

Mitsubishi S16R-PTA	CGT Stamford PI 734	Generator Model:	BCM 1750P-50
		Generator Model:	BCM 1900S-50

50 Hz

3-Phase

 Power Factor
 $\text{Cos } \Phi = 0.8$

RATINGS	PRIME POWER (PRP)		STANDBY POWER (LTP)		
	BCM 1750P-50		BCM 1900S-50		
	kVA	kWe	kVA	kWe	Amps
Voltage					
415/240	1750	1400	1900	1520	2643
400/230	1750	1400	1900	1520	2742
380/220	1750	1400	1900	1520	2887

Definition of Ratings & Reference Conditions

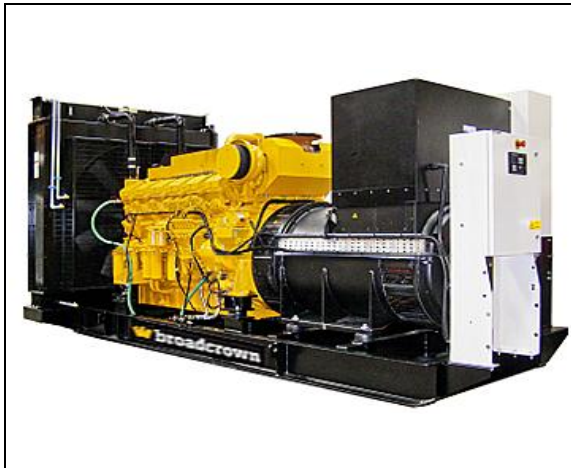
Prime Power (PRP) is the nominal output continuously available, where the average load (variable) does not exceed 60% of the prime power rating. 10% overload is available for a maximum of 1 hour in 12 hours of operation.

Standby Power (LTP) the maximum output available (at variable load), for up to 500 hours per year. The average load (variable) must not exceed 60% of the standby rating. No overload is available.

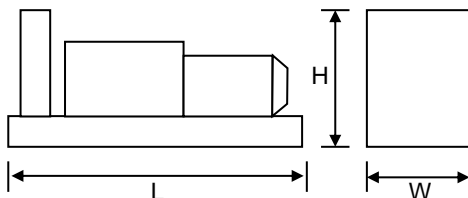
Standard Reference Conditions: air inlet temperature 25°C (77°F), barometric pressure 100kPa [110m (361ft) altitude] and 30% relative humidity.

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
- Industrial silencer(s) supplied loose
- Auto Start control system with digital instrumentation
- Main line circuit breaker
- Factory Test Certificate
- Operation & Maintenance Manual
- Wide range of optional extra features available


Overall Dimensions & Weights - Open Set

Length (L) = 5300mm
 Width (W) = 2320mm
 Height (H) = 2570mm

Dry Weight (inc oil) = 12580kg
 Operating Weight = 13100kg

	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

ENGINE & COOLING SYSTEM
mitsubishi S16R-PTA

	SI Units	PRIME	STANDBY
Performance	Engine Speed	r/min 1500	
	Gross Power	1480	1620
	Fan Power	23.5	23.5
	Net Power	1457	1597
	Emissions Certification	—	
	Altitude Capability	1500	1500
General	Cylinders / Type	16 cyl / 60° Vee / 4-stroke	
	Aspiration / Charge Cooling	Turbocharged / JWAC	
	Governing / Engine Management	TBA	
	Bore / Stroke	mm 170 / 180	
	Cubic Capacity	litres 65.37	
	BMEP	1811	1983
Fuel	Fuel Consumption at 100% Power	litres/h 341	374
	Fuel Consumption at 75% Power	litres/h 258	282
	Fuel Consumption at 50% Power	litres/h 178	193
	Total fuel flow	litres/h TBA	
	Standard Fuel Tank Capacity	litres TBA	
	Air	Engine Air Flow	m ³ /s 1.95
Maximum Air Intake Restriction (used filter)		kPa 6.23	
Exhaust	Exhaust Gas Flow	m ³ /s 5.15	5.65
	Exhaust Gas Temperature	°C TBA	TBA
	Maximum Exhaust Back Pressure	kPa 5.9	
	Typical Exhaust Pipe Diameter	mm TBA	
Cooling	Radiator Cooling Air Flow	m ³ /s 23.9	
	Max Restriction to Cooling Air Flow	Pa 210	
	Max Radiator Air-On Temperature	°C 45.5	
	Maximum Coolant Temperature	°C 98	
	Coolant Capacity - Engine Only	litres 170	
	Total Coolant Capacity	litres TBA	
Oil	Total Oil Capacity incl Filters	litres 230	
	Typical Oil Pressure at Rated Speed	kPa 565	
	Typical Oil Consumption (>250hrs Operation)	litres/h 0.89	
Thermal	Heat Rejection to Engine Cooling Water	853	934
	Heat Rejection to Charge Cooler	kW n/a	
	Heat Radiated From Engine (Typical)	102	112
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	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 7510 & BC 7520** control systems provide the same features as BC 7310 & BC 7320 respectively, plus :

- BC 7510 - Set-to-Set Synchronisation
- BC 7520 - 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 7560** (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 parameters 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.



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