

WEBER



WPS20



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GENERATING SET MODEL WPS 20

Output Ratings	Prime	Standby
400 V,3 ph,50 Hz,1500 rpm	20 kVA	22 kVA
	16 kW	17.6 kW
		Power Factor : 0.8

ENGINE / TECHNICAL DATA

Engine Make	Perkins
Engine Model	404A-22G1
Governing Type	Mechanical
Number of Cylinders	4
Cylinder Arrangement	Vertical In Line
Bore and Stroke mm	84 x 100
Displacement / Cubic Capacity ltrs	2.216
Induction System	Naturally Aspirated
Cycle	4 stroke
Combustion System	Indirect Injection
Compression Ratio	23.3:1
Rotation	Anti-clockwise
Cooling System	Water Cooled

STANDARD SPECIFICATIONS

- ENGINE**
Perkins four stroke heavy duty high performance industrial type diesel engine
- ENGINE FILTRATION SYSTEM**
 - Cartridge type dry airfilter
 - Two cartridge type fuelfilters
 - Full flow lube oilfilterAll 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	20 (dB)
Maximum allowable backpressure	10.2 (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 anti tracking varnish additional protection against moisture or condensation.
 - 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**
 - BASEFRAME**
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	
	Prime	Standby
Gross Engine Power kW(hp)	18.7(25.1)	20.6(27.6)
Fuel Consumption @50%load L/hr	2.9	-
@75%load L/hr	4	-
@100%load L/hr	5.3	6.1
Total Lubrication System Capacity ltrs	10.6	10.6
Total Coolant Capacity ltrs	7	7
Exhaust Temperature °C	445	505
Radiator Cooling Air Flow(Min):m³/sec	0.49	0.49
Combustion Air Flow:m³/min	1.45	1.45
Exhaust Gas Flow:m³/min	3.64	3.94
Fuel Tank Capacity: ltrs	50	50

Dimension (mm) & Weight(Kg)	Length	Width	Height	Weight
Open	1550	620	1020	680
Soundproof	1910	1010	1275	1000

ALTERNATOR DATA

Make	Leroy Somer TAL / Stamford
Model	TAL 040F / SOL2-G1
No. of bearings	1
Insulation Class	H
Total Harmonic Content	on load < 2%
Wires	12
Ingress Protection	IP23
Excitation System	Shunt / Self Excited
Winding Pitch	2/3(n°6)
AVR Model	R250 / AS540
Overspeed	2250 mn ⁻¹
Voltage Regulation	±0.5%
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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Tel: +44 20 8144 2160
Weber Generators Ltd., Office 32,
19-21 Crawford Street, London, W1H 1PJ

Email: info@webergenerators.com
Website: www.webergenerators.com