

V500UC2

Tiers 2
 Engine VOLVO , TAD1641GE
 Alternator LEROY SOMER , LSA472M7

STANDARD FEATURES

- Electronic governor
- Mechanically welded chassis with antivibration suspension
- Power circuit breaker
- Radiator for wiring T° of 50°C [122°F] max with mechanical fan
- Protective grille for fan and rotating parts
- 9dB(A) silencer supplied separately
- Charged DC starting battery with electrolyte
- 24 V charging alternator and starter
- Supplied with oil and coolant -30°C
- User manual and commissioning guide



| Voltage | Power ESP kWe/kVA | Power PRP kWe/kVA | Standby Amps | Dimensions | Weight |
|---------|----------------------|----------------------|-----------------|---|--|
| 480/277 | 500 / 625 | 455 / 568 | 752 | Length: 3470mm [137in] Width: 1500mm [59in] Height: 2043mm [80in] | 3620kg [7981 lbs] Net 4160kg [9171 lbs] Gross |
| 440/254 | 500 / 625 | 455 / 568 | 820 | | |
| 380/220 | 500 / 625 | 455 / 568 | 950 | | |
| 240/120 | 500 / 625 | 455 / 568 | 1504 | | |
| 220/127 | 500 / 625 | 455 / 568 | 1640 | | |
| 208/120 | 480 / 600 | 436 / 545 | 1665 | | |



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 40 °C Air Inlet Temp, 1600 m A.S.L. 60 % relative humidity. All engine performance data based on the above mentioned maximum continuous ratings.

| Type | dB(A)@1m | dB(A)@7m | Dimensions | Weight | Tank |
|--|----------|----------|--|--|--------|
|  M229 | 85 | 75 | Length: 5031mm [198in] Width: 1560mm [61in] Height: 2435mm [96in] | 4870kg [10737lbs] Net 5410kg [11927lbs] Gross | 500 L |
|  M229-DW | 85 | 75 | Length: 5083mm [200in] Width: 1560mm [61in] Height: 2700mm [106in] | 5590kg [12324lbs] Net 7240kg [15961lbs] Gross | 1770 L |





ENGINE SPECIFICATIONS

| | | |
|-------------------|------------------------------------|--|
| STANDARD FEATURES | Manufacturer / Model | VOLVO TAD1641GE , 4-strokes, Turbo , Air/Air DC 6 X |
| | Cylinder Arrangement | L |
| | Displacement | 16.12L [983.7C.I.] |
| | Bore and Stroke | 144mm [5.7in.] X 165mm [6.5in.] |
| | Compression ratio | 16.5 : 1 |
| | Rated RPM | 1800 Rpm |
| | Piston Speed | 9.9m/s [32.5ft./s] |
| | Max. stand by Power at rated RPM | 546kW [732BHP] |
| | Frequency regulation, steady state | +/- 0.5% |
| | BMEP | 20.05bar [291psi] |
| Governor : type | ELEC | |
| EXHAUST SYSTEM | Exhaust temperature | 479°C [894°F] |
| | Exhaust gas flow | 1840L/s [3899cfm] |
| | Max back pressure | 1000mm CE [39in. WG] |
| FUEL SYSTEM | 110% (Stand By power) | 137.97L/h [36.5gal/hr] |
| | 100% (of the Prime Power) | 120.73L/h [31.9gal/hr] |
| | 75% (of the Prime Power) | 88.79L/h [23.5gal/hr] |
| | 50% (of the Prime Power) | 59.78L/h [15.8gal/hr] |
| | Max. fuel pump flow | 190L/h [50.2gal/hr] |
| OIL SYSTEM | Total oil capacity w/filters | 48L [12.7gal] |
| | Oil Pressure low idle | 0.7bar [10.1psi] |
| | Oil Pressure rated RPM | 6.5bar [94.2psi] |
| | Oil consumption 100% load | 0.11L/h [0.029gal/hr] |
| | Oil capacity carter | 42L [11.1gal] |
| THERMAL BALANCE | Heat rejection to exhaust | 442kW [25132Btu/mn] |
| | Radiated heat to ambient | 24kW [1365Btu/mn] |
| | Heat rejection to coolant | 231kW [13135Btu/mn] |
| AIR INTAKE | Max. intake restriction | 500mm CE [20in. WG] |
| | Engine air flow | 763L/s [1617cfm] |
| COOLANT SYSTEM | Radiator & engine capacity | 60L [15.9gal] |
| | Max water temperature | 103°C [217°F] |
| | Outlet water temperature | 93°C [199°F] |
| | Fan power | 19 kW |
| | Fan air flow w/o restriction | 13.5m ³ /s [28608cfm] |
| | Available restriction on air flow | 25mm CE [1.0in. WG] |
| | Type of coolant | Glycol-Ethylene |
| | Thermostat | 86-96 °C |
| EMISSIONS LEVEL | PM | 0.08 gr/bhp/h |
| | CO | 0.51 gr/bhp/h |
| | Nox | 3.87 gr/bhp/h |
| | HC | 0.12 gr/bhp/h |

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ALTERNATOR SPECIFICATIONS

| | | |
|---|---|----------------------|
| GENERAL DATAS | Manufacturer | LEROY SOMER |
| | Type | LSA472M7 |
| | Number of phase | 3 |
| | Power factor (Cos Phi) | 0.8 |
| | Altitude | < 1000 m |
| | Overspeed | 2250 rpm |
| | Pole : number | 4 |
| | Exciter type | SHUNT |
| | Insulation : class, temperature rise | H / H |
| | Voltage regulator | R230 |
| | Total harmonics (TGH/THC) | < 2% |
| | 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 | 500 ms |
| SKVA with 90% of nominal sustained voltage (at 0.4PF) | N/A | |
| OTHER DATAS | Continuous nominal rating @ 40°C | 625 kVA |
| | Standby rating @ 27°C | 700 kVA |
| | Efficiencies @ 4/4 load | 94.5 % |
| | Air flow | 1.1m3/s [2330.76cfm] |
| | Short circuit ratio;50 (Kcc) | 0.4 |
| | Direct axis synchro reactance unsaturated (Xd) | 319 % |
| | Quadra axis synchro reactance unsaturated (Xq) | 191 % |
| | Open circuit time constant;50 (T'do) | 1930 ms |
| | Direct axis transient reactance saturated (X'd) | 16.5 % |
| | Short circuit transient time constant (T'd) | 100 ms |
| | Direct axis subtransient reactance saturated (X''d) | 13.2 % |
| | Subtransient time constant (T''d) | 10 ms |
| | Quadra axis subtransient reactance saturated (X''q) | 17.5 % |
| | Zero sequence reactance unsaturated (Xo) | 0.1 % |
| | Negative sequence reactance saturated (X2) | 15.4 % |
| | Armature time constant (Ta) | 15 ms |
| | No load excitation current (io) | 1 A |
| | Full load excitation current (ic) | 3.7 A |
| | Full load excitation voltage (uc) | 37 V |
| | Recovery time (Delta U = 20% transitoire) | 500 ms |
| | Motor start (Delta = 20% perm. Or 50% trans.) | 1318 kVA |
| | Transient dip (4/4 charge) – PF : 1.8 AR | 15 % |
| No load losses | 10.08 kW | |
| Heat rejection | 28.63 kW | |



CONTROL PANEL

Standard



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



KERY'S

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...

