

# X3100

Engine MTU , 20V4000G63F  
 Alternator LEROY SOMER , LSA54S7

## STANDARD FEATURES

- Electronic governor
- Mechanically welded chassis with antivibration suspension
- Air cooler for wiring temperature of 47/50°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	2480 / 3100	2255 / 2818	4313		
400/230	2480 / 3100	2255 / 2818	4475	Leng : 5730mm [226in]	18365kg [40488lbs] Net
380/220	2480 / 3100	2255 / 2818	4710	Widt : 2250mm [89in] Heig : 2454mm [97in]	18976kg [41835lbs] Gross

### 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.



## ENGINE SPECIFICATIONS

<b>DATA GENERAL DATA</b>	Motor model	MTU 20V4000G63F , 4-temps, TURBO , AIR/WATER 20 X
	Cylinder arrangement	V
	Displacement (C.l.)	95.33
	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)	2662
	Frequency regulation (%)	0.5
	BMEP (bar)	20.31
	Governor type	ELEC
<b>EXHAUST SYSTEM</b>	Exhaust gas temperature (°F)	530
	Exhaust gas flow (L/s)	7300
	Max. exhaust back pressure (mm CE)	300
<b>FUEL SYSTEM</b>	Consumption @ 110% load (L/h)	594
	Consumption @ 100% load (L/h)	543
	Consumption @ 75% load (L/h)	420
	Consumption @ 50% load (L/h)	295
	Maximum fuel pump flow (L/hr)	1500
<b>OIL</b>	Oil capacity (L)	300
	Min. oil pressure (bar)	4.9
	Max. oil pressure (bar)	7.7
	Oil consumption 100% load (L/h)	1.63
	Carter oil capacity (L)	240
<b>THERMAL BALANCE</b>	Heat rejection to exhaust (kW)	N/A
	Radiated heat to ambient (kW)	105
	Haet rejection to coolant (kW)	970/350
<b>AIR INTAKE</b>	AIR INTAKE_entree_max%	150
	Intake air flow (L/s)	2700
<b>COOLANT SYSTEM</b>	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
<b>EMISSIONS</b>	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

<b>DATA</b> <b>GENERAL DATA</b>	Alternator brand	LEROY SOMER
	Alternator	LSA54S7
	Number of phase	3
	Power factor (Cos Phi)	0.8
	Altitude (m)	1000
	Overspeed (rpm)	1800
	Number of pole	4
	Excitation system	AREP
	Insulation class / Temperature class	H / H
	Regulation	R449
	Total harmonics TGH/THC	<2.5
	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)	900
<b>OTHER</b> <b>DATA</b>	Continuous Nominal Rating 40°C (kVA)	2916
	Standby Rating 27°C (kVA)	3208
	Efficiencies 4/4 load (%)	96.4
	Air flow (m3/s)	3.4
	Short circuit ratio (Kcc)	0.42
	Direct axis synchro reactance unsaturated (Xd) (%)	279
	Quadra axis synchro reactance unsaturated (Xq) (%)	168
	Open circuit time constant (T'do) (ms)	3160
	Direct axis transient reactance saturated (X'd) (%)	26.2
	Short circuit transient time constant (T'd) (ms)	350
	Direct axis subtransient reactance saturated (X''d) (%)	16
	Subtransient time constant (T''d) (ms)	24
	Quadra axis subtransient reactance saturated (X''q) (%)	20
	Zero sequence reactance unsaturated (Xo) (%)	3.8
	Negative sequence reactance saturated (X2) (%)	18
	Armature time constant (Ta) (ms)	79
	No load excitation current (io) (ms)	1.6
	Full load excitation current (ic) (A)	5.7
	Full load excitation voltage (uc) (A)	60
	Recovery time (Delta U = 20% transitoire) (ms)	900
Motor start (Delta U = 20% perm. or 50% trans.) (ms)	6000	
Transient dip (4/4 charge) - PF : 0,8 AR (%)	14	
No load losses (kW)	29	
Heat rejection (kW)	87	

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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...