

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



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		



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...

