



V450UC

DIESEL GENSET

MODEL	V450UC
Stand-by Power @ 60Hz	450kW / 563 kVA
Prime Power @ 60Hz	409 kW / 511 kVA

Standard Features

General features :

- Engine (VOLVO , TAD1640GE)
- Engine EPA Carb Charge alternator 24 V , Governor:Electronique
- Alternator (LEROY SOMER , LSA472S5)
- 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 ^pCSA Certified (consult us)



Generator Ratings

Voltage	HZ	Phase	P.F	Standby Amps	Standby Ratings kW/kVA	Prime Ratings kW/kVA
480/277	60	3	0.8	677	450 / 563	409 / 511
440/254	60	3	0.8	739	450 / 563	409 / 511
240/120	60	3	0.8	1289	429 / 536	390 / 487
230/115	60	3	0.8	1290	411 / 514	374 / 467
220/127	60	3	0.8	1478	450 / 563	409 / 511
208/120	60	3	0.8	1488	429 / 536	390 / 487
600/347	60	3	0.8	542	450 / 563	409 / 511

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 TAD1640GE , 4-cycle, Turbo , N/A
Cylinder Arrangement	6 X L
Displacement	16.12L [983.7C.I.]
Bore and Stroke	144mm [5.7in.] X 165mm [6.5in.]
Compression ratio	17.5 : 1
Rated RPM	1800 Rpm
Piston Speed	9.9m/s [32.5ft./s]
Max. stand by Power at rated RPM	479kW [642BHP]
Frequency regulation, steady state	+/-0, 5%
BMEP	17.78bar [258psi]
Governor : type	Electronique

Exhaust System

Exhaust gas flow	1633L/s [3460cfm]
Exhaust temperature	444°C [831°F]
Max back pressure	1000mm CE [39in. WG]

Fuel System

110% (Stand By power)	118.33L/h [31.3gal/hr]
100% (of the Prime Power)	104.52L/h [27.6gal/hr]
75% (of the Prime Power)	78.39L/h [20.7gal/hr]
50% (of the Prime Power)	54.33L/h [14.4gal/hr]
Total fuel flow	180L/h [47.6gal/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	0.10L/h [0.0gal/hr]
Oil capacity carter	42L [11.1gal]

Thermal balance 100% load

Heat rejection to exhaust	381kW [21664Btu/mn]
Radiated heat to ambient	22kW [1251Btu/mn]
Heat rejection to coolant	188kW [10690Btu/mn]

Air intake

Max. intake restriction	500mm CE [20in. WG]
Engine air flow	710L/s [1505cfm]

Coolant System

Radiator & engine capacity	60L [15.9gal]
Max water temperature	103°C [217°F]
Outlet water temperature	93°C [199°F]
Fan power	15 kW
Fan air flow	9m3/s [19072cfm]
Available restriction on air flow	20mm CE [0.8in. WG]
Type of coolant	Glycol-Ethylene
Thermostat	86-96 °C

Emissions

HC	N/A
CO	N/A
Nox	N/A
PM	N/A



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 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
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	531 kVA
Standby rating @ 27°C	625 kVA
Efficiencies @ 4/4 load	93.9 %
Air flow	1.1m ³ /s [2330.76cfm]
Short circuit ratio;50 (Kcc)	0.32
Direct axis synchro reactance unsaturated (Xd)	373 %
Quadra axis synchro reactance unsaturated (Xq)	223 %
Open circuit time constant;50 (T'do)	1855 ms
Direct axis transient reactance saturated (X'd)	20.1 %
Short circuit transient time constant (T'd)	100 ms
Direct axis subtransient reactance saturated (X''d)	16 %
Subtransient time constant (T''d)	10 ms
Quadra axis subtransient reactance saturated (X''q)	21.5 %
Zero sequence reactance unsaturated (Xo)	0.1 %
Negative sequence reactance saturated (X2)	18.8 %
Armature time constant (Ta)	15 ms
No load excitation current (io)	0.9 A
Full load excitation current (ic)	3.9 A
Full load excitation voltage (uc)	39 V
Recovery time (Delta U = 20% transitoire)	500 ms
Motor start (Delta = 20% perm. Or 50% trans.)	1136 kVA
Transient dip (4/4 charge) – PF : 1.8 AR	17.3 %
No load losses	8.91 kW
Heat rejection	29.34 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.

- Key start panel

Literature

- • Parts
- • Maintenance

Fuel

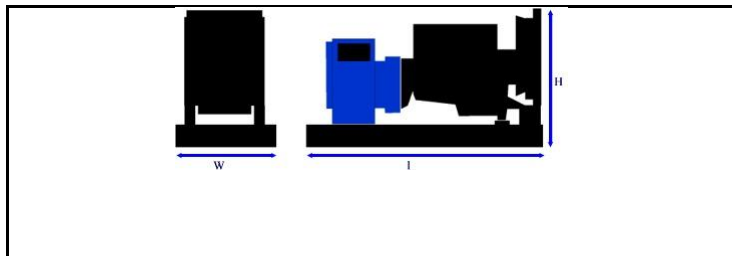
- Day tank
- Subbase fuel tanks UL
- Water separator fuel filter

Enclosure

- M229
- Silent 0 db @ 7m [23 Ft] (stby)

Weight and Dimensions

Open Model Excluding option



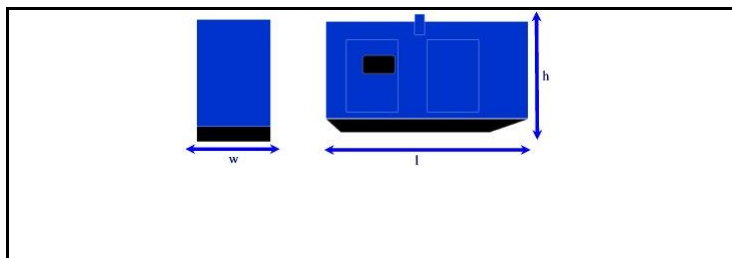
Overall size l x w x h :

3470mm [137in] x 1500mm [59in] x 2043mm [80in]

Weight :

3490kg [7692lbs] Net 4030kg [8882lbs] Brut

With Optional Enclosure



Overall size l x w x h :

5031mm [198in] x 1560mm [61in] x 2435mm [96in]

Weight :

4740kg [10447lbs] Net 5280kg [11637lbs] Brut