

Model: J110K

Engine: JOHN DEERE, 4045HF120

Alternator: LEROY SOMER, LSA442VS45

Specifications

- Mechanical governor
- Mechanically welded chassis with anti-vibration suspension
- Power 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
- 12 V charging alternator and starter
- Supplied with oil and coolant -30°C
- User manual and commissioning guide



Generator Ratings

Voltage	Power ESP kW/kVA	Power RRP kW/kVA	Standby Amps	Dimensions	Weight
415/240	88 / 110	80 / 100	153	Length: 1950 Width: 1084 Height: 1330	1240kg Net 1440kg 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		

RRP: 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 12hour 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.

Terms of Use: Standard reference conditions 25 ° C Air Inlet Temp, 100m A.S.L 60%

relative humidity. All engine performance data based on the above mentioned continuous ratings.

Canopy Version

Type	dB(A)@7m	Dimensions	Weight	Tank
M129	67	Length: 2554 Width: 1170 Height: 1680	1640kg Net 1840kg Gross	190L
M129-DW	67	Length: 2602 Width: 1170 Height: 1900	2059kg Net 2564kg Gross	505L

All units supplied with canopy as standard except when requested.

Engine Data

Manufacturer/Model	JOHN DEERE 4045HF120, 4-strokes, Turbo
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. standby 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]
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 [0.006gal/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 w/o restriction	3.7m ³ /s [7841cfm]
Available restriction on air flow	20mm CE [0.8in. WG]
Type of coolant	Gencool
Thermostat	82-94 °C

Emissions

PM	100 mg/Nm ³
CO	310 mg/Nm ³
Nox	2900 mg/Nm ³
HC	26 mg/Nm ³

Alternator Specifications

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	
TOTAL HARMONICS (TGH/THC)	< 2%
WAVE FROM : NEMA = TIF- TGH/THC	< 50
WAVE FROM: CEI = FHT - TGH/THC	< 2%
BEARING: NUMBER	1
COUPLING	Direct
VOLTAGE REGULATION 0 TO 100% LOAD	+/- 0.5%
RECOVERY TIME (20% VOLT DIP) MS	500 ms
SkVA WITH 90% OF NORMAL SUSTAINED VOLTAGE (AT 0.4PF)	[N/A]

Other Alternator Data

CONTINUOUS NOMINAL RATING @ 40° C	105 kVA
STANDBY RATING @ 27° C	116 kVA
EFFICIENCIES @ 4/4 LOAD	90.7 %
AIR FLOW	0.37m ³ /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

Other Alternator Data Continued

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 REACTACE UNSATURATED (X ₀)	0.5 %
NEGATIVE SEQUENCE REACTANCE SATURATED (X ₂)	9.5 %
ARMATURE TIME CONSTANT (T _a)	15 ms
NO LOAD EXCITATION CURRENT (i ₀)	0.5 A
FULL LOAD EXCITATION CURRENT (i _c)	2.1 A
FULL LOAD EXCITATION VOLTAGE (u _c)	38 V
RECOVERY TIME (DELTA U = 20% TRANSITOIRE)	500 ms
MOTOR START (DELTA = 20% PERM. OR 50% TRANS.)	194.4 kVA
TRANSIENT DIP (4/4 CHARGE) - PF : 1.8AR	17.3 %
NO LOAD LOSSES	1.80kW [1.80Kw]
HEAT REJECTION	8.5 kW