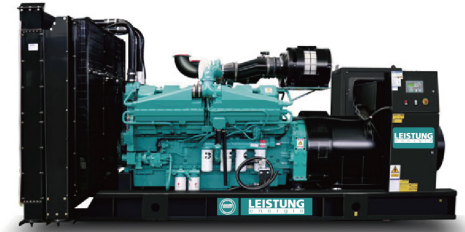
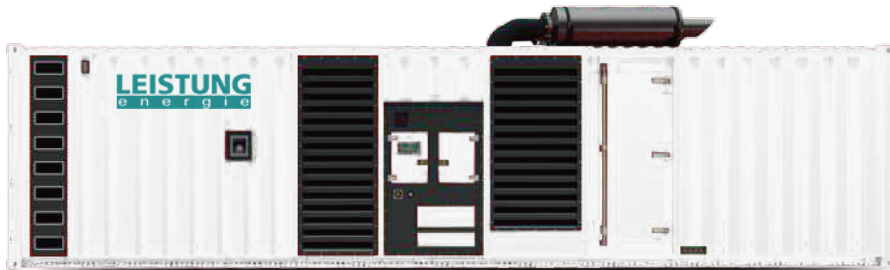


# ■ Model: C2500E5

Powered by **CUMMINS**



## ■ Generator Specification

Service	PRP <sub>(1)</sub>	ESR <sub>(2)</sub>
Power (kVA)	2000	2500
Power (kW)	1600	2000
Rated speed (r.p.m)	1500	
Standard voltage (V)	400/230 V	
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.

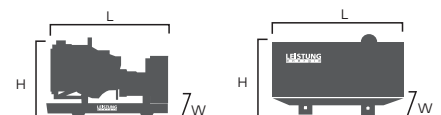
Powers Voltage (V)	ESP KVA	ESP KW	PRP KVA	PRP KW	Standby Amps
415/240	2500	2000	2000	1600	3478.1
400/230	2500	2000	2000	1600	3608.5
380/220	2500	2000	2000	1600	3798.5

## Performance Data

Model	C2500E5	
Engine brand	Cummins	
Engine model	QSK60G13	
Speed control type	ECM	
Phase	3	
Control system	Digital	
Starter motor voltage	24 V	
Frequency	50 HZ	
Engine speed (RPM)	1500	
Fuel Consumption (L/H)	100% standby power	523
	100% prime power	399
	75% prime power	302
	50% prime power	210

### 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	12192mm
Width (W)	REQ	2438mm
Height (H)	REQ	2896mm
Net Weight	REQ	/
Fuel Tank (L)	REQ	/

## ■ Engine Specification: QSK60G13

### Basic technical data

No. of cylinders	16
Cylinder arrangement	60° Vee
Cycle	4 stroke
Induction system	Turbocharged
Compression ratio	14.5:1
Bore	159mm
Stroke	190mm
Displacement	60.2L
Engine idle speed	700-900 RPM
Approximate engine weight	7920kg

### Cooling system

Coolant capacity-engine	159L
Maximum coolant friction head external to engine:	
-1800 rpm	/
-1500 rpm	48KPA
Maximum static head of coolant above engine crank centerline	18.3m
Standard Thermostat (Modulating) Range	82 -93°C
Minimum Pressure Cap	76 KPA
Maximum Top Tank Temperature for Standby / Prime Power	104/ 100°C

### Fuel system

Injection system	Cummins MCRS
Governor type	ECM
Maximum restriction at lift pump	17/30 kPa
Maximum fuel inlet temperature	70°C
Typical Clean Fuel Filter Restriction	6.7 kPa

### Air intake system

Maximum intake air restriction with heavy duty air cleaner:

-Dirty element	25 in H <sub>2</sub> O
-Clean element	15 in H <sub>2</sub> O

### Lubrication system

Engine oil pressure for engine protection devices:

— Idle speed(Minimum )	138kPa
— Governed speed(Maximum )	345-483kPa

Maximum oil temperature	121°C
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Oil Capacity with OP 9457 Oil Pan :

Low - High	231-261 L
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### Electrical system

Cranking motor (Heavy duty, positive engagement

24V

Battery charging system,

negative ground	55 ampere
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Maximum allowable resistance of cranking circuit

0.002 ohm

Minimum recommended battery

capacity- cold soak	2200 CCA
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### General installation

### Prime power

Gross engine power output	1727kw
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Piston speed	9.5m/s
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Friction horsepower	146KW
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Engine water flow to engine	TBD
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Intake air flow	2161l/s
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Exhaust gas flow	5194L/min
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Exhaust gas temperature	450°C
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Radiated heat to ambient	161KW
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Heat rejection to coolant	400KW
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Heat rejection to fuel	TBD
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## ■ 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,  $\pm 1.6\text{mm}$   
5-100Hz,  $a=4g$
- Shocks:  $a= 500\text{m/s}^2$

### 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