Technical Data

April 2014

Volvo TAD734GE	CGT Stamford UCDI 274	Generator Model:	BCV 275-50 E2

50 Hz	3-Phase	Power Factor Cos Φ = 0.8	Emissions EU Stage II Certified

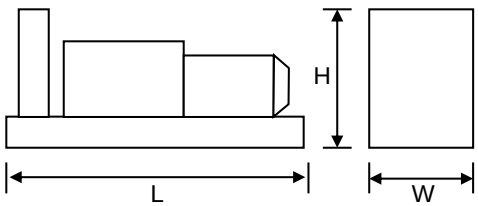
Ratings	Prime Power (PRP)		Standby Power (ESP)		
Voltage	**kVA**	kWe	kVA	kWe	Amps
440/254	**250**	200	275	220	361
415/240	**250**	200	275	220	383
400/230	**250**	200	275	220	397
380/220	**250**	200	275	220	418

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 (ESP) is the maximum output available, for up to 500 hours per year, where the average load does not exceed 70% of the standby power rating. No overload is available.
Standard Reference Conditions: air inlet 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:

- Water cooled Volvo 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 lifting points
- Integral fuel tank with filler cap and gauge
- 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 (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) = 3050mm
Width (W) = 1030mm
Height (H) = 1589mm

Dry Weight (inc oil) = 1950kg
Operating Weight = 2280kg

	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
102	90	93	95	96	97	95	91	86

All specifications and design are 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**

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Engine & Cooling System — Volvo TAD 734GE

		SI Units	PRIME	STANDBY
Performance	Engine Speed	r/min	1500	
	Gross Power	kWm	225	250
	Fan Power	kWm	12	12
	Net Power	kWm	213	238
	Emissions Certification		E2	
	Altitude Capability	m	1000	1000
General	Cylinders / Type		6 cyl / Inline / 4-stroke	
	Aspiration / Charge Cooling		Turbocharged / Air to Air	
	Governing / Engine Management		Electronic Governor / ECU / CANBus	
	Bore / Stroke	mm	108 / 130	
	Cubic Capacity	litres	7.15	
	BMEP	kPa	1922	2136
Fuel	Fuel Consumption at 100% Power	litres/h	53.8	60.1
	Fuel Consumption at 75% Power	litres/h	42.9	47.7
	Fuel Consumption at 50% Power	litres/h	30.7	34.4
	Total fuel flow	litres/h	164	
	Standard Fuel Tank Capacity	litres	394	
Air	Engine Air Flow	m³/s	0.3	0.31
	Maximum Air Intake Restriction (used filter)	kPa	3	
Exhaust	Exhaust Gas Flow	m³/s	0.550	0.557
	Exhaust Gas Temperature	°C	495	550
	Maximum Exhaust Back Pressure	kPa	10	
	Typical Exhaust Pipe Diameter	mm	100	
Cooling	Radiator Cooling Air Flow	m³/s	3.4	
	Max Restriction to Cooling Air Flow	Pa	300	
	Max Radiator Air-On Temperature	°C	50	
	Maximum Coolant Temperature	°C	109	
	Coolant Capacity - Engine Only	litres	8	
	Total Coolant Capacity	litres	32	
Oil	Total Oil Capacity incl Filters	litres	29	
	Typical Oil Pressure at Rated Speed	kPa	450	
	Typical Oil Consumption (>250hrs Operation)	litres/h	0.14	
Thermal	Heat Rejection to Engine Cooling Water	kW	117	128
	Heat Rejection to Charge Cooler	kW	44	52
	Heat Radiated From Engine (Typical)	kW	24	26
Elec	Electrical System Voltage	V	24	
	Battery Type		2 (Series) 656	
	Battery Capacity SAE CCA	A	810	

Alternator — CGT Stamford UCDI 274 K

		SI Units	Prime	Standby
General Data	Manufacturer		Cummins Generator Technologies - Stamford	
	Model (may vary with voltage)		UCDI 274 K	UCDI 274 K
	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		AS 440	
	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 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.

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OPTIONAL ACOUSTIC ENCLOSURE — Canopy 4A

The optional acoustic enclosure for this model is **Canopy 4A**, 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

Dimensions (mm) L x W x H	Additional Weight (kg) ✻	Typical Sound Pressure Level at 75% of Prime Power		Fuel Tank Capacity (Litres)		Single Point Lift
		dB(A) at 1m	dB(A) at 7m	Integral	Bunded	
4000 x 1440 x 2120	1150	79	69	665	615	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

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