

Volvo TAD 1353GE	CGT Stamford HCI 444	Generator Model:	BCV 400-60 T3/F
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60 Hz	3-Phase	Power Factor Cos $\Phi = 0.8$	Emissions EPA Tier III Flex Compliant
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Ratings	Prime Power (PRP)		Standby Power (LTP)		
	kVA	kWe	kVA	kWe	Amps
480/277	450	360	500	400	601
440/254	450	360	500	400	656
416/240	450	360	500	400	694
240/138	450	360	500	400	1203
220/127	450	360	500	400	1312

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 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.

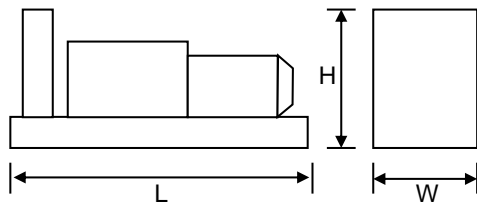
Note: The above ratings may be subject to derate at different operating conditions. Please see the Derate Guidelines on the Broadcrown website.

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) = 3420mm [132in]
 Width (W) = 1140mm [45in]
 Height (H) = 2020mm [80in]

Dry Weight (inc oil) = 3657kg [8101lb]
 Operating Weight = 4241kg [9349lb]

	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
105	92	94	98	100	101	100	93	90

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Engine & Cooling System
Volvo TAD 1353GE

	SI Units	[US Units]	Prime	Standby	
Performance	Engine Speed	r/min	[rpm]	1800	
	Gross Power	kWm	[bhp]	410 [550]	449 [602]
	Fan Power	kWm	[bhp]	19 [25.5]	19 [25.5]
	Net Power	kWm	[bhp]	391 [524]	430 [577]
	Emissions Certification			T3/F	
	Altitude Capability	m	[ft.]	1000 [3300]	1000 [3300]
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	[in.]	131 / 158 [5.16 / 6.22]	
	Cubic Capacity	litres	[cu.in.]	12.78 [773]	
	BMEP	kPa	[psi]	2139 [310]	2343 [340]
Fuel	Fuel Consumption at 100% Power	litres/h	[gal/h]	96.6 [25.5]	105.3 [27.8]
	Fuel Consumption at 75% Power	litres/h	[gal/h]	75.7 [20.0]	82.5 [21.8]
	Fuel Consumption at 50% Power	litres/h	[gal/h]	52.6 [13.9]	56.6 [14.9]
	Total fuel flow	litres/h	[gal/h]	126 [33]	
	Standard Fuel Tank Capacity	litres	[gal]	711 [188]	
Air	Engine Air Flow	m ³ /s	[cfm]	0.490 [103 8]	0.520 [110 2]
	Maximum Air Intake Restriction (used filter)	kPa	[inWG]	5 [20]	
Exhaust	Exhaust Gas Flow	m ³ /s	[cfm]	1.233 [2613]	1.317 [2790]
	Exhaust Gas Temperature	°C	[°F]	485 [905]	495 [923]
	Maximum Exhaust Back Pressure	kPa	[inWG]	10 [40]	
	Typical Exhaust Pipe Diameter	mm	[in.]	200 [8]	
Cooling	Radiator Cooling Air Flow	m ³ /s	[cfm]	8.4 [17756]	
	Max Restriction to Cooling Air Flow	Pa	[inWG]	245 [1.0]	
	Max Radiator Air-On Temperature	°C	[°F]	55 [131]	
	Maximum Coolant Temperature	°C	[°F]	102 [210]	
	Coolant Capacity - Engine Only	litres	[gal]	20 [5.3]	
	Total Coolant Capacity	litres	[gal]	44 [12]	
Oil	Total Oil Capacity incl Filters	litres	[gal]	36 [9.5]	
	Typical Oil Pressure at Rated Speed	kPa	[psi]	445	
	Typical Oil Consumption (>250hrs Operation)	litres/h	[pt/h]	0.3 [0.53]	
Thermal	Heat Rejection to Engine Cooling Water	kW	[btu/min]	165 [9392]	178 [1013 2]
	Heat Rejection to Charge Cooler	kW	[btu/min]	93 [5294]	94 [5350]
	Heat Radiated From Engine (Typical)	kW	[btu/min]	10 [569]	11 [626]
Elec	Electrical System Voltage		V	24	
	Battery Type			2 (series) 656	
	Battery Capacity SAE CCA		A	810	

Alternator
CGT Stamford HCI 444

	SI Units	[US Units]	Prime	Standby	
General Data	Manufacturer		Cummins Generator Technologies - Stamford		
	Model (may vary with voltage)		HCI 444 F	HCI 444 F	
	Operating Temperature	°C	[°F]	40 [104]	27 [81]
	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 5

The optional acoustic enclosure for this model is **Canopy 5R**, suitable for operation in harsh outdoor environments whilst providing excellent security and acoustic performance. The steel canopy is of fully welded construction with a two-pack polyurethane egg-shell finish in RAL9001 white. The baseframe is finished in RAL9005 satin finish black.

Acoustically, the canopy is designed to meet the requirements of EU Legislation 2000/14/EC, achieved by extensive use of rock wool and perforated zinc steel lining, together with efficient management of cooling air. Exhaust noise is minimised by a unique high performance exhaust silencer, mounted within the baseframe.

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

Other key features include :

- Side-opening doors with retainers for good service access
- Control panel viewing window
- External service access panels
- 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 on baseframe
- Optional single roof lifting point.



Dimensions mm [in]			Additional Weight kg [lbs]*	Typical Sound Pressure Level at Standby Power		Fuel Tank Capacity Litres [US gal]		Single Point Lift
L	x	W x H		dB(A) at 1m [3ft]	dB(A) at 7m [23ft]	Integral	Bunded	
5200 [204]	x	1740 x 2200 [68] x [86]	2400 [5291]	78	68	985 [260]	895 [236]	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 :

- 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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