

# WEBER



## WPS 500



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## GENERATING SET MODEL WPS 500

| Output Ratings            | Prime   | Standby            |
|---------------------------|---------|--------------------|
| 400 V,3 ph,50 Hz,1500 rpm | 500 kVA | 550 kVA            |
|                           | 400 kW  | 440 kW             |
| 480 V,3 ph,60 Hz,1800 rpm | 500 kVA | 563 kVA            |
|                           | 400 kW  | 450 kW             |
|                           |         | Power Factor : 0.8 |

## ENGINE / TECHNICAL DATA

|                                    |                  |
|------------------------------------|------------------|
| Engine Make                        | Perkins          |
| Engine Model                       | 2506A-E15TAG2    |
| Governing Type                     | Electronic       |
| Number of Cylinders                | 6                |
| Cylinder Arrangement               | Vertical In Line |
| Bore and Stroke mm                 | 137 x 171        |
| Displacement / Cubic Capacity ltrs | 15.2             |
| Induction System                   | Turbocharged     |
| Cycle                              | 4 stroke         |
| Combustion System                  | Direct Injection |
| Compression Ratio                  | 16:1             |
| Rotation                           | Anti-clockwise   |
| Cooling System                     | Water Cooled     |

## STANDARD SPECIFICATIONS

- Perkins 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 15 (dB)  
Maximum allowable back pressure 6.8(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**
  - 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 condensaton.
  - 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.
  - 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**
  - BASE FRAME**  
The complete generating set is mounted as a whole on a heavy duty fabricated steel baseframe.
  - COUPLING**  
The engine and alternator are directly coupled by means of an SAE flange. The engine flywheel is flexibly coupled to the alternator rotor.
  - 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          | Standby  | Prime          | Standby  |
| Gross Engine Power kW(hp)                          | 451(605)       | 495(664) | 458(615)       | 514(689) |
| Fuel Consumption @50%load L/hr                     | 53             | -        | 53             | -        |
| @75%load L/hr                                      | 76             | -        | 78             | -        |
| @100%load L/hr                                     | 100            | 111      | 102            | 116      |
| Total Lubrication System Capacity ltrs             | 62             | 62       | 62             | 62       |
| Total Coolant Capacity ltrs                        | 58             | 58       | 58             | 58       |
| Boost Pressure Ratio                               | 3.4            | 3.6      | 3              | 3.25     |
| Exhaust Temperature °C                             | N/A            | 550      | N/A            | 550      |
| Radiator Cooling Air Flow(Min):m <sup>3</sup> /sec | 11             | 11       | 13.7           | 13.7     |
| Combustion Air Flow:m <sup>3</sup> /min            | 35.8           | 36.6     | 34.3           | 38       |
| Exhaust Gas Flow:m <sup>3</sup> /min               | 94             | 98       | 96             | 105.3    |
| Fuel Tank Capacity: ltrs                           | 810            | 810      | 810            | 810      |

| Dimension (mm) & Weight (Kg) | Length | Width | Height | Weight |
|------------------------------|--------|-------|--------|--------|
| Open                         | 4200   | 1210  | 2310   | 4100   |
| Soundproof                   | 4400   | 1710  | 2570   | 5252   |

## ALTERNATOR DATA

|  |                            |
|--|----------------------------|
| Make   | Leroy Somer TAL / Stamford |
| Model  | TAL 047C / HCI544D         |
| 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 <sup>-1</sup>      |
| Voltage Regulation                                 | ±1%                        |
| Short Circuit Capacity                             | -                          |
| AREP & PMG Excitation System Available as optional |                            |

### STANDARD SPECIFICATIONS

**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



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