

X1650

Engine MTU , 12V4000G23R2F
Alternator LEROY SOMER , LSA502VL10

STANDARD FEATURES

- Electronic governor
- Mechanically welded chassis with antivibration suspension
- Air cooler for wiring temperature of 38/40°C with electric fan
- Exhaust compensators with flanges
- 24 V charge alternator and starter
- Delivered with oil
- Manual for use and installation



Voltage	Power ESP kWe/kVA	Power PRP kWe/kVA	Standby Amps	Dimensions	Weight
415/240	1320 / 1650	1200 / 1500	2296		
400/230	1320 / 1650	1200 / 1500	2382	Leng : 4006mm [158in]	10920kg [24074lbs] Net
380/220	1320 / 1650	1200 / 1500	2507	Widt : 1885mm [74in]	11361kg [25047lbs] Gross
				Heig : 2158mm [85in]	



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.

TERM OF USE

Standard reference conditions ESP/PRP 27 C°/40 C° Air Intlet Temp, 1000 m/1000 m m A.S.L. 60 % relative humidity.

Model	dB(A)@1m	dB(A)@7m	Dimensions	Weight	Tank
 EUR40Si	85	75	Leng : 12192mm [480in] Widt : 2438mm [96in] Heig : 2896mm [114in]	22528kg [49666lbs] 23879kg [52644lbs]	500 L
 EUR40SSi	79	69	Leng : 12192mm [480in] Widt : 2438mm [96in] Heig : 2896mm [114in]	23562kg [51945lbs] 24913kg [54924lbs]	500 L



ENGINE SPECIFICATIONS

DATA GENERAL DATA	Motor model	MTU 12V4000G23R2F , 4-temps, TURBO , AIR/WATER 12 X
	Cylinder arrangement	V
	Displacement (C.l.)	57.2
	Bore (mm) X Stroke (mm)	170 X 210
	Compression ratio	16.5
	Speed (RPM)	1500
	Pistons speed (m/s)	10.5
	Maximum stand-by power at rated RPM (kW)	1475
	Frequency regulation (%)	0.5
	BMEP (bar)	18.74
	Governor type	ELEC
EXHAUST SYSTEM	Exhaust gas temperature (°F)	430
	Exhaust gas flow (L/s)	3700
	Max. exhaust back pressure (mm CE)	300
FUEL SYSTEM	Consumption @ 110% load (L/h)	329
	Consumption @ 100% load (L/h)	299
	Consumption @ 75% load (L/h)	231
	Consumption @ 50% load (L/h)	162
	Maximum fuel pump flow (L/hr)	1500
OIL	Oil capacity (L)	260
	Min. oil pressure (bar)	3.5
	Max. oil pressure (bar)	7
	Oil consumption 100% load (L/h)	1
	Carter oil capacity (L)	200
THERMAL BALANCE	Heat rejection to exhaust (kW)	N/A
	Radiated heat to ambient (kW)	75
	Heat rejection to coolant (kW)	500/190
AIR INTAKE	AIR INTAKE_entree_max%	150
	Intake air flow (L/s)	1500
COOLANT SYSTEM	Radiator & Engine capacity (L)	N/A
	Max water temperature (°C)	104
	Outlet water temperature (°C)	100
	Fan power (kW)	N/A
	Fan air flow w/o restriction (m3/s)	N/A
	Available restriction on air flow (mm CE)	N/A
	Type of coolant	COOLELF-MDX
	Thermostat (°C)	79/92
EMISSIONS	Emissions PM (g/kW.h)	N/A
	Emission CO (g/kW.h)	N/A
	Emissions HCNOx (g/kWh)	N/A
	Emission HC (g/kW.h)	N/A

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ALTERNATOR SPECIFICATIONS

DATA GENERAL DATA	Alternator brand	LEROY SOMER
	Alternator	LSA502VL10
	Number of phase	3
	Power factor (Cos Phi)	0.8
	Altitude (m)	<1000
	Overspeed (rpm)	2250
	Number of pole	4
	Excitation system	AREP
	Insulation class / Temperature class	H / H
	Regulation	R448V50
	Total harmonics TGH/THC	<3.5
	Wave form : NEMA=TIF-TGH/THC	<50
	Wave form : CEI=FHT-TGH/THC	<2
	Number of bearing	1
	Coupling	DIRECT
	Voltage regulation 0 à 100%	0.5
	Recovery time (Delta U = 20% transitoire) (ms)	500
OTHER DATA	Continuous Nominal Rating 40°C (kVA)	1640
	Standby Rating 27°C (kVA)	1800
	Efficiencies 4/4 load (%)	95.6
	Air flow (m3/s)	1.8
	Short circuit ratio (Kcc)	0.33
	Direct axis synchro reactance unsaturated (Xd) (%)	362
	Quadra axis synchro reactance unsaturated (Xq) (%)	217
	Open circuit time constant (T'do) (ms)	4058
	Direct axis transient reactance saturated (X'd) (%)	16
	Short circuit transient time constant (T'd) (ms)	180
	Direct axis subtransient reactance saturated (X''d) (%)	13.6
	Subtransient time constant (T''d) (ms)	18
	Quadra axis subtransient reactance saturated (X''q) (%)	14.2
	Zero sequence reactance unsaturated (Xo) (%)	3.1
	Negative sequence reactance saturated (X2) (%)	13.9
	Armature time constant (Ta) (ms)	27
	No load excitation current (io) (ms)	0.9
	Full load excitation current (ic) (A)	3.7
	Full load excitation voltage (uc) (A)	41
	Recovery time (Delta U = 20% transitoire) (ms)	500
	Motor start (Delta U = 20% perm. or 50% trans.) (ms)	4248
	Transient dip (4/4 charge) - PF : 0,8 AR (%)	11.7
	No load losses (kW)	16.52
Heat rejection (kW)	59.02	

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CONTROL PANEL

Standard

M80



M80

Specifications : Tachometer, Emergency stop button, client connection terminal strip, EC certified
 Engine parameters : Hours counter, Oil pressure gauge, Water temperature indicator, Oil pressure indicator

Option

TELYS



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

Option

KERYS



KERYS

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
 Additional specifications : Website, Troubleshooting, Assistance and Maintenance, Plotting and logging, Load impact, 8 configurations available, Compliance with international standards...