

Model: V500C2

Engine: VOLVO, TAD1640GE

Alternator: LEROY SOMER, LSA472S5

Specifications

- Compliant with stage 2 of the European pollutant emissions directive
- Electronic governor
- Mechanically welded chassis with anti-vibration 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



Generator Ratings

| Voltage | Power ESP kW/kVA | Power RRP kW/kVA | Standby Amps | Dimensions | Weight |
|---------|------------------|------------------|--------------|---|----------------------------|
| 415/240 | 400 / 500 | 364 / 455 | 696 | Length: 3470 Width: 1500 Height: 2043 | 3490kg Net 4030kg Gross |
| 400/230 | 400 / 500 | 364 / 455 | 722 | | |
| 380/220 | 400 / 500 | 364 / 455 | 760 | | |
| 240/120 | 400 / 500 | 364 / 455 | 1203 | | |
| 230/115 | 400 / 500 | 364 / 455 | 1255 | | |
| 220/110 | 400 / 500 | 364 / 455 | 1312 | | |
| 200/115 | 400 / 500 | 364 / 455 | 1443 | | |

RRP: 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 12hour 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.

Terms of Use: Standard reference conditions 25 °C Air Inlet Temp, 100m A.S.L 60% relative humidity. All engine performance data based on the above mentioned continuous ratings.

Canopy Version

| Type | dB(A)@7m | Dimensions | Weight | Tank |
|---------|----------|---|----------------------------|--------|
| M229 | 68 | Length: 5031 Width: 1560 Height: 2435 | 4740kg Net 5280kg Gross | 500 L |
| M229-DW | 68 | Length: 5083 Width: 1560 Height: 2700 | 5370kg Net 7080kg Gross | 1770 L |

All units supplied with canopy as standard except when requested.

Engine Data

| | |
|------------------------------------|-----------------------------------|
| Manufacturer/Model | VOLVO TAD1640GE, 4-strokes, Turbo |
| Cylinder arrangement | 6 x L |
| Displacement | 16.12L [983.7C.I.] |
| Bore and stroke | 144mm [5.7in.] X 165mm [6.5in.] |
| Compression ratio | 17.5 : 1 |
| Rated RPM | 1500 Rpm |
| Piston speed | 8.25m/s [27.1ft./s] |
| Max. standby power at rated RPM | 431kW [578BHP] |
| Frequency regulation, steady state | +/- 0.5% |
| BMEP | 19.45bar [282psi] |
| Governor: type | ELEC |

Exhaust System

| | |
|---------------------|----------------------|
| Exhaust temperature | 456°C [853°F] |
| Exhaust gas flow | 1423L/s [3015cfm] |
| Max back pressure | 1000mm CE [39in. WG] |

Fuel System

| | |
|---------------------------|------------------------|
| 110% (Stand by power) | 103.35L/h [27.3gal/hr] |
| 100% (of the Prime Power) | 93.26L/h [24.6gal/hr] |
| 75% (of the Prime Power) | 69.24L/h [18.3gal/hr] |
| 50% (of the Prime Power) | 47.33L/h [12.5gal/hr] |
| Total fuel flow | 165L/h [43.6gal/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 | 0.1L/h [0.026gal/hr] |
| Oil capacity carter | 42L [11.1gal] |

Thermal balance 100% load

| | |
|---------------------------|---------------------|
| Heat rejection to exhaust | 299kW [17001Btu/mn] |
| Radiated heat to ambient | 20kW [1137Btu/mn] |
| Heat rejection to coolant | 166kW [9439Btu/mn] |

Air intake

| | |
|-------------------------|---------------------|
| Max. intake restriction | 500mm CE [20in. WG] |
| Engine air flow | 603L/s [1278cfm] |

Coolant system

| | |
|-----------------------------------|----------------------------------|
| Radiator & engine capacity | 60L [15.9gal] |
| Max water temperature | 103°C [217°F] |
| Outlet water temperature | 93°C [199°F] |
| Fan power | 9 kW |
| Fan air flow w/o restriction | 10.9m ³ /s [23098cfm] |
| Available restriction on air flow | 30mm CE [1.2in. WG] |
| Type of coolant | Glycol-Ethylene |
| Thermostat | 86-96 °C |

Emissions

| | |
|-----|-------|
| PM | [N/A] |
| CO | [N/A] |
| Nox | [N/A] |
| HC | [N/A] |

Alternator Specifications

| | |
|--|------------------------|
| Manufacturer/Type | LEROY SOMER (LSA472S5) |
| 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 |
| SUSTAINED SHORT CIRCUIT CURRENT | |
| TOTAL HARMONICS (TGH/THC) | < 4 % |
| WAVE FROM : NEMA = TIF- TGH/THC | < 50 |
| WAVE FROM: 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 NORMAL SUSTAINED VOLTAGE (AT 0.4PF) | [N/A] |

Other Alternator Data

| | |
|---|-----------------------------------|
| CONTINUOUS NOMINAL RATING @ 40° C | 455 kVA |
| STANDBY RATING @ 27° C | 500 kVA |
| EFFICIENCIES @ 4/4 LOAD | 93.8 % |
| AIR FLOW | 0.9m ³ /s [1906.98cfm] |
| SHORT CIRCUIT RATIO: 50 (Kcc) | 0.33 |
| DIRECT AXIS SYNCHRO REACTANCE UNSATURATED (Xd) | 357 % |
| QUADRA AXIS SYNCHRO REACTANCE UNSATURATED (Xq) | 214 % |
| OPEN CIRCUIT TIME CONSTANT: 50 (T'do) | 1855 ms |
| DIRECT AXIS TRANSIENT REACTANCE SATURATED (X'd) | 19.2 % |
| SHORT CIRCUIT TRANSIENT TIME CONSTANT (T'd) | 100 ms |

Other Alternator Data Continued

| | |
|---|-----------------|
| DIRECT AXIS SUBTRANSIENT REACTANCE SATURATED (X'd) | 15.4 % |
| SUBTRANSIENT TIME CONSTANT (T'd) | 10 ms |
| QUADRA AXIS SUBTRANSIENT REACTANCE SATURATED (X'q) | 20.6 % |
| ZERO SEQUENCE REACTACE UNSATURATED (X ₀) | 0.9 % |
| NEGATIVE SEQUENCE REACTANCE SATURATED (X ₂) | 18 % |
| ARMATURE TIME CONSTANT (T _a) | 15 ms |
| NO LOAD EXCITATION CURRENT (i ₀) | 0.9 A |
| NO LOAD EXCITATION CURRENT (i _c) | 3.8 A |
| FULL LOAD EXCITATION VOLTAGE (u _c) | 38 V |
| RECOVERY TIME (DELTA U = 20% TRANSITOIRE) | 500 ms |
| MOTOR START (DELTA = 20% PERM. OR 50% TRANS.) | 928 kVA |
| TRANSIENT DIP (4/4 CHARGE) - PF : 1.8AR | 16.7 % |
| NO LOAD LOSSES | 5.69kW [5.69Kw] |
| HEAT REJECTION | 23.78 kW |