

X2800C

Engine MTU , 20V4000G23E
Alternator LEROY SOMER , LSA53S75

STANDARD FEATURES

- Electronic governor
- Mechanically welded chassis with vibration isolators
- Air cooler for wiring T° of 38/40°C max with electric fan
- Exhaust outlet with flexible and flanges
- 24 V charging alternator and starter
- Supplied with oil
- User manual and commissioning guide



| Voltage | Power ESP kWe/kVA | Power PRP kWe/kVA | Standby Amps | Dimensions | Weight |
|---------|----------------------|----------------------|-----------------|------------------------|--------------------------|
| 415/240 | 2240 / 2800 | 2036 / 2545 | 3895 | Length: 5730mm [226in] | 17290kg [38107lbs] Net |
| 400/230 | 2240 / 2800 | 2036 / 2545 | 4042 | Width: 2250mm [89in] | 17901kg [39454lbs] Gross |
| 380/220 | 2240 / 2800 | 2036 / 2545 | 4254 | Height: 2454mm [97in] | |

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. A 10% overload capability is available for a period of 1 hour within 12-hour 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.

TERM OF USE

Standard reference conditions N/A °C Air Intlet Temp, N/A m A.S.L. 60 % relative humidity. All engine performance data based on the above mentioned maximum continuous ratings.

ELEKTROMAK JENERATÖR

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ENGINE SPECIFICATIONS

| | | |
|-------------------|------------------------------------|---|
| STANDARD FEATURES | Manufacturer / Model | MTU 20V4000G23E , 4-strokes, Turbo , Air/Water DC 20 X |
| | Cylinder Arrangement | V |
| | Displacement | 95.4L [5821.7C.I.] |
| | Bore and Stroke | 170mm [6.7in.] X 210mm [8.3in.] |
| | Compression ratio | 16.5 |
| | Rated RPM | 1500 Rpm |
| | Piston Speed | 10.5m/s [34.4ft./s] |
| | Max. stand by Power at rated RPM | 2420kW [3243BHP] |
| | Frequency regulation, steady state | +/-0. 5% |
| | BMEP | 18.5bar [268psi] |
| Governor : type | Elec | |
| EXHAUST SYSTEM | Exhaust temperature | 580°C [1076°F] |
| | Exhaust gas flow | 7700L/s [16317cfm] |
| | Max back pressure | 300mm CE [12in. WG] |
| FUEL SYSTEM | 110% (Stand By power) | 599L/h [158.3gal/hr] |
| | 100% (of the Prime Power) | 545L/h [144.0gal/hr] |
| | 75% (of the Prime Power) | 409L/h [108.1gal/hr] |
| | 50% (of the Prime Power) | 278L/h [73.4gal/hr] |
| | Max. fuel pump flow | 1440L/h [380.4gal/hr] |
| OIL SYSTEM | Total oil capacity w/filters | 390L [103.0gal] |
| | Oil Pressure low idle | 4.9bar [71.0psi] |
| | Oil Pressure rated RPM | 7.7bar [111.6psi] |
| | Oil consumption 100% load | 2.72L/h [0.7gal/hr] |
| | Oil capacity carter | 340L [89.8gal] |
| THERMAL BALANCE | Heat rejection to exhaust | N/A |
| | Radiated heat to ambient | 105kW [5970Btu/mn] |
| | Heat rejection to coolant | N/A |
| AIR INTAKE | Max. intake restriction | 150mm CE [6in. WG] |
| | Engine air flow | 2800L/s [5933cfm] |
| COOLANT SYSTEM | Radiator & engine capacity | N/A |
| | Max water temperature | 104°C [219°F] |
| | Outlet water temperature | 100°C [212°F] |
| | Fan power | N/A |
| | Fan air flow w/o restriction | N/A |
| | Available restriction on air flow | N/A |
| | Type of coolant | Coolelf mdx |
| | Thermostat | 79/92 °C |
| EMISSIONS LEVEL | PM | N/A |
| | CO | N/A |
| | Nox | 1700 mg/Nm3 Max |
| | HC | 150 mg/Nm3 Max |

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ALTERNATOR SPECIFICATIONS

| | | |
|---|---|----------------------|
| GENERAL DATAS | Manufacturer / Type | LEROY SOMER LSA53S75 |
| | Number of phase | 3 |
| | Power factor (Cos Phi) | 0.8 |
| | Altitude | 1000 |
| | Overspeed | 2160 rpm |
| | Pole : number | 4 |
| | Exciter type | AREP |
| | Insulation : class, temperature rise | H / H |
| | Voltage regulator | R449 |
| | Sustained short circuit current | 4.8 AC |
| | Total harmonics (TGH/THC) | < 2,5% |
| | Wave form : NEMA = TIF – TGH/THC | < 50 |
| | Wave form : CEI = FHT – TGH/THC | < 2% |
| | Bearing : number | 1 |
| | Coupling | Direct |
| | Voltage regulation 0 to 100% load | +/- 0,5% |
| | Recovery time (20% Volt dip) ms | 800 ms |
| | SkVA with 90% of nominal sustained voltage (at 0.4PF) | N/A |
| OTHER DATAS | Continuous nominal rating @ 40°C | 2648 kVA |
| | Standby rating @ 27°C | 2913 kVA |
| | Efficiencies @ 4/4 load | 96.3 % |
| | Air flow | 2.8m3/s [5932.84cfm] |
| | Short circuit ratio;50 (Kcc) | 0.46 |
| | Direct axis synchro reactance unsaturated (Xd) | 274 % |
| | Quadra axis synchro reactance unsaturated (Xq) | 165 % |
| | Open circuit time constant;50 (T'do) | 2880 ms |
| | Direct axis transient reactance saturated (X'd) | 22.1 % |
| | Short circuit transient time constant (T'd) | 272 ms |
| | Direct axis subtransient reactance saturated (X''d) | 12.1 % |
| | Subtransient time constant (T''d) | 25 ms |
| | Quadra axis subtransient reactance saturated (X''q) | 15 % |
| | Zero sequence reactance unsaturated (Xo) | 2.8 % |
| | Negative sequence reactance saturated (X2) | 13.6 % |
| | Armature time constant (Ta) | 58 ms |
| | No load excitation current (io) | 1.3 A |
| | Full load excitation current (ic) | N/A |
| | Full load excitation voltage (uc) | 52 V |
| | Recovery time (Delta U = 20% transitoire) | 800 ms |
| Motor start (Delta = 20% perm. Or 50% trans.) | 5600 kVA | |
| Transient dip (4/4 charge) – PF : 1.8 AR | 12 % | |
| No load losses | 28kW [28.00Kw] | |
| Heat rejection | 81.5 kW | |

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CONTROL PANEL

Option

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



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



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...

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