



V440K

DIESEL GENSET

MODEL	V440K
Stand-by Power @ 50Hz	352kW / 440 kVA
Prime Power @ 50Hz	320 kW / 400 kVA

Standard Features

General features :

- Engine (VOLVO , TAD1242GE )
- Charge alternator 24 V , Governor:Elec
- Alternator (LEROY SOMER , LSA472VS3 )
- Single bearing alternator IP 23 , insulation class H /H
- Radiator 50°C [122°F]°C max. T° air inlet with coolant cap
- Skid and vibration isolators
- Dry type air filter
- Main line circuit breaker
- Microprocessor control panel
- 24 V battery, rack and cable
- Industrial silencer (loose)
- User manual



Generator Ratings

Voltage	HZ	Phase	P.F	Standby Amps	Standby Ratings kW/kVA	Prime Ratings kW/kVA
415/240	50	3	0.8	612	352 / 440	320 / 400
400/230	50	3	0.8	635	352 / 440	320 / 400
380/220	50	3	0.8	661	348 / 435	316 / 395
240/120	50	3	0.8	1059	352 / 440	320 / 400
230/115	50	3	0.8	1105	352 / 440	320 / 400
220/110	50	3	0.8	1155	352 / 440	320 / 400
200/115	50	3	0.8	1270	352 / 440	320 / 400

**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.

Conditions of sale

- SDMO provides a full line of products with high quality recognized engines and alternators.
- Service and parts are available from SDMO distributors as a single source of responsibility.
- Each and every units is factory tested. All generator sets are also prototype tested.
- Warranty according to our standard conditions. Five years extended also available



## ENGINE DATA

Manufacturer / Model	VOLVO TAD1242GE , 4-cycle, Turbo , Air/Air DC
Cylinder Arrangement	6 X L
Displacement	12.13L [740.2C.I.]
Bore and Stroke	131mm [5.2in.] X 150mm [5.9in.]
Compression ratio	17.5 : 1
Rated RPM	1500 Rpm
Piston Speed	7.5m/s [24.6ft./s]
Max. stand by Power at rated RPM	387kW [519BHP]
Frequency regulation, steady state	+/-0. 5%
BMEP	23.9bar [346psi]
Governor : type	Elec

### Exhaust System

Exhaust gas flow	1050L/s [2225cfm]
Exhaust temperature	505°C [941°F]
Max back pressure	1000mm CE [39in. WG]

### Fuel System

110% (Stand By power )	89.6L/h [23.7gal/hr]
100% (of the Prime Power)	81.5L/h [21.5gal/hr]
75% (of the Prime Power)	59.5L/h [15.7gal/hr]
50% (of the Prime Power)	40.5L/h [10.7gal/hr]
Total fuel flow	500L/h [132.1gal/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	0.12L/h [0.0gal/hr]
Oil capacity carter	31L [8.2gal]

### Thermal balance 100% load

Heat rejection to exhaust	250kW [14215Btu/mn]
Radiated heat to ambient	17kW [967Btu/mn]
Heat rejection to coolant	123kW [6994Btu/mn]

### Air intake

Max. intake restriction	500mm CE [20in. WG]
Engine air flow	416L/s [882cfm]

### Coolant System

Radiator & engine capacity	44L [11.6gal]
Max water temperature	103°C [217°F]
Outlet water temperature	93°C [199°F]
Fan power	11 kW
Fan air flow	8.5m3/s [18012cfm]
Available restriction on air flow	43mm CE [1.7in. WG]
Type of coolant	Glycol-Ethylene
Thermostat	82-95 °C

### Emissions

HC	23 mg/Nm3
CO	256 mg/Nm3
Nox	1800 mg/Nm3
PM	23.7 mg/Nm3



## ALTERNATOR SPECIFICATIONS

### GENERAL DATA

- Compliance with NEMA MG21, UTE NF C51.111, VDE 0530, BS 4999, CSA standards.
- Vacuum-impregnated windings with epoxy varnish.
- IP21 drip proof.

### ALTERNATOR DATA

Manufacturer / Type	LEROY SOMER 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
Sustained short circuit current	N/A
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 0.4 PF)	N/A

### OTHER ALTERNATOR DATA

Continuous nominal rating @ 40°C	466 kVA
Standby rating @ 27°C	545 kVA
Efficiencies @ 4/4 load	93.3 %
Air flow	1.1m <sup>3</sup> /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

Control Panels

**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

**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...

**M80**



Specifications :

- Tachometer, Emergency stop button, client connection terminal strip, EC certified
- Engine parameters :
- Hours counter, Oil pressure gauge, Water temperature indicator, Oil pressure indicator

## Options

### Engine and Radiator

- Heat shield protection
- Oil drain extension
- Heavy duty air filter
- Lube oil drain pump
- Radiator core guard
- Battery charger
- Block heater

### Alternator

- Anti condensation heater
- Enforced impregnation
- Oversized alternator

### Control panel

- NFPA 110 level 1
- Paralleling system
- Remote annunciator
- Oil temperature shutdown

### Exhaust

- Residential silencer
- Critical silencer
- Flexible exhaust conn.

### Literature

- Parts
- Maintenance

### Fuel

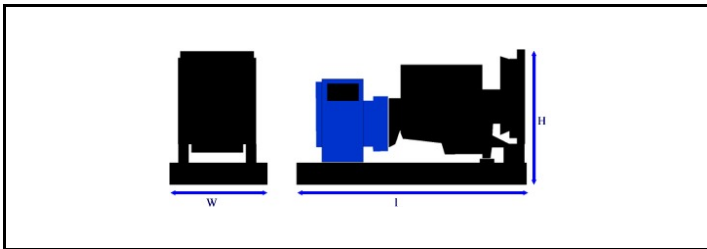
- Day tank
- Subbase fuel tanks UL
- Water separator fuel filter

### Enclosure

- M228
- Silent 70 db @ 7m [23 Ft] (stby)

## Weight and Dimensions

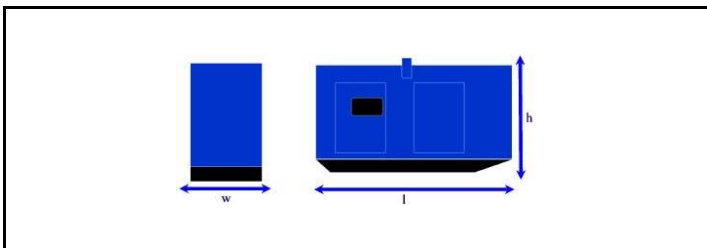
### Open Model Excluding option



Overall size l x w x h :  
3160mm [124in] x 1340mm [53in] x 1805mm [71in]

Weight :  
3238kg [7137lbs] Net 3718kg [8194lbs] Brut

### With Optional Enclosure



Overall size l x w x h :  
4475mm [176in] x 1410mm [56in] x 2430mm [96in]

Weight :  
4320kg [9521lbs] Net 4790kg [10557lbs] Brut