EURO POWER®

EP Series

EP275

Features:

- Excitation system: self-excited (AREP and PMG are optional)
- ATS (automatic transfer switch) receptacle
- Lockable battery isolator switch
- Stainless galvanized zinc plates with strong corrosion resistance
- Vibration isolators between the engine/alternator and base frame
- Integrated wiring design
- Base fuel tank for at least 8 hours running
- Equipped with an industrial muffler
- Engine oil pump
- 50℃ radiator
- Top lifting and steel base frame with forklift holes
- Drainage for fuel tank
- Complete protection functions and safety labels
- IP54 (soundproof sets), IP56 (control system)
- Water jacket preheater, oil heater and double air cleaner, etc. are available.

Output Ratings

Generating Set Model	Prime	Standby
EP275	275kVA/220kW	302.5kVA/242kW

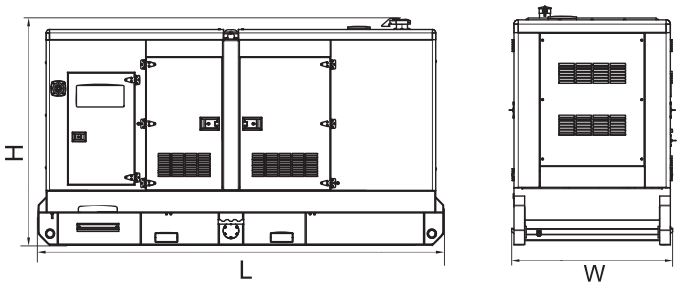
Ratings at 0.8 power factor.

Ratings and Performance Data

Engine Make & Model:		1606A-E93TAG4
Alternator Model:		LSA46.2L9
Alternator Brand:		Leroy Somer
Control System:		PLC-7420
Noise Level@7m:		/
Circuit Breaker Type:		/
Frequency & Phase:		50Hz & 3PH
Engine Speed: RPM		1500
Structure Type:	**EP275**	R
Fuel Tank Capacity: L	**EP275**	660
Fuel Consumption: l/hr (100% Load)	**Prime**	/
	Standby	/

Dimensions and Weights

Generating Set Model	Length (L) mm (in)	Width (W) mm (in)	Height (H) mm (in)	Dry kg (lb)	Wet kg (lb)
EP275	4800	1400	2250	3800	/
Dry = With Lube Oil		Wet = With Lube Oil and Coolant			



Also available in the following voltages: 415/240V-380/220V-220/127V-200/115V;
ESP: Standby Power Standby duty, operation under variable load, without over load;
PRP: Prime Power-Continuous duty operation, under variable load 24/24h-10% over load permissible 1 hour/12 hours;
The data is only for your reference but not for use of sales.

M: Mechanical speed governor, E/ECU: Electronic speed governor;
NA: Naturally aspirated, TC: Turbocharged, TCA: Turbocharged and air-air aftercooled. TCW: Water-cooled Turbocharged;
The weights are approximate and without fuel.

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Engine model: 1606A-E93TAG4

Cooling system

For details of recommended coolant specifications, refer to the Operation and Maintenance Manual for this engine model.

Total coolant capacity ... 30.9 litres
-engine ... 11.8 litres
-radiator ... 15.5 litres
-pipes and hoses ... 3.6 litres
Maximum pressure in engine cooling circuit ... 530 kPa
Maximum top tank temperature ... 107°C
Maximum static pressure head on pump ... 107 kPa
Thermostat operating range ... 86 - 96°C
Coolant flow, against 30 kPa restriction 1,500 rpm ... 360 litres/min
Maximum temperature rise across the engine ... 8°C

Radiator

Radiator face area ... 0.622 m²
Number of rows and material ... 4 (64 / Row) Al
Fins per inch and material ... 10 Al
Pressure cap setting (min) ... 110 kPa

Charge cooler

Face area ... 0.378 m²
Number of rows and material ... 2 (19 / Row) Al
Fins per inch and material ... 10 Al

Width and height of matrix

Height ... 1318 mm
Width ... 1071 mm
Weight of cooling pack (dry) ... 82.64 kg

Coolant pump

Method of drive ... Belt driven

Fan type/details

Diameter ... 36 inch (914 mm)
Drive ratio ... 1:1
Material ... Plastic
Number of blades ... 5
Pusher/puller ... Pusher
Cooling fan air flow @ 1500 rpm ... 609 m³/min

Fuel consumption

Note: All figures based on Nett power.

1606A-E93TAG5

Rating	g/kWh	l/hr
	1500 rpm	
Standby	198	66
Prime	200	61
75% prime	208	47
50% prime	223	34

1606A-E93TAG4

Rating	g/kWh	l/hr
	1500 rpm	
Standby	200	61
Prime	202	56
75% prime	211	44
50% prime	228	32

Duct Allowance

Ambient cooling clearance (standby power) based on air temperature at fan of 7°C above the ambient.
Maximum additional restriction (duct allowance) to cooling airflow and resultant miniumum airflow.

Description	@ 1500 rpm	
Ambient clearance	42	°C
Duct allowance	12.5	mm.wg
Minimum airflow at conditions	480	m³/min
Ambient clearance	50	°C
Duct allowance	20	mm.wg
Minimum airflow at conditions	426	m³/min

Normal operating angles:

-front and rear ... ± 5°
-side tilt ... ± 5°

Fuel system

Injection system ... Direct
Injector type ... Hydraulically Actuated Electronically Controlled Unit Injector
Governor type ... Electronic (isochronous or droop capability)
Recommended fuel to conforms to ... BS 2869 1998 CLASS A1, CLASS A2 or BSEN590
Injector pressure ... 193 MPa
Lift pump type ... Bosch 24P320
Lift pump fuel delivery @ 1500 rpm ... 73.8 litres/hour
Lift pump delivery pressure ... 482 kPa
Maximum suction head at pump inlet ... 1 m
Maximum static pressure head ... 517 m
Maximum fuel inlet temperature ... TBA °C
Fuel filter spacing ... 7 microns
Tolerance on fuel consumption ... 5%
Heat retained in fuel to tank ... TBA kWt

Lubrication system

Total lubrication system capacity (dry engine) ... 36 litres
Total lubrication system capacity (oil change) ... 33 litres
Oil temperature (in sump) maximum ... 132°C
Oil temperature (in sump) normal continuous operation ... 121°C
Shutdown switch setting (where fitted) ... kPa falling
Lubricating oil pressure at bearings:
-at rated 1500 rpm (normal) ... 379-413 kPa
Minimum ... 241 kPa
Oil relief opens at ... 345 kPa
Oil filter screen spacing ... 20 microns
Lubricating oil flow at 1500 rpm ... 105 litres/min.
Oil consumption ... <0.1% of fuel
Oil pump speed (gear driven) ... 1500 rpm

Induction system

Maximum air intake restriction of engine:
Clean filter ... 2.50 kPa
Dirty filter ... 6.22 kPa
Induction indicator setting ... TBA kPa
Air filter type ... Dry paper element

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Alternator model: LSA46.2L9

SPECIALLY ADAPTED FOR APPLICATIONS

The LSA 46.2 alternator is designed to be suitable for typical generator applications, such as: backup, standard production, cogeneration, marine applications, rental, telecommunications, etc.

COMPLIANT WITH INTERNATIONAL STANDARDS

The LSA 46.2 alternator conforms to the main international standards and regulations:
IEC 60034, NEMA MG 1.22, ISO 8528, CSA/UL on request, marine regulations, etc.
It can be integrated into a CE marked generator.
The LSA 46.2 is designed, manufactured and marketed in an ISO 9001 and ISO 14001 environment.

TOP OF THE RANGE ELECTRICAL PERFORMANCE

- Class H insulation.
- Standard 12-wire re-connectable winding, 2/3 pitch, type no. 6 .
- Voltage range: 220 V - 240 V and 380 V - 415 V (440 V) - 50 Hz / 208 V - 240 V and 380 V - 480 V - 60 Hz.
- High efficiency and motor starting capacity.
- Other voltages are possible with optional adapted windings:
  - 50 Hz: 440 V (no. 7), 500 V (no. 9), 600 V (no. 23), 690 V (no. 10 or 52)
  - 60 Hz: 380 V and 416 V (no. 8), 600 V (no. 9).
- THD Total harmonic distortion < 2,5% (full load).
- R 791 interference suppression conforming to standard EN 55011 group 1 class B standard for European zone (CE marking).

EXCITATION AND REGULATION SYSTEM SUITED TO THE APPLICATION

Excitation system				Regulation options				
Voltage regulator	**SHUNT**	**AREP**	**PMG**	**T.I.** Current transformer for paralleling	**R 726** Mains paralleling	**R 731** 3-phase sensing	**R 734** 3-phase sensing on mains paralleling unbalanced	**P** Remote voltage potentiometer
R 250	**Std**	**-**	**-**	**-**	**-**	**-**	**-**	√
R 450	**optional**	**Std**	**Std**	√	√	√	√	√
D 510	**optional**	**optional**	**optional**	√	**included**	**included**	**contact factory**	√

Voltage regulator accuracy +/- 0.5%.

√ : possible mounting

PROTECTION SYSTEM SUITED TO THE ENVIRONMENT

- The LSA 46. 2 is IP 23.
- Standard winding protection for clean environments with relative humidity ≤ 95 %, including indoor marine environments.

Options:
- Filters on air inlet : derating 5%
- Filters on air inlet and air outlet (IP 44) : derating 10%.
- Winding protections for harsh environments and relative humidity greater than 95%.
- Space heaters.
- Thermal protection for windings and shields.

REINFORCED MECHANICAL STRUCTURE USING FINITE ELEMENT MODELLING

- Compact and rigid assembly to better withstand generator vibrations.
- Steel frame.
- Cast iron flanges and shields.
- Twin-bearing and single-bearing versions designed to be suitable for engines on the market.
- Half-key balancing.
- Greased for life bearings (regreasable bearings optional).

ACCESSIBLE TERMINAL BOX PROPORTIONED FOR OPTIONAL EQUIPMENT

- Easy access to the voltage regulator and to the connections.
- Possible clusion of accessories for paralleling, protection and measurement.
- 12 way terminal block for reconnecting voltage reconnection.

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Control System

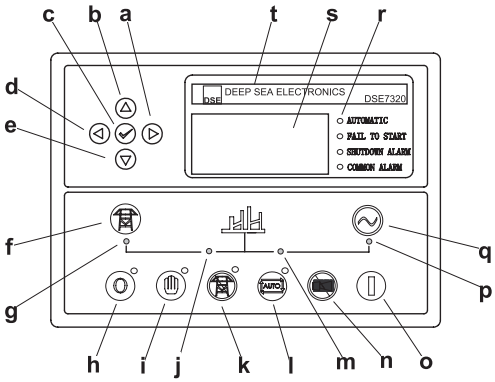
Digital, intelligent control system allows easier operation.

PLC-7420

PLC-7420 is an advanced control module based on micro-processor, containing all necessary functions for protection of the genset and the breaker control. It can monitor the mains supply, breaker control. and automatically start the engine when the mains is abnormal. Accurately measure various operational parameters and display all values and alarms information on the LCD. In addition, the control module can automaticallyshut down the engine and indicate the engine failure.

FEATURES

- Microprocessor control, with high stability and credibility
- Monitoring and measuring operational parameters of the mains supply and genset
- Indicating operation status, fault conditions, all parameters and alarms
- Multiple protections; multiple parameters display, like pressure, temp. etc.
- Manual, automatic and remote work mode selectable
- Real time clock for time and date display, overall runtime display, 250 log entries
- Overall power output display
- Integral speed/frequency detecting, telling status of start, rated operation, overspeed etc.
- Communication with PC via RS485 OR RS232 interface, using MODBUS protocol



Control Panel

a Button (next page)

b Button (increase value / previous item)

c Button (accept)

d Button (previous page)

e Button (decrease value / next item)

f Button (transfer the load to the mains supply, when in Manual mode only)

g Mains supply available LED

h Stop / Reset button

i Manual button (Manual control mode)

j Mains supply on load LED

k Test button (Test mode)

l Auto button (Auto mode)

m Genset on load LED

n Mute/Lamp test button

o Start button (Manual)

p Genset available LED

q Button (transfer the load to the genset, when in Manual mode only)

r Alarm LED (4 alarm items)

s LCD display

t Control module name