V400U

Engine VOLVO , TAD1242GE
Alternator LEROY SOMER , LSA472VS3

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	400 / 500	364 / 455	601		
440/254	400 / 500	364 / 455	656	Length: 3160mm [124in] Width: 1340mm [53in] Heigth: 1805mm [71in]	3238kg [7139 lbs] Net 3718kg [8197 lbs] Gross
380/220	400 / 500	364 / 455	760		
240/120	387 / 484	352 / 440	1164		
230/115	380 / 475	345 / 432	1192		
220/127	400 / 500	364 / 455	1312		
208/120	400 / 500	364 / 455	1388		
600/347	400 / 500	364 / 455	481		

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, **1100** 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
	M228	83	73	Length: 4475mm [176in] Width: 1410mm [56in] Heigth: 2430mm [96in]	4320kg [9524lbs] Net 4790kg [10560lbs] Gross	470 L
	M228-DW	83	73	Length: 4527mm [178in] Width: 1410mm [56in] Heigth: 2700mm [106in]	4670kg [10296lbs] Net 5984kg [13192lbs] Gross	1368 L

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ENGINE SPECIFICATIONS

STANDARD FEATURES	Manufacturer / Model	VOLVO TAD1242GE , 4-strokes, Turbo , Air/Air DC 6 X
	Cylinder Arrangement	L
	Displacement	12.13L [740.2C.I.]
	Bore and Stroke	131mm [5.2in.] X 150mm [5.9in.]
	Compression ratio	17.5 : 1
	Rated RPM	1800 Rpm
	Piston Speed	9m/s [29.5ft./s]
	Max. stand by Power at rated RPM	430kW [576BHP]
	Frequency regulation, steady state	+/- 0.5%
	BMEP	22.5bar [326psi]
	Governor : type	ELEC
EXHAUST SYSTEM	Exhaust temperature	505°C [941°F]
	Exhaust gas flow	1250L/s [2649cfm]
	Max back pressure	1000mm CE [39in. WG]
FUEL SYSTEM	110% (Stand By power)	106L/h [28.0gal/hr]
	100% (of the Prime Power)	92.7L/h [24.5gal/hr]
	75% (of the Prime Power)	67.8L/h [17.9gal/hr]
	50% (of the Prime Power)	45.5L/h [12.0gal/hr]
	Max. fuel pump flow	150L/h [39.6gal/hr]
OIL SYSTEM	Total oil capacity w/filters	35L [9.2gal]
	Oil Pressure low idle	2.5bar [36.2psi]
	Oil Pressure rated RPM	5.5bar [79.7psi]
	Oil consumption 100% load	0.14L/h [0.037gal/hr]
	Oil capacity carter	31L [8.2gal]
THERMAL BALANCE	Heat rejection to exhaust	272kW [15466Btu/mn]
	Radiated heat to ambiant	20kW [1137Btu/mn]
	Heat rejection to coolant	139kW [7904Btu/mn]
AIR INTAKE	Max. intake restriction	500mm CE [20in. WG]
	Engine air flow	500L/s [1060cfm]
COOLANT SYSTEM	Radiator & engine capacity	44L [11.6gal]
	Max water temperature	103°C [217°F]
	Outlet water temperature	93°C [199°F]
	Fan power	19 kW
	Fan air flow w/o restriction	10.3m3/s [21827cfm]
	Available restriction on air flow	47mm CE [1.9in. WG]
	Type of coolant	Glycol-Ethylene
	Thermostat	82-95 °C
EMISSIONS LEVEL	PM	0.07 gr/bhp/h
	CO	0.37 gr/bhp/h
	HC/Nox	4.33 gr/bhp/h

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ALTERNATOR SPECIFICATIONS

GENERAL DATAS	Manufacturer	LEROY SOMER
	Type	LSA472VS3
	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	466 kVA
	Standby rating @ 27°C	545 kVA
	Efficiencies @ 4/4 load	93.3 %
	Air flow	1.1m3/s [2330.76cfm]
	Short circuit ratio;50 (Kcc)	0.29
	Direct axis synchro reactance unsaturated (Xd)	405 %
	Quadra axis synchro reactance unsaturated (Xq)	243 %
	Open circuit time constant;50 (T'do)	1771 ms
	Direct axis transient reactance saturated (X'd)	22.8 %
	Short circuit transient time constant (T'd)	100 ms
	Direct axis subtransient reactance saturated (X''d)	18.3 %
	Subtransient time constant (T''d)	10 ms
	Quadra axis subtransient reactance saturated (X''q)	24.7 %
	Zero sequence reactance unsaturated (Xo)	1 %
	Negative sequence reactance saturated (X2)	21.5 %
	Armature time constant (Ta)	15 ms
	No load excitation current (io)	0.9 A
	Full load excitation current (ic)	4 A
	Full load excitation voltage (uc)	40 V
	Recovery time (Delta U = 20% transitoire)	500 ms
	Motor start (Delta = 20% perm. Or 50% trans.)	973 kVA
	Transient dip (4/4 charge) – PF : 1.8 AR	18.5 %
	No load losses	8.15 kW
	Heat rejection	28.18 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...

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