

V500C2

Stage 2
 Engine VOLVO , TAD1640GE
 Alternator LEROY SOMER , LSA472S5

STANDARD FEATURES

- Compliant with stage 2 of the european pollutant emissions directive
- 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
415/240	400 / 500	364 / 455	696	Length: 3470mm [137in] Width: 1500mm [59in] Height: 2043mm [80in]	3490kg [7694 lbs] Net 4030kg [8885 lbs] 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		



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 Intlet Temp, 2600 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	77.6	68	Length: 5031mm [198in] Width: 1560mm [61in] Height: 2435mm [96in]	4740kg [10450lbs] Net 5280kg [11640lbs] Gross	500 L
 M229-DW	77.6	68	Length: 5083mm [200in] Width: 1560mm [61in] Height: 2700mm [106in]	5370kg [11839lbs] Net 7080kg [15609lbs] Gross	1770 L





ENGINE SPECIFICATIONS

STANDARD FEATURES	Manufacturer / Model	VOLVO TAD1640GE , 4-strokes, Turbo , N/A 6 X
	Cylinder Arrangement	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. stand by 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]
	Max. fuel pump 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	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 LEVEL	PM	N/A
	CO	N/A
	Nox	N/A
	HC	N/A

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SDMO Industries – 12bis rue de la Villeneuve – CS 92848 – 29 228 BREST CEDEX 2

Tel +33 (0)2 98 41 41 41 – Fax : +33 (0)2 98 41 63 07 – www.sdmo.com





ALTERNATOR SPECIFICATIONS

GENERAL DATAS	Manufacturer	LEROY SOMER
	Type	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
	Total harmonics (TGH/THC)	< 4%
	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	455 kVA
	Standby rating @ 27°C	500 kVA
	Efficiencies @ 4/4 load	93.8 %
	Air flow	0.9m3/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
	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 reactance unsaturated (Xo)	0.9 %
	Negative sequence reactance saturated (X2)	18 %
	Armature time constant (Ta)	15 ms
	No load excitation current (io)	0.9 A
	Full load excitation current (ic)	3.8 A
	Full load excitation voltage (uc)	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 : 1.8 AR	16.7 %	
No load losses	5.69kW [5.69Kw]	
Heat rejection	23.78 kW	

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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



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...

