

# EP Series WPS450S

— Generator Set Specification



**Super Quiet, Superior Life!**



# WPS450S



## 3-Phase, 50Hz@1500RPM

	Voltage	kW	kVA	Amps
<b>Prime Power</b>	380	360	450	683.7
	400	360	450	649.5
	415	360	450	626.1
	440	360	450	590.5
<b>Standby Power</b>	380	400	500	759.7
	400	400	500	721.7
	415	400	500	695.6
	440	400	500	656.1
<b>Noise Level at 7 meters (dBA)</b>			71.8	

### Notes:

- 1) Ambient reference conditions: 1,000 mbar, 27°C, 30% relative humidity;
- 2) Standby Power: the maximum power available under varying loads. Only for standby and emergency use. No overload is permissible. Prime Power: the maximum power available under varying loads for continuous operation. A 10% overload is permissible for 1 hour every 12 hours.

Features	Benefits
<ul style="list-style-type: none"> <li>  Excellent cooling system, reliable operation under harshest conditions.</li> <li>  PLC-5220 control panel with AMF function.</li> <li>  With sound attenuated enclosures available with high protection against water and dust.</li> <li>  Designed with safety in mind earth leakage protection.</li> <li>  Leroy Somer Alternator, IP 23 class 'H' insulation.</li> <li>  Equipped with a ladder (for generators 300-500 kVA ),exterior fueling point,water tank inlet.</li> </ul>	<ul style="list-style-type: none"> <li>  Function stability credibility, service convenience.</li> <li>  Low operating cost results in optimal economy.</li> <li>  Gets the job done wherever you are.</li> <li>  Ease of installation, operation, and maintenance.</li> </ul>

Performance Specification and Craftwork			
Performance Specification		Telephone Interference, Electromagnetism	
Efficiency of Rated Power	96.3%	TIF	≤50
Time needed from start-up to full load (inductive)	125 seconds	THF	≤2%
Time needed from start-up to 50% load (inductive) allowed	8 seconds	Radio interference in compliance with BS800 and VED LEVELS G and N.	
1.1 times overload operation time (hour)	1	<b>Craftwork</b> <ul style="list-style-type: none"> <li>● Steel base frame with AV mounting</li> <li>● standard 8h fuel tank with flexible rubber fuel tube, fuel level indicator and drainage</li> <li>● Overall sprayed powder coating</li> <li>● Whole set documents, including Installation Manual, Operation Manual, Spare Parts Catalog, Circuit Diagram</li> </ul> <b>Criterion</b> <ul style="list-style-type: none"> <li>● ISO3046, ISO8528, BS4999, BS5514,</li> <li>● BS5000PT99、 AS1359, IEC34</li> <li>● UTE5100, VDE0530</li> <li>● ISO9001:2000</li> </ul>	
2.0 time overload operation time (minute)	1		
Voltage Regulation, steady state	≤±1%		
Voltage Regulation, transient state	20%-15%		
Voltage Settle Time	≤5 seconds		
Voltage Fluctuation Ratio	0.5%		
Frequency Regulation, steady state	±0.5% adjustable		
Frequency Regulation, transient state	±5%		
Frequency Settle Time	5 seconds		
Frequency Fluctuation Ratio	0.5%		
Recovery Time	0.5 seconds		

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Engine Specification		Alternator Specification	
<b>Brand</b>	<b>Perkins (UK)</b>	<b>Brand</b>	<b>Leroy Somer</b>
<b>Model</b>	<b>2506C-E15TAG1</b>	<b>Model</b>	<b>LSA47.2S5</b>
No. of Cylinders and Cycle	6L, 4 Stroke	Rated Output (kVA)	455
Induction System	TCA	Rated current (A)	649.5
Compression Ratio	16: 1	Exciter	Brushless
Displacement (L)	15.2	THF(BS EN60034- 1)	<2%
Bore x Stroke(mm)	137 x 171	Bearing number	Single
Ambient Temp (°C)	25	Windings	100% Copper
Continuous Rated Power kW)	500	Connection Type	Star Connection
Speed (rev/min)	1500	Insulation Class	Class H
Cooling Air Flow (L/min)	5.7	Winding Pitch	2/3
Air Intake Flow (m³/min)	35.8	Amortisseur Winding	Full
Exhaust Gas Flow (m³/min)	85	A.V.R. Model	R448
Exhaust Gas Temperature (°C)	550	Voltage Regulation (no load- full load)	± 0.5%
Max. fuel temperature (°C)	55	Underspeed Protection	Standard
Starting System	E	Protection	IP23
Fuel Consumption (L/h)	110% load	Phase Sequence	A(U), B(V), C(W)
	100% load	TIF (NEMA MG 1-22)	<50
	75% load	Excitation System	Self-excited, PMG optional
	50% load	AmbientTemp (°C)	40
Governor Type	E	Stator Rated Temp (°C)	125

Cooling System		Fuel System	
<b>Radiator</b>		Injection system	MEUI
Face Area (m²)	1.238	injection type	MEUI
Rows and Materials	2 rows, aluminium	Injection pressure (MPa)	200
Width of Matrix (mm)	1048	<b>Fuel Lift Pump</b>	
Height of Matrix (mm)	1100	Flow/hour (L/min)	413
Pressure Cap Setting (kPa)	69	Pressure (kPa)	550
<b>Fan</b>		<b>Lubricati System</b>	
Diameter (mm)	927	<b>Lubricating Oil Capacity</b>	
Drive Ratio	0.92 : 1	Total System (L)	62
Number of Blades	9	Minimum (L)	45
Material	B3WG6 or PA6GF30 Nylon 6 glass filled 30%	<b>Lubricating Oil Pressure</b>	
Type	ACS 367500	Oil pressure at bearings (kPa)	620
<b>Coolant</b>		Normal temperature (°C)	114
Total System Capacity (L)	58		

Exhaust System		Electrical System	
Max. Back Pressure (kPa)	6.8	Alternator (A/V)	70/24
Exhaust Outlet Size (mm)	150	Starting Motor (MT/V)	7.5/24

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## Control System

### PLC-702

DSE-702 key manual start module is a manual engine control module designed to control the engine via a key switch and push buttons on the front panel. The module is used to start and stop the engine and indicate fault conditions, automatically shutting down the engine and giving a true first up fault condition of an engine failure.

#### Standard Control Function

- Manual Engine Control Module
- Low Oil Pressure
- High Engine Temperature
- Auxiliary Shutdown
- Overspeed Protection
- Protection hold-off timer
- Charge Failure warning



### PLC-5220

DSE-5220 control panel is applied

- | Microprocessor control, with high stability and credibility
- | Mains supply and generator operation monitoring
- | Indicating operation status and fault conditions
- | Multiple protections; multiple parameters display, like pressure, temp.
- | Manual and automatic work mode selectable
- | Real time clock for time and date display, overall runtime display, 99 log entries
- | Overall power output display
- | Integral speed/frequency detecting, telling status of start, rated operation, overspeed
- | Communication with PC via RS485 OR RS232 interface, using MODBUS protocol.



## Dimension and Weight



### WPS450S

Length × Width × Height, (mm)      Weight (kg)  
4320×1400×2132                      4843

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## Optional

Engine	Alternator	Generator Set	Fuel System	Canopy
<ul style="list-style-type: none"> <li>• Coolant heater</li> </ul>	<ul style="list-style-type: none"> <li>• Space heater</li> <li>• AVR PMG with regulator</li> <li>• Anti-damp and anti-corrosion treatment</li> <li>• Anti-condensation heater</li> </ul>	<ul style="list-style-type: none"> <li>• Tools with the machine</li> </ul>	<ul style="list-style-type: none"> <li>• Low fuel level alarm</li> <li>• Automatic fuel feeding system</li> </ul>	<ul style="list-style-type: none"> <li>• Trailer</li> </ul>
Lubricating System	Exhaust System	Cooling System	Control Panel	Voltages
<ul style="list-style-type: none"> <li>• Oil with the machine</li> </ul>	<ul style="list-style-type: none"> <li>• Protection board from hotness</li> <li>• Low frequency silencer</li> </ul>	<ul style="list-style-type: none"> <li>• Front heat protection</li> <li>• 50°C radiator</li> <li>• Coolant (-30°C)</li> </ul>	<ul style="list-style-type: none"> <li>• Remote control panel</li> <li>• Automatic paralleling control panel</li> <li>• Automatic Transfer Switch (ATS)</li> </ul>	<ul style="list-style-type: none"> <li>• 415/240V</li> <li>• 400/230V</li> <li>• 380/220V</li> <li>• 220/127V</li> <li>• 200-115V</li> </ul>



Local Distributor