Technical Data

Jan 2017

Cummins QSK 60 G3	CGT Stamford PI 734	Generator Model:	G2000SCU5

50 Hz	3-Phase	Power Factor Cos Φ = 0.8	Emissions Non-Certified

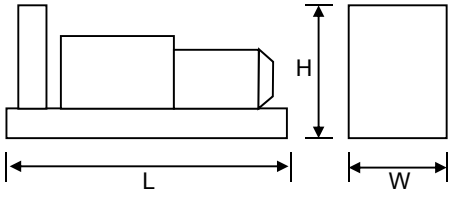
RATINGS	PRIME POWER (PRP)		STANDBY POWER (ESP)		
	G2000SCU5				
Voltage	**kVA**	kWe	kVA	kWe	Amps
415/240	**1875**	1500	2000	1600	2782
400/230	**1875**	1500	2000	1600	2887
380/220	**1875**	1500	2000	1600	3039

Definition of Ratings & Reference Conditions

Prime Power (PRP) is the nominal output continuously available, where the average load (variable) does not exceed 70% of the prime power rating during an operating period of 250 hours. The total operating time at 100% prime power must not exceed 500 hours per year. A 10% overload is available for a maximum of 1 hour in 12 hours of operation and must not exceed a total of 25 hours per year.
Standby Power (ESP) is the maximum output available (at variable load), for up to 200 hours per year. The average load (variable) must not exceed 80% of the standby power rating, with less than 25 hours per year at the full standby rating. No overload is available. The genset must not operate, at standby rating, in parallel with the public utility under any circumstances.
Standard Reference Conditions: air temperature 25°C (77°F), barometric pressure 100kPa [110m (361ft) altitude], 30% relative humidity.
Note: The above ratings may be subject to derate at different operating conditions. Please see the Derate Guidelines on the Broadcrown website.
All power ratings and reference conditions in accordance with ISO 8528-1 and ISO 3046-1.

Key Features:

- Efficient water cooled diesel engine.
- Single bearing CGT Stamford alternator
- Radiator with pressure cap and drain point
- Fully guarded engine-driven fan
- Fully welded steel baseframe with lifting / jacking points
- Various fuel system options
- Heavy duty rubber anti-vibration mountings
- 24V starter batteries and connecting cables
- Separate engine-driven battery charging alternator
- Spin on oil and fuel filters and dry type air filter element
- Auto Start control system with digital instrumentation
- Factory Test Certificate
- Operation & Maintenance Manual
- Wide range of optional extra features available



Overall Dimensions & Weights - Open Set

Length (L) = 5530mm
Width (W) = 2030mm
Height (H) = 2700mm

Dry Weight (inc oil) = 13756kg
Operating Weight = 14236kg

	Typical Open Generator Sound Pressure Level at 1m, Free Field (dB)							
Overall dBA	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
111	100	103	105	105	105	104	101	103

All specifications and design are subject to change without notice

JCB POWER PRODUCTS

G2000SCU5

Jan 2017

ENGINE & COOLING SYSTEM — CUMMINS QSK 60 G3

		SI Units	PRIME	STANDBY
Performance	Engine Speed	r/min	1500	
	Gross Power	kWm	1615	1790
	Fan Power	kWm	22	22
	Net Power	kWm	1593	1768
	Emissions Certification		—	
	Altitude Capability	m	1500	1500
General	Cylinders / Type		16 cyl / 60° Vee / 4-stroke	
	Aspiration / Charge Cooling		Turbocharged / JWAC	
	Governing / Engine Management		Electronic Governor / ECU	
	Bore / Stroke	mm	159 / 190	
	Cubic Capacity	litres	60.2	
	BMEP	kPa	2140	2372
Fuel	Fuel Consumption at 100% Power	litres/h	363.0	406.0
	Fuel Consumption at 75% Power	litres/h	270.0	308.4
	Fuel Consumption at 50% Power	litres/h	190.0	216.1
	Total fuel flow	litres/h	1515	
	Standard Fuel Tank Capacity	litres	N/A	
Air	Engine Air Flow	m³/s	2.2	2.26
	Maximum Air Intake Restriction (used filter)	kPa	6.23	
Exhaust	Exhaust Gas Flow	m³/s	5.105	5.525
	Exhaust Gas Temperature	°C	415	440
	Maximum Exhaust Back Pressure	kPa	6.8	
	Typical Exhaust Pipe Diameter	mm	350	
Cooling	Radiator Cooling Air Flow	m³/s	34	
	Max Restriction to Cooling Air Flow	Pa	130	
	Max Radiator Air-On Temperature	°C	50	
	Maximum Coolant Temperature	°C	104	
	Coolant Capacity - Engine Only	litres	157	
	Total Coolant Capacity	litres	490	
Oil	Total Oil Capacity incl Filters	litres	280	
	Typical Oil Pressure at Rated Speed	kPa	420	
	Typical Oil Consumption (>250hrs Operation)	litres/h	0.96	
Thermal	Heat Rejection to Engine Cooling Water	kW	420	460
	Heat Rejection to Charge Cooler	kW	n/a	
	Heat Radiated From Engine (Typical)	kW	145	160
Elec	Electrical System Voltage	V	24	
	Battery Type		4 (Series-Parallel) 624	
	Battery Capacity SAE CCA	A	2020	

ALTERNATOR — CGT STAMFORD PI 734

		SI Units	PRIME	STANDBY
General Data	Manufacturer		Cummins Generator Technologies - STAMFORD	
	Model (may vary with voltage)		PI 734 E or F	PI 734 E
	Operating Temperature	°C	40	27
	Coupling / No. of Bearings		Direct / Single Bearing	
	Phase / Poles / Winding Type		3-Phase / 4-Pole / Winding 311	
	Power Factor		Cos Φ = 0.8	
	Excitation		Separately excited by PMG	
	Insulation System		Class H	
	AVR Type		MX 321	
	Voltage Regulation		± 0.5%	

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STANDARD CONTROL SYSTEM — BC 7210 Digital Auto Start

The standard control system for Export products is **BC 7210** (photo), based on the Deep Sea Electronics DSE7210 Digital Auto Start controller.

This provides for the manual and automatic remote start of the generator with a LCD digital display of :

- Coolant Temperature, with integral high temperature protection
- Oil Pressure, with integral low pressure protection
- Volts, Amps and Frequency
- Engine operating hours
- Battery volts

Also featuring :

- Automatic cool-down timer function
- Emergency Stop button
- Ample auxiliary inputs/outputs for optional features
- Optional - battery charger and door mounted illuminated switch.

CONTROL SYSTEM OPTIONS

BC 7310 & **BC 7320** control systems (just the DSE modules shown here) provide complete power monitoring and protection facilities.
Compared to BC 7210, addition features include :

- Pre-alarms for Low Oil Pressure and High Coolant Temperature
- Digital display of kW, kVA and Power Factor
- Under/Over Volts protection
- Over Current Protection
- Full RS485 Telemetry implementation as well as full SAE J1939 CANBus implementation.

In fact, all generating sets driven by engines with onboard ECU/CANBus come with this system as standard.

The BC 7320 provides full AMF functionality with integrated mains monitoring and generator/mains contactor control.

Finally, **BC 8610** & **BC 8620** control systems provide the same features as BC 7310 & BC 7320 respectively, plus :

- BC 8610 - Set-to-Set Synchronisation
- BC 8620 - Single Set-to-Mains Synchronisation with integrated mains monitoring

For Multi Set-to-Mains synchronisation, each set requires BC 7510 with the addition of one mains monitoring panel **BC 8660** (not illustrated).
See the Synchronisation Guidelines for further details.

CONTROL SYSTEM OPTIONS - X-RANGE

The X-Range of control systems has been developed to suit larger generating sets (>500kVA) for the UK and Projects market.

The entry level is **Remote Start** and provides for the manual and automatic remote start of the generator with LCD digital display all operating paramaters including :

- Coolant temperature with high temperature alarm and shutdown
- Oil pressure with low pressure alarm and shutdown
- Engine operating hours, battery charge volts and amps
- Volts, with Under/Over Volts protection
- Amps, with Over Current protection
- Frequency, kW, kVA, Power Factor

The **Automatic Mains Fail** variant adds full AMF functionality with integrated mains monitoring and generator/mains breaker control.

The **Generator Parallel** system makes provision for set-to-set synchronisation, whilst the Mains Parallel version allows single set-to-mains synchronisation with integrated AMF functionality.

By means of the **Multi-Set Mains Parallel** system (not illustrated) a number of sets can be synchronised with each other and the mains supply.