



ACCURATE POWER INDUSTRIAL GENERAL TRADING LLC

# VP-590



**STAMFORD**

## GENERATING SET MODEL WVS 590

Output Ratings	Prime	Standby
400 V, 3 ph, 50 Hz, 1500 rpm	591 kVA	651 kVA
	473 kW	521 kW
440 V, 3 ph, 60 Hz, 1800 rpm	625 kVA	687 kVA
	500 kW	550 kW
Power Factor : 0.8		

### STANDARD SPECIFICATIONS

- Volvo four stroke heavy duty high performance industrial type diesel engine
- ENGINE FILTRATION SYSTEM**
  - Cartridge type dry air filter
  - Two cartridge type fuel filters
  - Full flow lube oil filter

All filters have replaceable elements
- COOLING RADIATOR**  
Radiator and cooling fan, complete with safety guards, designed to cool the engine at high ambient temperatures (consult your dealer for deration factors)
- EXHAUST SYSTEM**  
Heavy duty Industrial Exhaust Silencer  
  
Silencer noise reduction level 14 (dB)  
Maximum allowable back pressure 10.0(kPa)
- CIRCUIT BREAKER TYPE**  
ABB 3 pole MCCB. (4 pole is optional)
- FUEL SYSTEM**  
On Generating sets upto 700kVA, the baseframe design is incorporated with an integral fuel tank with a capacity of approx. 8 hours running at full load. The tank is supplied complete with fill cap breather, fuel speed and return lines to the engine and drain plug.
- ALTERNATOR**  
7.1 **INSULATION SYSTEM**
  - Insulation : Class H
  - All windings are impregnated in either a triple dip thermosetting liquid, oil and acid resisting polyester varnish or vacuum pressure impregnated with a special polyester resin.
  - Heavy coat of antitracking varnish additional protection against moisture or condensatation.
- 7.2 **AUTOMATIC VOLTAGE REGULATOR (AVR)**  
The fully sealed AVR maintains the voltage regulation at  $\pm 0.5\%$ . Nominal adjustment by means of a trim pot incorporated on the AVR.
- 7.3 **MOTOR STARTING**  
An overload capacity equivalent to 300% of the full load impedance at zero power factor can be sustained for 10 sec., when AREP or PMG option is fitted.
- MOUNTING ARRANGEMENT**  
8.1 **BASE FRAME**  
The complete generating set is mounted as a whole on a heavy duty fabricated steel baseframe.
- 8.2 **COUPLING**  
The engine and alternator are directly coupled by means of an SAE flange. The engine flywheel is flexibly coupled to the alternator rotor.
- 8.3 **ANTI-VIBRATION MOUNTING PADS**  
Anti-vibration pads are affixed between the engine / alternator feet and the baseframe thus ensuring complete vibration isolation of the rotating assembly.

## ENGINE / TECHNICAL DATA

Engine Make	Volvo Penta
Engine Model	TAD1642GE
Governing Type	Electronic
Number of Cylinders	6
Cylinder Arrangement	Vertical In Line
Bore and Stroke mm	144x165
Displacement / Cubic Capacity ltrs	16.12
Aspiration	Turbocharged
Cycle	4 stroke
Combustion System	Direct Injection
Compression Ratio	16.5:1



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Frequency and Engine Speed	50Hz & 1500rpm		60Hz & 1800rpm	
	Prime		Prime	
Gross Engine Power kWm	503		532	
Fuel Consumption @50%load l/hr	59.28		64.6	
@75%load l/hr	88.47		95.95	
@100%load l/hr	120.36		132.36	
Oil Consumption (l/hr)	0.11		0.12	
Oil Sump Capacity, l	42		42	
Heat Rejection at Exhaust (Standby) kW	426		500	
Exhaust Temperature °C Standby	494		512	
Coolant Capacity, l	93		93	
Combustion Air Flow (Standby) : m <sup>3</sup> /min	40.6		46.6	
Exhaust Gas Flow (Standby) : m <sup>3</sup> /min	100.7		117.6	
Dimension (mm) & Weight (Kg)	Length	Width	Height	Weight
Open	4200	1210	2310	4100
Soundproof	4400	1710	2570	5252

**STANDARD SPECIFICATIONS**

## ALTERNATOR DATA

Make	Stamford
Model	HCI544E
No. of bearings	1
Insulation Class	H
Total Harmonic Content	On load <3.5% / <2%
Wires	6 / 12
Ingress Protection	IP23
Excitation System	Shunt / Self Excited
Winding Pitch	2/3(n°6)
AVR Model	R150 / SX440
Overspeed	2250 mn <sup>-1</sup>
Voltage Regulation	±1%
Short Circuit Capacity	-
AREP & PMG Excitation System Available as optional	

### 8.4 SAFETY GUARDS

The fan and fan drive along with the battery charging alternator are safety guard protected for personnel protection.

### 9. FACTORY TESTS

- The generating set is load tested before dispatch.
- All protective devices control functions and site load conditions are simulated. The generator and its systems are checked before dispatch.

### 10. EQUIPMENT FINISHING

All mild steel components are fully degreased and painted with powder coated paint to ensure maximum scuff resistance and durability.

### 11. DOCUMENTATIONS

Operation and Maintenance manual, circuit wiring diagrams and commissioning/fault finding instruction leaflets are accompanied with the generator.

### CONTROL PANEL

Make Deep Sea  
Model DSE4510  
The DSE4510 is an Auto Start Control Module for single genset applications. It includes a backlit LCD display which clearly shows the status of the engine all the times. This module can either be programmed using the front panel or by using the DSE configuration suite PC software.

Metering and Alarm Indications:

- Generator Frequency
- Underspeed, Overspeed
- Generator volts(L-L, L-N)
- Generator Current
- Engine Oil Pressure
- Engine Coolant Temperature
- Fuel Level
- Hours Run Counter
- Battery Volts
- Fail to start/stop
- Emergency Stop
- Failed to reach loading voltage/frequency
- Charge fail
- Loss of magnetic pick-up signal-Optional
- Low DC Voltage
- CAN diagnostics and CAN fail/error