broadcrown®

Technical Data

April 2011

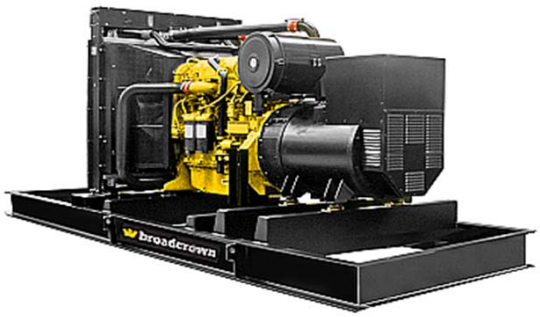
Perkins 2806A-E18TAG2	CGT Stamford HCI 544	Generator Model:	BCP 650P-50
		Generator Model:	BCP 700S-50

50 Hz	3-Phase	Power Factor Cos Φ = 0.8

RATINGS	PRIME POWER (PRP)		STANDBY POWER (LTP)		
	BCP 650P-50		BCP 700S-50		
Voltage	**kVA**	kWe	kVA	kWe	Amps
415/240	**650**	520	700	560	974
400/230	**650**	520	700	560	1010
380/220	**650**	520	700	560	1064

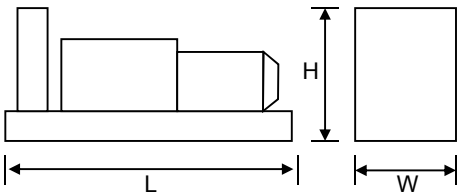
Definition of Ratings & Reference Conditions

Prime Power (PRP) is the nominal output continuously available, where the average load (variable) does not exceed 80% 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 80% of the standby power 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 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) = 3675mm
Width (W) = 1536mm
Height (H) = 2200mm

Dry Weight (inc oil) =5789 kg
Operating Weight = 5850kg

	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
106	95	100	101	101	101	99	95	94

All specifications and design are subject to change without notice

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BCP 650P-50
BCP 700S-50

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ENGINE & COOLING SYSTEM — PERKINS 2806A-E18TAG2

		SI Units	PRIME	STANDBY
Performance	Engine Speed	r/min	1500	
	Gross Power	kWm	584	628
	Fan Power	kWm	9	9
	Net Power	kWm	575	619
	Emissions Certification		—	
	Altitude Capability	m	TBA	TBA
General	Cylinders / Type		6 cyl / Vertical Inline / 4-stroke	
	Aspiration / Charge Cooling		Turbocharged / Air to Air	
	Governing / Engine Management		Electronic Governor	
	Bore / Stroke	mm	145 / 183	
	Cubic Capacity	litres	18.13	
	BMEP	kPa	2577	2771
Fuel	Fuel Consumption at 100% Power	litres/h	132	143
	Fuel Consumption at 75% Power	litres/h	97	TBA
	Fuel Consumption at 50% Power	litres/h	66	TBA
	Total fuel flow	litres/h	413	
	Standard Fuel Tank Capacity	litres	TBA	
Air	Engine Air Flow	m³/s	0.617	0.667
	Maximum Air Intake Restriction (used filter)	kPa	6.4	
Exhaust	Exhaust Gas Flow	m³/s	1.767	1.9
	Exhaust Gas Temperature	°C	555	553
	Maximum Exhaust Back Pressure	kPa	6.9	
	Typical Exhaust Pipe Diameter	mm	250	
Cooling	Radiator Cooling Air Flow	m³/s	11.7	
	Max Restriction to Cooling Air Flow	Pa	250	
	Max Radiator Air-On Temperature	°C	46	
	Maximum Coolant Temperature	°C	103	
	Coolant Capacity - Engine Only	litres	—	
	Total Coolant Capacity	litres	61	
Oil	Total Oil Capacity incl Filters	litres	55.5	
	Typical Oil Pressure at Rated Speed	kPa	420	
	Typical Oil Consumption (>250hrs Operation)	litres/h	0.34	
Thermal	Heat Rejection to Engine Cooling Water	kW	202	219
	Heat Rejection to Charge Cooler	kW	100	110
	Heat Radiated From Engine (Typical)	kW	73	79
Elec	Electrical System Voltage	V	24	
	Battery Type		2 (Series) 623	
	Battery Capacity SAE CCA	A	865	

ALTERNATOR — CGT STAMFORD HCI 544

		SI Units	PRIME	STANDBY
General Data	Manufacturer		Cummins Generator Technologies - STAMFORD	
	Model (may vary with voltage)		HCI 544 F	HCI 544 F
	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		Self excited	
	Insulation System		Class H	
	AVR Type		MX 341	
	Voltage Regulation		± 1.0%	

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STANDARD CONTROL SYSTEM — BC 7310 Digital Auto Start

The standard control system for this model is **BC 7310** (photo), based on the Deep Sea Electronics DSE7310 Digital Auto Start controller.

This provides for the manual and automatic remote start of the generator, together with full control and protection of the engine via the ECU. LCD digital display of :

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

Also featuring :

- Full RS485 Telemetry implementation
- Automatic cool-down timer function
- Emergency Stop button
- Ample auxiliary inputs/outputs for optional features
- Optional (shown) - battery charger and door mounted illuminated switch.

CONTROL SYSTEM OPTIONS

The **BC 7320** control system (just the DSE7320 module is shown here) has an identical feature set to the BC 7310 but with the addition of full AMF functionality with integrated mains monitoring.

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 Supply 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.

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