

WEBER



WVS 450



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GENERATING SET MODEL WVS 450

Output Ratings	Prime	Standby
400 V,3 ph,50 Hz,1500 rpm	451 kVA	501 kVA
	361 kW	401 kW
		Power Factor : 0.8

ENGINE / TECHNICAL DATA

Engine Make	Volvo Penta
Engine Model	TAD1345GE
Governing Type	Electronic
Number of Cylinders	6
Cylinder Arrangement	Vertical In Line
Bore and Stroke mm	131x158
Displacement / Cubic Capacity ltrs	12.78
Aspiration	Turbocharged
Cycle	4 stroke
Combustion System	Direct Injection
Compression Ratio	18.1:1

STANDARD SPECIFICATIONS

1. Volvo four stroke heavy duty high performance industrial type diesel engine
2. ENGINE FILTRATION SYSTEM
 - Cartridge type dry air filter
 - Two cartridge type fuel filters
 - Full flow lube oil filterAll filters have replaceable elements
3. 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)
4. EXHAUST SYSTEM
Heavy duty Industrial Exhaust Silencer

Silencer noise reduction level 14 (dB)
Maximum allowable back pressure 10.0 (kPa)
5. CIRCUIT BREAKER TYPE
ABB 3 pole MCCB. (4 pole is optional)
6. 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.
7. 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 condensation.
- 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.
8. 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 (continued)

Frequency and Engine Speed	50Hz & 1500rpm	60Hz & 1800rpm
	Prime	Prime
Gross Engine Power kWm	388	392
Fuel Consumption @50%load l/hr	45.95	47.83
@75%load l/hr	68.24	70
@100%load l/hr	90.53	93.8
Oil Consumption (l/hr)	0.04	0.05
Oil Sump Capacity, l	30	30
Heat Rejection at Exhaust (Standby) kW	303	324
Exhaust Temperature °C Standby	570	490
Radiator Cooling Air Flow : m ³ /s	6.7	8.3
Combustion Air Flow (Standby) : m ³ /min	27.6	33
Exhaust Gas Flow (Standby) : m ³ /min	58.3	82

Dimension (mm) & Weight (Kg)	Length	Width	Height	Weight
Open	3350	1150	1850	3470
Soundproof	3985	1560	2450	4887

ALTERNATOR DATA

Make	Leroy Somer TAL / Stamford
Model	TAL 047C / HCI544C
No. of bearings	1
Insulation Class	H
Total Harmonic Content	On load <3.5% / <2%
Wires	12
Ingress Protection	IP23
Excitation System	Shunt / Self Excited
Winding Pitch	2/3(n°6)
AVR Model	R250 / SX440
Overspeed	2250 mn ⁻¹
Voltage Regulation	±1%
Short Circuit Capacity	-
AREP & PMG Excitation System Available as optional	

STANDARD SPECIFICATIONS**84. 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 it's 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



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