



# X1000

Engine MTU , 16V2000G25F  
 Alternator LEROY SOMER , LSA491L10

## STANDARD FEATURES

- Electronic governor
- Mechanically welded chassis with antivibration suspension
- Radiator for wiring temperature of 46 °C max with mechanical fan
- Exhaust compensators with flanges
- 24 V charge alternator and starter
- Delivered with oil and coolant -30 °C
- Manual for use and installation



Voltage	Power ESP kWe/kVA	Power PRP kWe/kVA	Standby Amps	Dimensions	Weight
415/240	784 / 980	713 / 891	1363		
400/230	800 / 1000	727 / 909	1443	Leng : 4315mm [170in]	6118kg [13488lbs] Net
380/220	784 / 980	713 / 891	1489	Widt : 1848mm [73in] Heig : 2150mm [85in]	6410kg [14132lbs] Gross


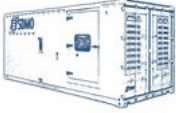


### POWER DEFINITION

**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.

Model	dB(A)@1m	dB(A)@7m	Dimensions	Weight	Tank
 CIR20SSi	85	75	Leng : 6058mm [239in] Widt : 2438mm [96in] Heig : 2896mm [114in]	13638kg [30067lbs] 14176kg [31253lbs]	500 L
 CIR20SSi-R	85	75	Leng : 6058mm [239in] Widt : 2438mm [96in] Heig : 2896mm [114in]	13628kg [30045lbs] 15788kg [34807lbs]	2000 L
 ISO20	89	79	Leng : 6058mm [239in] Widt : 2438mm [96in] Heig : 2896mm [114in]	11140kg [24560lbs] 11885kg [26202lbs]	500 L
 M427	90	80	Leng : 6400mm [252in] Widt : 2170mm [85in] Heig : 2721mm [107in]	9027kg [19901lbs] 10137kg [22348lbs]	930 L

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## ENGINE SPECIFICATIONS

DATA  GENERAL DATA	Motor model	MTU 16V2000G25F , 4-temps, TURBO , AIR/AIR
		16 X
	Cylinder arrangement	V
	Displacement (C.I.)	31.86
	Bore (mm) X Stroke (mm)	130 X 150
	Compression ratio	16
	Speed (RPM)	1500
	Pistons speed (m/s)	7.5
	Maximum stand-by power at rated RPM (kW)	890
	Frequency regulation (%)	N/A
	BMEP (bar)	20.34
Governor type	Electronique	
EXHAUST SYSTEM	Exhaust gas temperature (°F)	520
	Exhaust gas flow (L/s)	2700
	Max. exhaust back pressure (mm CE)	300
FUEL SYSTEM	Consumption @ 110% load (L/h)	205
	Consumption @ 100% load (L/h)	186
	Consumption @ 75% load (L/h)	140
	Consumption @ 50% load (L/h)	96
	Maximum fuel pump flow (L/hr)	600
OIL	Oil capacity (L)	102
	Min. oil pressure (bar)	4.7
	Max. oil pressure (bar)	7.5
	Oil consumption 100% load (L/h)	1.86
	Carter oil capacity (L)	92
THERMAL BALANCE	Heat rejection to exhaust (kW)	N/A
	Radiated heat to ambient (kW)	45
	Heat rejection to coolant (kW)	380
AIR INTAKE	AIR INTAKE_entree_max%	150
	Intake air flow (L/s)	1000
COOLANT SYSTEM	Radiator & Engine capacity (L)	N/A
	Max water temperature (°C)	102
	Outlet water temperature (°C)	95
	Fan power (kW)	35
	Fan air flow w/o restriction (m3/s)	19
	Available restriction on air flow (mm CE)	20
	Type of coolant	N/A
	Thermostat (°C)	N/A
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

<b>DATA GENERAL DATA</b>	Alternator brand	LEROY SOMER
	Alternator	LSA491L10
	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	R448
	Total harmonics TGH/THC	<4
	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%	1
	Recovery time (Delta U = 20% transitoire) (ms)	<1000
<b>OTHER DATA</b>	Continuous Nominal Rating 40°C (kVA)	910
	Standby Rating 27°C (kVA)	1000
	Efficiencies 4/4 load (%)	95.3
	Air flow (m3/s)	1
	Short circuit ratio (Kcc)	0.41
	Direct axis synchro reactance unsaturated (Xd) (%)	315
	Quadra axis synchro reactance unsaturated (Xq) (%)	189
	Open circuit time constant (T'do) (ms)	2111
	Direct axis transient reactance saturated (X'd) (%)	14.9
	Short circuit transient time constant (T'd) (ms)	100
	Direct axis subtransient reactance saturated (X''d) (%)	11.9
	Subtransient time constant (T''d) (ms)	10
	Quadra axis subtransient reactance saturated (X''q) (%)	13
	Zero sequence reactance unsaturated (Xo) (%)	0.9
	Negative sequence reactance saturated (X2) (%)	12.5
	Armature time constant (Ta) (ms)	15
	No load excitation current (io) (ms)	0.9
	Full load excitation current (ic) (A)	3.4
	Full load excitation voltage (uc) (A)	40
	Recovery time (Delta U = 20% transitoire) (ms)	<1000
Motor start (Delta U = 20% perm. or 50% trans.) (ms)	2372	
Transient dip (4/4 charge) - PF : 0,8 AR (%)	11	
No load losses (kW)	9.8	
Heat rejection (kW)	37	

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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...