

V220C2

Stage 2
 Engine VOLVO , TAD733GE
 Alternator LEROY SOMER , LSA462M5

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
- 12 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	176 / 220	160 / 200	306	Length: 2370mm [93in] Width: 1114mm [44in] Height: 1538mm [61in]	1850kg [4079 lbs] Net 2200kg [4850 lbs] Gross
400/230	176 / 220	160 / 200	318		
380/220	176 / 220	160 / 200	334		
240/120	176 / 220	160 / 200	529		
230/115	176 / 220	160 / 200	552		
220/110	176 / 220	160 / 200	577		
200/115	176 / 220	160 / 200	635		



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, 1000 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
 M226	78.5	68.5	Length: 3508mm [138in] Width: 1200mm [47in] Height: 1830mm [72in]	2540kg [5600lbs] Net 2890kg [6371lbs] Gross	340 L
 M226-DW	78.5	68.5	Length: 3560mm [140in] Width: 1200mm [47in] Height: 2182mm [86in]	2960kg [6526lbs] Net 3790kg [8356lbs] Gross	868 L



ENGINE SPECIFICATIONS

STANDARD FEATURES	Manufacturer / Model	VOLVO TAD733GE , 4-strokes, Turbo , Air/Air DC 6 X
	Cylinder Arrangement	L
	Displacement	7.15L [436.3C.I.]
	Bore and Stroke	108mm [4.3in.] X 130mm [5.1in.]
	Compression ratio	18.1 : 1
	Rated RPM	1500 Rpm
	Piston Speed	6.5m/s [21.3ft./s]
	Max. stand by Power at rated RPM	197kW [264BHP]
	Frequency regulation, steady state	+/- 0.5%
	BMEP	23bar [333psi]
Governor : type	ELEC	
EXHAUST SYSTEM	Exhaust temperature	540 °C [1004 °F]
	Exhaust gas flow	565L/s [1197cfm]
	Max back pressure	1000mm CE [39in. WG]
FUEL SYSTEM	110% (Stand By power)	47.6L/h [12.6gal/hr]
	100% (of the Prime Power)	42.7L/h [11.3gal/hr]
	75% (of the Prime Power)	31.7L/h [8.4gal/hr]
	50% (of the Prime Power)	21.3L/h [5.6gal/hr]
	Max. fuel pump flow	360L/h [95.1gal/hr]
OIL SYSTEM	Total oil capacity w/filters	34L [9.0gal]
	Oil Pressure low idle	2bar [29.0psi]
	Oil Pressure rated RPM	4bar [58.0psi]
	Oil consumption 100% load	0.08L/h [0.021gal/hr]
	Oil capacity carter	31L [8.2gal]
THERMAL BALANCE	Heat rejection to exhaust	143kW [8131Btu/mn]
	Radiated heat to ambient	13kW [739Btu/mn]
	Heat rejection to coolant	91kW [5174Btu/mn]
AIR INTAKE	Max. intake restriction	250mm CE [10in. WG]
	Engine air flow	211L/s [447cfm]
COOLANT SYSTEM	Radiator & engine capacity	35.8L [9.5gal]
	Max water temperature	105 °C [221 °F]
	Outlet water temperature	102 °C [216 °F]
	Fan power	4.4 kW
	Fan air flow w/o restriction	5.5m ³ /s [11655cfm]
	Available restriction on air flow	20mm CE [0.8in. WG]
	Type of coolant	Glycol-Ethylene
	Thermostat	87-102 °C
EMISSIONS LEVEL	PM	0.064 g/KW.h
	CO	0.504 g/KW.h
	Nox	5.813 g/KW.h
	HC	0.323 g/KW.h



ALTERNATOR SPECIFICATIONS

GENERAL DATAS	Manufacturer	LEROY SOMER	
	Type	LSA462M5	
	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)	< 2.5%	
	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	500 ms	
	SkVA with 90% of nominal sustained voltage (at 0.4PF)	N/A	
	OTHER DATAS	Continuous nominal rating @ 40 °C	200 kVA
		Standby rating @ 27 °C	223 kVA
Efficiencies @ 4/4 load		92.3 %	
Air flow		0.43m ³ /s [911.11cfm]	
Short circuit ratio;50 (Kcc)		0.45	
Direct axis synchro reactance unsaturated (Xd)		301 %	
Quadra axis synchro reactance unsaturated (Xq)		180 %	
Open circuit time constant;50 (T'do)		2042 ms	
Direct axis transient reactance saturated (X'd)		14.7 %	
Short circuit transient time constant (T'd)		100 ms	
Direct axis subtransient reactance saturated (X''d)		8.8 %	
Subtransient time constant (T''d)		10 ms	
Quadra axis subtransient reactance saturated (X''q)		10.9 %	
Zero sequence reactance unsaturated (Xo)		0.8 %	
Negative sequence reactance saturated (X2)		9.9 %	
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)		32 V	
Recovery time (Delta U = 20% transitoire)		500 ms	
Motor start (Delta = 20% perm. Or 50% trans.)	397 kVA		
Transient dip (4/4 charge) – PF : 1.8 AR	15.4 %		
No load losses	3.04kW [3.04Kw]		
Heat rejection	13.18 kW		



CONTROL PANEL

Standard



NEXYS

Specifications :
Frequency meter, Ammeter, Voltmeter
Alarms and faults Oil pressure, water temperature,
Overcrank, Overspeed (>60 kVA), Min/max alternator,
Low fuel level, Emergency stop
Engine parameters Hours counter, Engine speed,
Battery voltage, Fuel level, Air preheating

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

