

Volvo TAD1242GE	Newage Stamford HCI 444	Generator Model:	<b>BCV 400-60 T2</b>
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60 Hz	3-Phase	Power Factor Cos $\Phi$ = 0.8	Emissions Certification EPA/CARB Tier 2
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RATINGS	PRIME POWER (PRP)		STANDBY POWER (LTP)		
	kVA	kWe	kVA	kWe	Amps
Voltage					
480/277	450	360	500	<b>400</b>	601
440/254	450	360	500	<b>400</b>	656
416/240	450	360	500	<b>400</b>	694
240/138	450	360	500	<b>400</b>	1203
220/127	450	360	500	<b>400</b>	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.

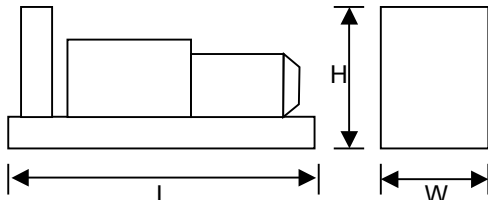
**Note:** The above ratings may be subject to derate at different operating conditions. Please see the Derate Guidelines on the Broadcrown website.

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 Newage 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) = 3525mm [140in]  
 Width (W) = 1225mm [50in]  
 Height (H) = 1860mm [75in]

Dry Weight (inc oil) = 3325kg [7330lb]  
 Operating Weight = 3720kg [8200lb]

Overall dBA	Typical Open Generator Sound Pressure Level at 1m, Free Field (dB)							
	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
104	91	93	96	99	100	97	92	87

All specifications and design are subject to change without notice



## GeneratorJoe

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**ENGINE & COOLING SYSTEM**
**VOLVO TAD1242GE**

		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]	19.0 [25.5]	19.0 [25.5]
	Net Power	kWm	[bhp]	391 [524]	430 [577]
	Emissions Certification	EPA Tier 2			
	Altitude Capability	m	[ft.]	1100 [3300]	1100 [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 / 150 [4.19 / 4.33]	
	Cubic Capacity	litres	[cu.in.]	12.13 [179]	
	BMEP	kPa	[psi]	2253 [327]	2468 [358]
Fuel	Fuel Consumption at 100% Power	litres/h	[gal/h]	99.0 [26.2]	111.6 [29.5]
	Fuel Consumption at 75% Power	litres/h	[gal/h]	71.7 [19.0]	78.6 [20.8]
	Fuel Consumption at 50% Power	litres/h	[gal/h]	48.5 [12.8]	52.9 [14.0]
	Total fuel flow	litres/h	[gal/h]	150 [40]	
	Standard Fuel Tank Capacity	litres	[gal]	720 [190]	
Air	Engine Air Flow	m <sup>3</sup> /s	[cfm]	0.500 [1059]	0.517 [1095]
	Maximum Air Intake Restriction (used filter)	kPa	[inWG]	5.0 [20]	
Exhaust	Exhaust Gas Flow	m <sup>3</sup> /s	[cfm]	1.333 [2825]	1.500 [3178]
	Exhaust Gas Temperature	°C	[°F]	500 [932]	540 [1004]
	Maximum Exhaust Back Pressure	kPa	[inWG]	10 [40]	
	Typical Exhaust Pipe Diameter	mm	[in.]	200 [8]	
Cooling	Radiator Cooling Air Flow	m <sup>3</sup> /s	[cfm]	8.38 [17756]	
	Max Restriction to Cooling Air Flow	Pa	[inWG]	250 [1.0]	
	Max Radiator Air-On Temperature	°C	[°F]	55 [131]	
	Maximum Coolant Temperature	°C	[°F]	103 [217]	
	Coolant Capacity - Engine Only	litres	[gal]	20 [5.3]	
	Total Coolant Capacity	litres	[gal]	44 [11.6]	
Oil	Total Oil Capacity incl Filters	litres	[gal]	35 [9.2]	
	Typical Oil Pressure at Rated Speed	kPa	[psi]	440 [64]	
	Typical Oil Consumption (>250hrs Operation)	litres/h	[pt/h]	0.26 [0.56]	
Thermal	Heat Rejection to Engine Cooling Water	kW	[btu/min]	161 [9164]	180 [10246]
	Heat Rejection to Charge Cooler	kW	[btu/min]	86 [4895]	98 [5578]
	Heat Radiated From Engine (Typical)	kW	[btu/min]	21 [1195]	22 [1252]
Elec	Electrical System Voltage	V		24	
	Battery Type			2 (Series) 656	
	Battery Capacity SAE CCA	A		810	

**ALTERNATOR**
**NEWAGE STAMFORD HCI 444**

		SI Units	[US Units]	PRIME	STANDBY
General Data	Manufacturer	NEWAGE 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 $\Phi$ = 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 5310 Digital Auto Start

The standard control system for this model is **BC 5310** (photo), based on the Deep Sea Electronics DSE5310 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 auxillary inputs/outputs for optional features
- Optional (shown) - battery charger and door mounted illuminated switch.



The panel is constructed in 1.5mm steel, powder coated to RAL9001 for a high quality, durable finish.

### CONTROL SYSTEM OPTIONS

The **BC 5320** control system (just the DSE5320 module is shown here) has an identical feature set to the BC 5310 but with the addition of full AMF functionality with integrated mains monitoring.



Finally, **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.

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