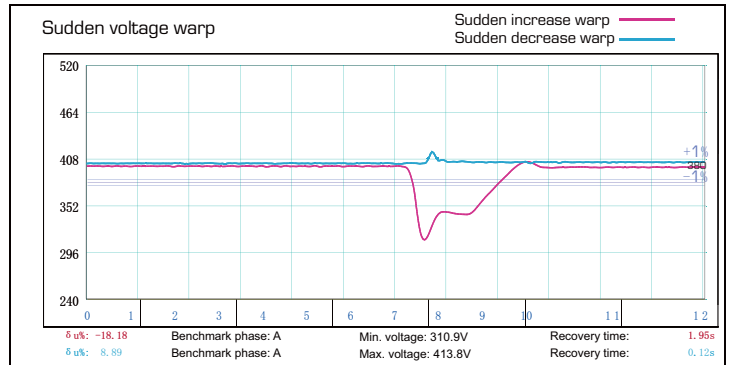
General installation	Prime power
Gross engine power output	809kw
Piston speed	10.3m/s
Friction horsepower	93KW
Engine water flow to engine	10.1l/min
Intake air flow	1094L/S
Exhaust gas flow	2773L/min
Exhaust gas temperature	467°C
Radiated heat to ambient	76KW
Heat rejection to coolant	235KW
Heat rejection to fuel	9.1KW

## ■ Alternator Specification

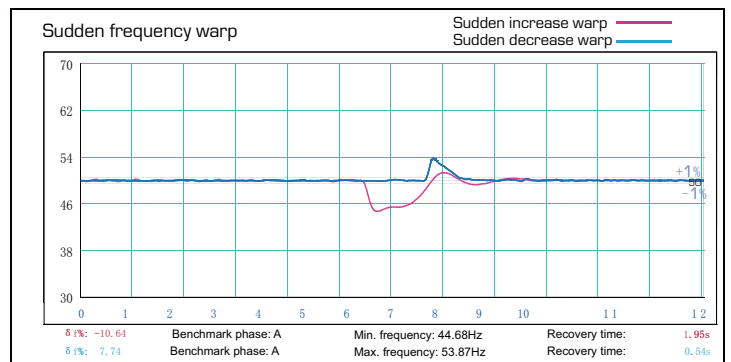
Alternator	
Number of phase	3
Power factor (Cos Phi)	0.8
Poles	4
Winding Connections (standard)	Star-serie
Terminals	12
Insulation type	H class
Winding Pitch	2/3
IP rating	IP23
Excitation system	Self-excited
Bearing	Single bearing
Coating	Vacuum impregnation
Voltage regulator	A.V.R
Couping	Flexible disc



Emergency voltage curve



Emergency frequency curve



## ■ Options

Engine	Alternator	Generator Sets	Fuel System
<ul style="list-style-type: none"> <li>Water Jacket Pre-heater</li> <li>Fuel heater</li> </ul>	<ul style="list-style-type: none"> <li>Winding Temp measuring Instrument</li> <li>Alternator Pre-heater</li> <li>PMG</li> <li>Anti-damp and anti-corrosion treatment</li> <li>Anti-condensation heater</li> <li>Winding and bearing RTD</li> </ul>	<ul style="list-style-type: none"> <li>Tools with the machine</li> <li>Extended range fuel tank</li> <li>Bunded fuel tank</li> </ul>	<ul style="list-style-type: none"> <li>Low fuel level alarm</li> <li>Automatic fuel feeding system</li> <li>Fuel T-valves</li> </ul>
Canopy	Lub oil system	Cooling System	Control Panel
<ul style="list-style-type: none"> <li>Rental type Canopy</li> <li>Trailer</li> </ul>	<ul style="list-style-type: none"> <li>Oil Pre-heater</li> <li>Oil temp sensor</li> </ul>	<ul style="list-style-type: none"> <li>Front heat protection</li> </ul>	<ul style="list-style-type: none"> <li>Remote control panel</li> <li>ATS</li> <li>Synchronizing controller</li> <li>Adjustable earth leakage relay</li> </ul>

## ■ Control Panel

### Configuration

- Emergency stop button
- Protection MCB
- Battery charger
- Integrated aviation plug
- ATS connection
- Digital control module

### Features

- 3 phase generator set monitoring
- Support of engines equipped with electronic control unit
- Comprehensive diagnostic message
- Automatic or manual start/stop of the gensets
- Push buttons for simple control, lamp test
- Graphic back-lit LCD display
- Parameters adjustable via keyboard or PC
- Mains measurements ( 50HZ/60HZ)
- Generator measurements ( 50HZ/60HZ)
- Comprehensive shutdown or warning on fault condition
- 3 phase Generator protections
  - Over-/under voltage
  - Over-/under frequency
  - Current/voltage asymmetry
  - Over current/overload
- 3 phase AMF function
  - Over-/under frequency
  - Over-/under voltage
  - Voltage asymmetry
- Configurable analog inputs
- Battery voltage, engine speed (pick-up) measurement
- Configurable programmable binary inputs and outputs
- Warm-up and cooling functions
- Generator C.B. and Mains C.B. control with feedback and return timer
- RS232 interface
- Modem communication support
- Hours counter
- Sealed to Ip65
- Event log

### Benefits

- Less wiring and components
- Integrated solution
- Less engineering and programming
- User friendly set-up and button layout
- Module can be configured to suit individual applications
- PC software for simplified configuration
- Wide range of communication capabilities

### Operation conditions

- Operation temp: -20 °C to + 70 °C
- Storage temp: -30 °C to + 80 °C
- Operating humidity: 95% w/o condensation
- Vibration : 5-25Hz,  $\pm 1.6$  mm  
5-100Hz, a=4g
- Shocks: a= 500m/s<sup>2</sup>

### Options

- Ethernet interface (Remote monitoring and control)
- GSM modem/wireless internet (Remote monitoring and control)
- RS232-RS485 Dual port interface
- Synchronizing control panel
- Distribution board with sockets kit and power busbar
- Battery trickle charge ammeter
- Earth leakage protection
- Earth fault protection
- Low fuel level alarm
- Low fuel level shutdown
- High fuel level alarm
- Fuel transfer system control
- Low coolant level shutdown
- High lube oil temp shutdown
- Overload via alarm switch on breaker
- Engine coolant heater controls
- Control panel heater
- Speed adjust switch
- Oil temp displayed on LCD screen
- Additional 8 inputs and outputs