

Cummins VTA 28 G5	Newage Stamford HCI 534	Generator Model: <b>BCC 650P-50</b>
		Generator Model: <b>BCC 700S-50</b>

50 Hz

3-Phase

Power Factor  
Cos  $\Phi$  = 0.8

RATINGS	PRIME POWER (PRP)		STANDBY POWER (LTP)		
	BCC 650P-50		BCC 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 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 (LTP)** 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.

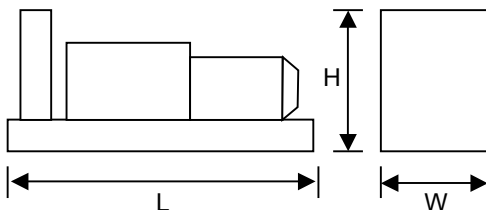
**Note:** The above ratings may be subject to derate at different operating conditions. Please see the Derate Guidelines on the Broadcrown website.

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



### Overall Dimensions & Weights - Open Set

Length (L) = 3860mm  
Width (W) = 1575mm  
Height (H) = 2145mm

Dry Weight (inc oil) = 5665kg  
Operating Weight = 5820kg

	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
104	92	97	98	99	99	98	95	92

All specifications and design are subject to change without notice

**ENGINE & COOLING SYSTEM**

**CUMMINS VTA 28 G5**

		SI Units	PRIME	STANDBY
Performance	Engine Speed	r/min	1500	
	Gross Power	kWm	560	612
	Fan Power	kWm	11.0	11.0
	Net Power	kWm	549	601
	Emissions Certification			
	Altitude Capability	m	1220	1220
General	Cylinders / Type		12 cyl / 40° Vee / 4-stroke	
	Aspiration / Charge Cooling		Turbocharged / JWAC	
	Governing / Engine Management		Electronic Governor / ECU	
	Bore / Stroke	mm	140 / 152	
	Cubic Capacity	litres	28	
	BMEP	kPa	1596	1744
Fuel	Fuel Consumption at 100% Power	litres/h	140.0	154.0
	Fuel Consumption at 75% Power	litres/h	104.0	112.0
	Fuel Consumption at 50% Power	litres/h	73.0	80.0
	Total fuel flow	litres/h	337	
	Standard Fuel Tank Capacity	litres	720	
Air	Engine Air Flow	m³/s	0.826	0.878
	Maximum Air Intake Restriction (used filter)	kPa	6.23	
Exhaust	Exhaust Gas Flow	m³/s	1.987	2.048
	Exhaust Gas Temperature	°C	493	507
	Maximum Exhaust Back Pressure	kPa	10	
	Typical Exhaust Pipe Diameter	mm	250	
Cooling	Radiator Cooling Air Flow	m³/s	9.2	
	Max Restriction to Cooling Air Flow	Pa	250	
	Max Radiator Air-On Temperature	°C	46	
	Maximum Coolant Temperature	°C	104	
	Coolant Capacity - Engine Only	litres	80	
	Total Coolant Capacity	litres	164	
Oil	Total Oil Capacity incl Filters	litres	83	
	Typical Oil Pressure at Rated Speed	kPa	483	
	Typical Oil Consumption (>250hrs Operation)	litres/h	0.37	
Thermal	Heat Rejection to Engine Cooling Water	kW	339	380
	Heat Rejection to Charge Cooler	kW	n/a	
	Heat Radiated From Engine (Typical)	kW	84.0	94.0
Elec	Electrical System Voltage	V	24	
	Battery Type		2 (Series) 623	
	Battery Capacity SAE CCA	A	865	

**ALTERNATOR**

**NEWAGE STAMFORD HCI 534**

		SI Units	PRIME	STANDBY
General Data	Manufacturer		NEWAGE STAMFORD	
	Model (may vary with voltage)		HCI 534 F	HCI 534 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		Separately excited by PMG	
	Insulation System		Class H	
	AVR Type		AS 440	
	Voltage Regulation		± 1.0%	

## STANDARD CONTROL SYSTEM - EXPORT PRODUCTS

## BC 5110 Digital Auto Start

The standard control system for Export products is **BC 5110** (photo), based on the Deep Sea Electronics DSE5110 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 auxillary inputs/outputs for optional features
- Optional - battery charger and door mounted illuminated switch.



## CONTROL SYSTEM OPTIONS - EXPORT PRODUCTS

**BC 5310 & BC 5320** control systems (just the DSE modules shown here) provide complete power monitoring and protection facilities. Compared to BC 5110, 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

The BC 5320 provides full AMF functionality with integrated mains monitoring and generator/mains contactor control.



The **BC 5510 & BC 5520** control systems provide the same features as BC 5310 & BC 5320 respectively, plus :

- BC 5510 - Set-to-Set Synchronisation
- BC 5520 - Single Set-to-Mains Supply Synchronisation with integrated mains monitoring

For Multi Set-to-Mains synchronisation, each set requires BC 5510 with the addition of one mains monitoring panel **BC 5560** (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 Main Fail** variant add 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.

