

J110K

Engine JOHN DEERE , 4045HF120
Alternator LEROY SOMER , LSA442VS45

STANDARD FEATURES

- Mechanical governor
- Mechanically welded chassis with vibration isolators
- Main line circuit breaker
- Radiator for wiring T° of 50°C [122°F] max with mechanical fan
- Protective grille for fan and rotating parts
- 9dB(A) silencer supplied separately
- Charged DC starting battery with electrolyte + cables
- 12 V charging alternator and starter
- Supplied with oil and coolant -30°C
- User manual and commissioning guide



Voltage	Power ESP kWe/kVA	Power PRP kWe/kVA	Standby Amps	Dimensions	Weight
415/240	88 / 110	80 / 100	153	Length: 1950mm [77in] Width: 1084mm [43in] Height: 1330mm [52in]	1240kg [2733lbs] Net 1440kg [3174lbs] Gross
400/230	88 / 110	80 / 100	159		
380/220	88 / 110	80 / 100	167		
240/120	88 / 110	80 / 100	265		
230/115	88 / 110	80 / 100	276		
220/110	88 / 110	80 / 100	289		
220/127	88 / 110	80 / 100	289		
200/115	88 / 110	80 / 100	318		

POWER DEFINITION

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.

TERM OF USE

Standard reference conditions 25 °C Air Inlet Temp, 2300 m A.S.L. 60 % relative humidity. All engine performance data based on the above mentioned maximum continuous ratings.

Type	dB(A)@1m	dB(A)@7m	Dimensions	Weight	Tank
M129	77	67	Length: 2554mm [101in]	1640kg [3615lbs] Net	190 L
			Width: 1170mm [46in] Height: 1680mm [66in]	1840kg [4055lbs] Gross	





ENGINE SPECIFICATIONS

STANDARD FEATURES	Manufacturer / Model	JOHN DEERE 4045HF120 , 4-strokes, Turbo , Air/Air DC 4 X
	Cylinder Arrangement	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 temperature	545°C [1013°F]
	Exhaust gas flow	283L/s [600cfm]
	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]
	Max. fuel pump 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]
THERMAL BALANCE	Oil capacity carter	12.5L [3.3gal]
	Heat rejection to exhaust	64kW [3639Btu/mn]
	Radiated heat to ambient	10.5kW [597Btu/mn]
AIR INTAKE	Heat rejection to coolant	36kW [2047Btu/mn]
	Max. intake restriction	625mm CE [25in. WG]
COOLANT SYSTEM	Engine air flow	106L/s [225cfm]
	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 w/o restriction	3.7m3/s [7841cfm]
	Available restriction on air flow	20mm CE [0.8in. WG]
	Type of coolant	Gencool
	Thermostat	82-94 °C
EMISSIONS LEVEL	PM	100 mg/Nm3
	CO	310 mg/Nm3
	Nox	2900 mg/Nm3
	HC	26 mg/Nm3





ALTERNATOR SPECIFICATIONS

GENERAL DATAS	Manufacturer / Type	LEROY 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	2.1 AC
	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 0.4PF)	N/A
	OTHER DATAS	Continuous nominal rating @ 40°C
Standby rating @ 27°C		116 kVA
Efficiencies @ 4/4 load		90.7 %
Air flow		0.37m3/s [783.98cfm]
Short circuit ratio;50 (Kcc)		0.35
Direct axis synchro reactance unsaturated (Xd)		362 %
Quadra axis synchro reactance unsaturated (Xq)		217 %
Open circuit time constant;50 (T'do)		2555 ms
Direct axis transient reactance saturated (X'd)		14.1 %
Short circuit transient time constant (T'd)		100 ms
Direct axis subtransient reactance saturated (X''d)		8.5 %
Subtransient time constant (T''d)		10 ms
Quadra axis subtransient reactance saturated (X''q)		10.4 %
Zero sequence reactance unsaturated (Xo)		0.4 %
Negative sequence reactance saturated (X2)		9.5 %
Armature time constant (Ta)		15 ms
No load excitation current (io)		0.5 A
Full load excitation current (ic)		N/A
Full load excitation voltage (uc)		38 V
Recovery time (Delta U = 20% transitoire)		500 ms
Motor start (Delta = 20% perm. Or 50% trans.)		260 kVA
Transient dip (4/4 charge) – PF : 1.8 AR		17.3 %
No load losses	1.81kW [1.81Kw]	
Heat rejection	8.57 kW	



CONTROL PANEL

Standard



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

Option



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

