



**MODEL**  
100 KW/125 kVA  
Stand-by Power @ 60 Hz

**JS100U**  
91 kW / 114 kVA  
Prime Power @ 60 Hz

### Standard Features

- Engine (JOHN DEERE , 4045HF120 )
- Charge alternator 12 V, Governor: Meca/Mechanical
- Alternator (LEROY SOMER , LSA442VS45 )
- Single bearing alternator IP 23 , insulation class H /H
- Radiator 50°C [122°F]°C max. T°air inlet with cool ant cap
- Skid and vibration isolators
- Dry type air filter
- Microprocessor control panel
- Main line circuit breaker
- 12 V battery, rack and cable
- Industrial silencer (loose)
- User manual  
CSA Certified (consult us)



### Generator ratings

Voltage	HZ	Phase	PF	Stand by Amps	Stand by power kW/kVA	Prime power kW/kVA
480/277 V	60 Hz	3	0.8	150	100 / 125	91 / 114
440/254 V	60 Hz	3	0.8	164	100 / 125	91 / 114
380/220 V	60 Hz	3	0.8	190	100 / 125	91 / 114
240/120 V	60 Hz	3	0.8	301	100 / 125	91 / 114
230/115 V	60 Hz	3	0.8	314	100 / 125	91 / 114
220/127 V	60 Hz	3	0.8	328	100 / 125	91 / 114
208/120 V	60 Hz	3	0.8	347	100 / 125	91 / 114
600/347 V	60 Hz	3	0.8	120	100 / 125	91 / 114

Stand-By ratings are available for the duration of any power outage. No overload capacity is specified at this ratings. Prime ratings are available per BS 5514, DIN 6271, ISO-3046 and IEC 34-1 with 10% overload capacity one hour in twelve hours.

### Conditions of sales

- SDMO provides a full line of products with high quality recognized engines and alternators.
- Each and every units is factory tested. All generator sets are also prototype tested.

- Service and parts are available from SDMO distributors as a single source of responsibility.
- Two years limited warranty , please refer to the conditions terms . Five years extended are also available.



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specifications and design liable to modifications without prior notice

**ENGINE DATA**

Manufacturer / Model	4045HF120 , 4-cycle, Turbo , Air/Air DC
Cylinder Arrangement	4 X L
Displacement	4.48L [273.4C.I.]
Bore and Stroke	106mm [4.2in.] X 127mm [5.0in.]
Compression ratio	17 : 1
Rated RPM	1800 Rpm
Piston Speed	7.62m/s [25.0ft./s]
Max. stand by Power at rated RPM	106kW [142BHP]
Frequency regulation, steady state	+/- 2. 5%
BMEP	14.6bar [212psi]
Governor : type	Meca/Mechanical

**Exhaust System**

Exhaust gas flow	350L/s [742cfm]
Exhaust temperature	460°C [860°F]
Max back pressure	750mm CE [30in. WG]

**Fuel System**

110% (Stand By power )	29L/h [7.7gal/hr]
100% (of the Prime Power)	26.5L/h [7.0gal/hr]
75% (of the Prime Power)	19L/h [5.0gal/hr]
50% (of the Prime Power)	13L/h [3.4gal/hr]
Total fuel flow	112L/h [29.6gal/hr]

**Oil System**

Total oil capacity w/filters	13.5L [3.6gal]
Oil Pressure low idle	1bar [14.5psi]
Oil Pressure rated RPM	5bar [72.5psi]
Oil consumption 100% load	0.026L/h [0.0gal/hr]
Oil capacity carter	12.5L [3.3gal]

**Thermal balance 100% load**

Heat rejection to exhaust	70kW [3980Btu/mn]
Radiated heat to ambient	11.5kW [654Btu/mn]
Heat rejection to coolant	40kW [2274Btu/mn]

**Air intake**

Max. intake restriction	625mm CE [25in. WG]
Engine air flow	130L/s [275cfm]

**Coolant System**

Radiator & engine capacity	20.2L [5.3gal]
Max water temperature	105°C [221°F]
Outlet water temperature	93°C [199°F]
Fan power	4.5 kW
Fan air flow	N/A
Available restriction on air flow	20mm CE [0.8in. WG]
Type of coolant	Gencool
Thermostat	82-94 °C

**Emissions**

HC	N/A
CO	N/A
Nox	N/A
PM	N/A



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## ALTERNATOR SPECIFICATIONS

### GENERAL DATA

- Compliance with NEMA MG21, UTE NF C51.111, VDE 0530, BS 4999, CSA standards.
- Vacuum-impregnated windings with epoxy varnish.
- IP21 drip proof.

### ALTERNATOR DATA

Manufacturer / Type	LERROY SOMER LSA442VS45
Number of phase	3
Power factor (Cos Phi)	0.8
Altitude	< 1000 m
Overspeed	2250 rpm
Pole : number	4
Exciter type	Shunt
Insulation : class, temperature rise	H / H
Voltage regulator	R230
Sustained short circuit current	-
Total harmonics (TGH/THC)	< 4%
Wave form : NEMA = TIF – TGH/THC	< 50
Wave form : CEI = FHT – TGH/THC	< 2%
Bearing : number	1
Coupling	Direct
Voltage regulation 0 to 100% load	+/- 1%
Recovery time (20% Volt dip) ms	500 ms
SkVA with 90 % of nominal sustained voltage (at 0.4 PF)	N/A

### OTHER ALTERNATOR DATA

Continuous nominal rating @ 40°C	123 kVA
Standby rating @ 27°C	144 kVA
Efficiencies @ 4/4 load	91 %
Air flow	0.44m <sup>3</sup> /s [932.30cfm]
Short circuit ratio (Kcc)	0.33
Direct axis synchro reactance unsaturated (Xd)	377 %
Quadra axis synchro reactance unsaturated (Xq)	226 %
Open circuit time constant (T'do)	2555 ms
Direct axis transient reactance saturated (X'd)	14.7 %
Short circuit transient time constant (T'd)	100 ms
Direct axis subtransient reactance saturated (X''d)	8.8 %
Subtransient time constant (T''d)	10 ms
Quadra axis subtransient reactance saturated (X''q)	10.8 %
Zero sequence reactance unsaturated (Xo)	1 %
Negative sequence reactance saturated (X2)	9.9 %
Armature time constant (Ta)	15 ms
No load excitation current (io)	0.5 A
Full load excitation current (ic)	2.1 A
Full load excitation voltage (uc)	39 V
Recovery time (Delta U = 20% transitoire)	500 ms
Motor start (Delta = 20% perm. Or 50% trans.)	330 kVA
Transient dip (4/4 charge) – PF : 1.8 AR	17.6 %
No load losses	2.72 kW
Heat rejection	10 kW



## Control Panels

### Standard panel : NEXYS



#### Specifications :

Frequency meter, Ammeter, Voltmeter

**Alarms and faults** Oil pressure, water temperature, Overcrank, Overspeed, Min/max alternator, Low fuel level, Emergency stop

#### Engine parameters :

Hours counter, Engine speed, Battery voltage, Fuel level, Air preheating

### Optional panel : TELYS



#### Specifications :

Frequency meter, Ammeter, Voltmeter

#### Alarms and faults :

Oil pressure, water temperature, No start-up, Overspeed, Min/max alternator, Min/max battery voltage, Low fuel level, Emergency stop

#### Engine parameters :

Hours counter, Oil pressure, Water temperature, Engine speed, Battery voltage, Fuel level



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Options

<p><b>Engine and Radiator</b></p> <ul style="list-style-type: none"> <li>▪ Heat shield protection</li> <li>▪ Oil drain extension</li> <li>▪ Heavy duty air filter</li> <li>▪ Lube oil drain pump</li> <li>▪ Radiator core guard</li> <li>▪ Battery charger</li> <li>▪ Block heater</li> </ul>	<p><b>Alternator</b></p> <ul style="list-style-type: none"> <li>▪ Anti condensation heater</li> <li>▪ Enforced impregnation</li> <li>▪ Oversized alternator</li> </ul> <p><b>Exhaust</b></p> <ul style="list-style-type: none"> <li>▪ Residential silencer</li> <li>▪ Critical silencer</li> <li>▪ Flexible exhaust conn.</li> </ul>	<p><b>Control panel</b></p> <ul style="list-style-type: none"> <li>▪ NFPA 110 level 1</li> <li>▪ Paralleling system</li> <li>▪ Remote annunciator</li> <li>▪ Oil temperature shutdown</li> <li>▪ Key start panel</li> </ul>
<p><b>Fuel</b></p> <ul style="list-style-type: none"> <li>▪ Day tank</li> <li>▪ Subbase fuel tanks UL</li> <li>▪ Water separator fuel filter</li> </ul>	<p><b>Enclosure M129</b></p> <ul style="list-style-type: none"> <li>▪ Silent 70 db @ 23 Ft (stby)</li> </ul>	<p><b>Literature</b></p> <ul style="list-style-type: none"> <li>▪ Parts</li> <li>▪ Maintenance</li> </ul>

**Weight and Dimensions**

**Open Model**



Overall size l x w x h :  
1950mm [77in] x 1084mm [43in] x 1330mm [52in]

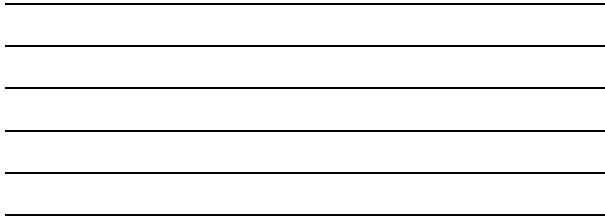
Weight :  
1240kg [2733lbs] Net 1440kg [3174lbs] Brut

**With Optional Enclosure**



Overall size l x w x h :  
2554mm [101in] x 1170mm [46in] x 1680mm [66in]

Weight :  
1560kg [3438lbs] Net 1590kg [3504lbs] Brut



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