



J110K

DIESEL GENSET

MODEL	J110K
Stand-by Power @ 50Hz	88kW / 110 kVA
Prime Power @ 50Hz	80 kW / 100 kVA

Standard Features

General features :

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



Generator Ratings

Voltage	HZ	Phase	P.F	Standby Amps	Standby Ratings kW/kVA	Prime Ratings kW/kVA
415/240	50	3	0.8	153	88 / 110	80 / 100
400/230	50	3	0.8	159	88 / 110	80 / 100
380/220	50	3	0.8	167	88 / 110	80 / 100
240/120	50	3	0.8	265	88 / 110	80 / 100
230/115	50	3	0.8	276	88 / 110	80 / 100
220/110	50	3	0.8	289	88 / 110	80 / 100
220/127	50	3	0.8	289	88 / 110	80 / 100
200/115	50	3	0.8	318	88 / 110	80 / 100

**PRP** : Prime Power is available for an unlimited number of annual operating hours in variable load applications, in accordance with ISO 8528-1. A 10% overload capability is available for a period of 1 hour within 12-hour period of operation, in accordance with ISO 3046-1

**ESP** : The standby power rating is applicable for supplying emergency power in variable load applications in accordance with ISO 8528-1. Overload is not allowed.

Conditions of sale

- SDMO provides a full line of products with high quality recognized engines and alternators.
- Service and parts are available from SDMO distributors as a single source of responsibility.
- Each and every units is factory tested. All generator sets are also prototype tested.
- Warranty according to our standard conditions. Five years extended also available



## ENGINE DATA

Manufacturer / Model	JOHN DEERE 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	1500 Rpm
Piston Speed	6.35m/s [20.8ft./s]
Max. stand by Power at rated RPM	97kW [130BHP]
Frequency regulation, steady state	+/-2. 5%
BMEP	16.2bar [235psi]
Governor : type	Meca

### Exhaust System

Exhaust gas flow	283L/s [600cfm]
Exhaust temperature	545°C [1013°F]
Max back pressure	750mm CE [30in. WG]

### Fuel System

110% (Stand By power )	25.5L/h [6.7gal/hr]
100% (of the Prime Power)	23.5L/h [6.2gal/hr]
75% (of the Prime Power)	16.5L/h [4.4gal/hr]
50% (of the Prime Power)	11.5L/h [3.0gal/hr]
Total fuel flow	108L/h [28.5gal/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	0.024L/h [0.0gal/hr]
Oil capacity carter	12.5L [3.3gal]

### Thermal balance 100% load

Heat rejection to exhaust	64kW [3639Btu/mn]
Radiated heat to ambient	10.5kW [597Btu/mn]
Heat rejection to coolant	36kW [2047Btu/mn]

### Air intake

Max. intake restriction	625mm CE [25in. WG]
Engine air flow	106L/s [225cfm]

### 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	2.5 kW
Fan air flow	3.7m3/s [7841cfm]
Available restriction on air flow	20mm CE [0.8in. WG]
Type of coolant	Gencool
Thermostat	82-94 °C

### Emissions

HC	26 mg/Nm3
CO	310 mg/Nm3
Nox	2900 mg/Nm3
PM	100 mg/Nm3



## 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;50 (Kcc)	0.33
Direct axis synchro reactance unsaturated (Xd)	377 %
Quadra axis synchro reactance unsaturated (Xq)	226 %
Open circuit time constant;50 (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

**NEXYS**



Specifications :  
Frequency meter, Ammeter, Voltmeter  
Alarms and faults Oil pressure, water temperature,  
Overcrank, Overspeed ( >60 kVA), Min/max alternator, Low  
fuel level, Emergency stop  
Engine parameters Hours counter, Engine speed,  
Battery voltage, Fuel level, Air preheating

**TELYS**



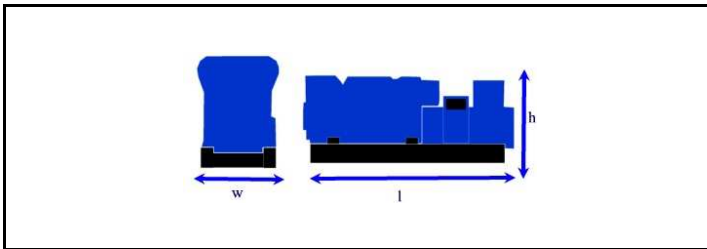
Specifications :  
Frequency meter, Ammeter, Voltmeter  
Alarms and faults Oil pressure, water temperature, No  
start-up, Overspeed, Min/max alternator, Min/max battery  
voltage, Low fuel level, Emergency stop  
Engine parameters Hours counter, Oil pressure, Water  
temperature, Engine speed, Battery voltage, Fuel level

## Options

Engine and Radiator	Alternator	Control panel
<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>	<ul style="list-style-type: none"> <li>Anti condensation heater</li> <li>Enforced impregnation</li> <li>Oversized alternator</li> </ul>	<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>
	Exhaust	Literature
	<ul style="list-style-type: none"> <li>Residential silencer</li> <li>Critical silencer</li> <li>Flexible exhaust conn.</li> </ul>	<ul style="list-style-type: none"> <li>Parts</li> <li>Maintenance</li> </ul>
Fuel	Enclosure	
<ul style="list-style-type: none"> <li>Day tank</li> <li>Subbase fuel tanks UL</li> <li>Water separator fuel filter</li> </ul>	<ul style="list-style-type: none"> <li>M129</li> <li>Silent 67 db @ 7m [23 Ft] (stby)</li> </ul>	

## Weight and Dimensions

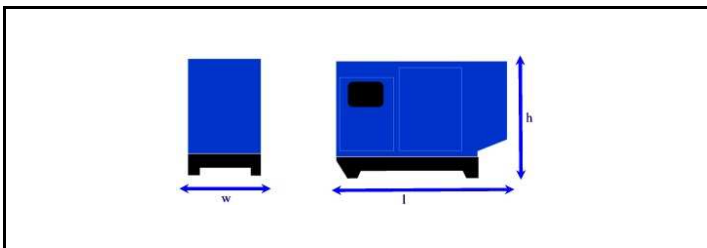
### Open Model Excluding option



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 :  
1640kg [3615lbs] Net 1840kg [4055lbs] Brut