broadcrown®

Technical Data

April 2013

John Deere 4045 HF285	CGT Stamford UCI 274	Generator Model:	BCJD 100-60SP T3/F

60 Hz	1-Phase	Power Factor Cos Φ = 1.0	Emissions EPA Tier 3 Flex Compliant

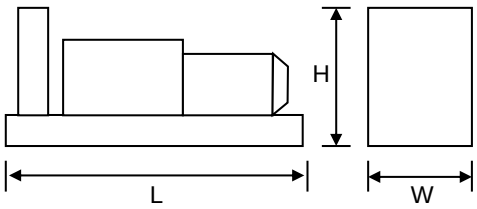
RATINGS	PRIME POWER (PRP)		STANDBY POWER (LTP)		
Voltage	kVA	kWe	kVA	**kWe**	Amps
240/120	90	90	100	**100**	417
220/110	90	90	100	**100**	455

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. 10% overload is available for a maximum of 1 hour in 12 hours of operation.
Standby Power (LTP) is the maximum output available, for up to 500 hours per year, where the average load (variable) does not exceed 70% of the standby power rating. No overload is available.
Standard Reference Conditions: air temperature 25°C (77°F), barometric pressure 99kPa, [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:

- Water cooled John Deere diesel engine with ECU/CANBus
- Single bearing CGT Stamford alternator
- Radiator with pressure cap and drain point
- Fully guarded engine-driven fan
- Fully welded steel skid base with fork lift pockets
- Integral fuel tank with filler cap and gauge
- Heavy duty rubber anti-vibration mountings
- 12V starter battery and connecting cables
- Separate engine-driven battery charging alternator
- Spin on oil and fuel filters and dry type air filter element
- Industrial silencer (15dBA reduction) 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) = 2300mm *[91in]*
Width (W) = 850mm *[34in]*
Height (H) = 1875mm *[63in]*

Dry Weight (inc oil) = 1403kg *[3152lb]*
Operating Weight = 1595kg *[3527lb]*

	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
99	84	88	91	93	93	94	87	82

All designs and specifications subject to change without notice

Broadcrown Ltd, Airfield Industrial Estate, Hixon, Stafford, Staffs ST18 0PF, England
tel: +44 (0) 1889 272200, fax: +44 (0) 1889 272220, email: info@broadcrown.co.uk **www.broadcrown.com**

broadcrown®

BCJD 100-60SP T3/F

April 2013

ENGINE & COOLING SYSTEM — JOHN DEERE 4045 HF285

		SI Units	[US Units]	PRIME	STANDBY
Performance	Engine Speed	r/min	[rpm]	1800	
	Gross Power	kWm	[bhp]	107 [143]	118 [158]
	Fan Power	kWm	[bhp]	7 [9.4]	7 [9.4]
	Net Power	kWm	[bhp]	100 [134]	111 [149]
	Emissions Certification			T3/F	
	Altitude Capability	m	[ft.]	3050 [7500]	2286 [5000]
General	Cylinders / Type			4 cyl / inline / 4-stroke / HPCR	
	Aspiration / Charge Cooling			Turbocharged / Air to Air	
	Governing / Engine Management			Electronic Governor / ECU / CANBus	
	Bore / Stroke	mm	[in.]	106 / 127 [4.19 / 5.00]	
	Cubic Capacity	litres	[cu.in.]	4.5 [414]	
	BMEP	kPa	[psi]	1591 [231]	1755 [254]
Fuel	Fuel Consumption at 100% Power	litres/h	[gal/h]	n/a [n/a]	31.1 [8.2]
	Fuel Consumption at 75% Power	litres/h	[gal/h]	n/a [n/a]	24.7 [6.5]
	Fuel Consumption at 50% Power	litres/h	[gal/h]	n/a [n/a]	17.7 [4.7]
	Total fuel flow	litres/h	[gal/h]	74 [20]	
	Standard Fuel Tank Capacity	litres	[gal]	232 [61]	
Air	Engine Air Flow	m³/s	[cfm]	0.128 [272]	0.137 [290]
	Maximum Air Intake Restriction (used filter)	kPa	[inWG]	6.25 [25]	
Exhaust	Exhaust Gas Flow	m³/s	[cfm]	0.353 [749]	0.38 [805]
	Exhaust Gas Temperature	°C	[°F]	560 [1040]	580 [1076]
	Maximum Exhaust Back Pressure	kPa	[inWG]	7.5 [30]	
	Typical Exhaust Pipe Diameter	mm	[in.]	100 [4]	
Cooling	Radiator Cooling Air Flow	m³/s	[cfm]	1.8 [3708]	
	Max Restriction to Cooling Air Flow	Pa	[inWG]	185 [0.7]	
	Max Radiator Air-On Temperature	°C	[°F]	50 [122]	
	Maximum Coolant Temperature	°C	[°F]	105 [221]	
	Coolant Capacity - Engine Only	litres	[gal]	11.9 [3.1]	
	Total Coolant Capacity	litres	[gal]	13 [3.4]	
Oil	Total Oil Capacity incl Filters	litres	[gal]	12 [3.2]	
	Typical Oil Pressure at Rated Speed	kPa	[psi]	320 [46]	
	Typical Oil Consumption (>250hrs Operation)	litres/h	[pt/h]	0.08 [0.16]	
Thermal	Heat Rejection to Engine Cooling Water	kW	[btu/min]	n/a [n/a]	62 [3529]
	Heat Rejection to Charge Cooler	kW	[btu/min]	17.6 [1002]	19.8 [1127]
	Heat Radiated From Engine (Typical)	kW	[btu/min]	13 [761]	15 [840]
Elec	Electrical System Voltage		V	12	
	Battery Type			1 X SAE 656	
	Battery Capacity SAE CCA		A	810	

ALTERNATOR — CGT STAMFORD UCI 274

		SI Units	[US Units]	PRIME	STANDBY
General Data	Manufacturer			Cummins Generator Technologies - STAMFORD	
	Model (may vary with voltage)			UCI 274 C	UCI 274 C
	Operating Temperature	°C	[°F]	40 [104]	27 [81]
	Coupling / No. of Bearings			Direct / Single Bearing	
	Phase / Poles / Winding Type			1-Phase / 4-Pole / Winding 06	
	Power Factor			Cos Φ = 1.0	
	Excitation			Self Excited	
	Insulation System			Class H	
	AVR Type			SX 460	
	Voltage Regulation			± 1.0%	

All designs and specifications subject to change without notice

Broadcrown Ltd, Airfield Industrial Estate, Hixon, Stafford, Staffs ST18 0PF, England
tel: +44 (0) 1889 272200, fax: +44 (0) 1889 272220, email: info@broadcrown.co.uk **www.broadcrown.com**

broadcrown®

BCJD 100-60SP T3/F

April 2013

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 CANBus implementation for the 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 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 Supply Synchronisation with integrated mains monitoring

For Multi Set-to-Mains synchronisation, each set requires BC 8610 with the addition of one mains monitoring panel **BC 8660** (not illustrated).
See the Synchronisation Guidelines for further details.

Broadcrown Ltd, Airfield Industrial Estate, Hixon, Stafford, Staffs ST18 0PF, England
tel: +44 (0) 1889 272200, fax: +44 (0) 1889 272220, email: info@broadcrown.co.uk **www.broadcrown.com**

broadcrown®

BCJD 100-60SP T3/F

April 2013

OPTIONAL ACOUSTIC ENCLOSURE — Canopy 2

The optional acoustic enclosure for this model is **Canopy 2**, suitable for operation in harsh outdoor environmments whilst providing excellent security and acoustic performance. All steel canopy components are pre-treated and polyester powder coated (to a typical thickness of 70-80µm) in RAL9001 white and the baseframe is finished in RAL9005 black.

Acoustically, the canopy is designed to meet the requirements of EU Legislation 2000/14/EC, achieved by extensive use of fire-retardant polyurethane foam together with efficient management of cooling air. Exhaust noise is minimised by internally mounted high performance exhaust silencers.

A steel fuel tank with filler, gauge and accessory points, is integrated within the baseframe. Alernatively, a bund with separate fuel tank can be provided where this is required.

Other key features include :

- Gull-wing doors with gas struts for good service access
- Panel/breaker access door with viewing window
- Heavy duty locks on all doors for total security
- Weather cap on exhaust discharge
- Emergency Stop button relocated to canopy exterior
- Lifting and holding down points
- Fork Lift pockets
- Optional single roof lifting point.

Dimensions mm *[in]* L x W x H	Additional Weight kg *[lbs]**	Typical Sound Pressure Level at Standby Power		Fuel Tank Capacity Litres *[US gal]*		Single Point Lift
		dB(A) at 1m [3ft]	dB(A) at 7m [23ft]	Integral	Bunded	
2800 *[110]* x 1110 *[43]* x 1670 *[65]*	450 *[992]*	79	69	250 *[66]*	220 *[58]*	Optional

* Indicative weight of canopy *additional* to open set

Typical SPL is a mean level, measured in free field conditions, with no contributory background noise.

KEY OPTIONS (Open Set)

Engine & Cooling :

- Electronic governor
- Oil and coolants drains extended to edge of baseframe
- Manual lub oil drain pump
- Coolant heater
- Medium duty air cleaner
- Exhaust manifold guards

Alternator :

- Anti-condensation heater
- Quadrature droop kit
- Alternative AVR
- Thermistor probes and controls

Fuel System :

- Baseframe with integral bund and drop-in fuel tank
- Fuel filter/separator
- Low fuel level switch (single point)
- Fuel level switch (four point)
- Manual fuel transfer pump
- Pumped/gravity fuel transfer system

Exhaust System :

- Residential silencer
- Critical silencer
- Flange/connection kit

Please refer to Broadcrown Sales Department for full details of these and other options

Broadcrown Ltd, Airfield Industrial Estate, Hixon, Stafford, Staffs ST18 0PF, England
tel: +44 (0) 1889 272200, fax: +44 (0) 1889 272220, email: info@broadcrown.co.uk **www.broadcrown.com**