

J110K

Motor type 4045HF120
Alternator type LSA442VS45

GENERAL CHARACTERISTICS

- Mechanic governor
- Mechanically welded chassis with antivibration suspension
- Main line circuit breaker
- Radiator for wiring temperature of 48/50°C max with
- Protective grille for fan and rotating parts
- 9 dB(A) silencer supplied separately
- Charger DC starting battery with electrolyte
- 12 V charge alternator and starter
- Delivered with oil and coolant -30°C
- Manual for use and installation



J110K : JOHN DEERE, 4045HF 120 - LEROY SOMER, LSA442VS45

Voltage (V)	Voltage Code	Power ESP		Power PRP		Standby Amps
		kWe	kVA	kWe	kVA	
415/240	T51A1	88	110	80	100	153
400/230	T51A2	88	110	80	100	159
380/220	T51A3	88	110	80	100	167
240/120	T51C1	88	110	80	100	265
230/115	T51C2	88	110	80	100	276
220/110	T51C3	88	110	80	100	289
220/127	T52B4	88	110	80	100	289
200/115	T51B2	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.

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, 1000 m A.S.L. 60 % relative humidity. All engine performance data based on the above mentioned maximum continuous ratings.

ENGINE SPECIFICATIONS

	Description	4045HF120
GENERAL CHARACTERISTICS	Motor model	JOHN DEERE
	Cylinder arrangement	L
	Number of cylinders	4
	Bore (mm)	106
	Stroke (mm)	127
	Displacement (C.I.)	4.48
	Compression ratio	17 : 1
	Speed (RPM)	1500
	Pistons speed (m/s)	6.35
	Maximum stand-by power at rated RPM (kW)	97
	Governor type	Mechanical
	Frequency regulation (%)	+/- 2.5%
	BMEP (bar)	15.7
EXHAUST	Exhaust gas flow (L/s)	283
	Exhaust gas temperature (°C)	545
	Max. exhaust back pressure (mm CE)	750
FUEL	Consumption @ 110% load (L/h)	25.5
	Consumption @ 100% load (L/h)	23.5
	Consumption @ 75% load (L/h)	16.5
	Consumption @ 50% load (L/h)	11.5
	Maximum fuel pump flow (L/hr)	108
OIL SYSTEM	Oil capacity (L)	13.5
	Min. oil pressure (bar)	1
	Max. oil pressure (bar)	5
	Oil consumption 100% load (L/h)	0.024
HEAT BALANCE	Carter oil capacity (L)	12.5
	Heat rejection to exhaust (kW)	64
	Radiated heat to ambient (kW)	10.5
AIR INTAKE	Heat rejection to coolant (kW)	36
	Intake air flow (L/s)	106
	Max. intake restriction (mm CE)	625
COOLING SYSTEM	Radiator & Engine capacity (L)	20.2
	Max water temperature (°C)	105
	Outlet water temperature (°C)	93
	Fan power (kW)	2.5
	Fan air flow w/o restriction (m3/s)	3.7
	Available restriction on air flow (mm CE)	20
	Type of coolant	Gencool
Thermostat (°C)	82-94	
EMISSIONS	Emission HC (mg/Nm3)	26
	Emission Nox (mg/Nm3)	2900
	Emission CO (mg/Nm3)	310
	Emissions PM (mg/Nm3)	100

ALTERNATOR SPECIFICATIONS

GENERAL CHARACTERISTICS	Description	LSA 44.2 VS45
	Alternator brand	LEROY SOMER
	Number of phase	3
	Altitude (m)	0 à 1000
	Overspeed (rpm)	2250
	Number of pole	4
	Excitation system	SHUNT
	Insulation class	H
	Regulation	R230
	#Taux d'harmonique à vide TGH/THC	< 2%
	#Taux d'harmonique en charge TGH/THC	< 2%
	Wave form : CEI=FHT-(TGH/THC)	< 2%
	Wave form : NEMA=TIF-(TGH/THC)	< 50
	Number of bearing	1
	Coupling	Direct
	#Régulation de tension à régime établi (%)	+/- 0.5%
	Air flow (m3/s)	0.37
POWERS	Power factor (Cos Phi)	0.8
	Continuous Nominal Rating 40°C (kVA)	105
	Standby Nominal Rating 40°C (kVA)	110
	Standby Rating 27°C (kVA)	116
	Efficiencies 4/4 load (%)	90.8
REACTANCES (R) - TIME CONSTANT(CT)	Short circuit ratio (Kcc)	0.35
	Direct axis synchro reactance unsaturated (Xd) (%)	362
	Quadra axis synchro reactance unsaturated (Xq) (%)	217
	Open circuit time constant (T'do) (ms)	2555
	Direct axis transient reactance saturated (X'd) (%)	14.1
	Short circuit transient time constant (T'd) (ms)	100
	Direct axis subtransient reactance saturated (X''d) (%)	8.5
	Subtransient time constant (T''d) (ms)	10
	Quadra axis subtransient reactance saturated (X''q)	10.4
	Zero sequence reactance unsaturated (Xo) (%)	0.5
	Negative sequence reactance saturated (X2) (%)	9.5
Armature time constant (Ta) (ms)	15	
OTHER CHARACTERISTICS	No load excitation current (io) (A)	0.5
	Full load excitation current (ic) (A)	2.1
	Full load excitation voltage (uc) (V)	38
	Recovery time (Delta U = 20% transitoire) (ms)	500
	Motor start (Delta U = 20% perm. or 50% trans.)	194.4
	Transient dip (4/4 charge) - PF : 0,8 AR (%)	17.3
	No load losses (W)	1800
	Heat rejection (W)	8500

DIMENSIONS AND NOISE LEVELS

DIMENSIONS COMPACT VERSION	Length (mm)	1950
	Width (mm)	1084
	Height (mm)	1330
	Tank capacity (L)	190
	Dry weight (kg)	1240
DIMENSIONS CANOPIED VERSION	Canopy	M129
	Length (mm).	2554
	Width (mm).	1150
	Height (mm).	1680
	Tank capacity (L).	190
	Dry weight (kg).	1640
NOISE LEVEL	dB(A) @1m (50Hz)	77
	dB(A) @7m (50Hz)	67
	dB(A) @15m (50Hz)	63
	LWa (50Hz)	96

CONTAINMENT

DIMENSIONS COMPACT VERSION	Length (mm)	2602
	Width (mm)	1150
	Height (mm)	1684
	Tank capacity (L)	505
	Dry weight (kg)	1659
DIMENSIONS CANOPIED VERSION	Canopy	M129 DW
	Length (mm).	2602
	Width (mm).	1150
	Height (mm).	1900
	Tank capacity (L).	505
	Dry weight (kg).	2059
NOISE LEVEL	dB(A) @1m (50Hz)	77
	dB(A) @7m (50Hz)	67
	dB(A) @15m (50Hz)	63
	LWa (50Hz)	96

DESCRIPTION OF STANDARD CONTROL PANEL



The NEXYS is a versatile control unit allowing operation in manual or automatic mode. Equipped with an LCD screen, the user-friendly NEXYS offers high-quality basic functions to guarantee simple, reliable operation of your generating set.

Offers the following functions:

Standard electrical measurements: voltmeter, frequency meter, ammeter.

Engine parameters: working hours counter, engine speed, battery voltage, fuel level.

DESCRIPTION OF CONTROL PANEL AS OPTION



The highly versatile TELYS control unit is complex yet accessible, thanks to the particular attention paid to optimising its ergonomics and ease of use. With its large display screen, buttons and scroll wheel, it places the accent on simplicity and communication.

The TELYS offers the following functions:

Electrical measurements: voltmeter, frequency meter, ammeter.

Engine parameters: working hours counter, oil pressure,