

## GS400

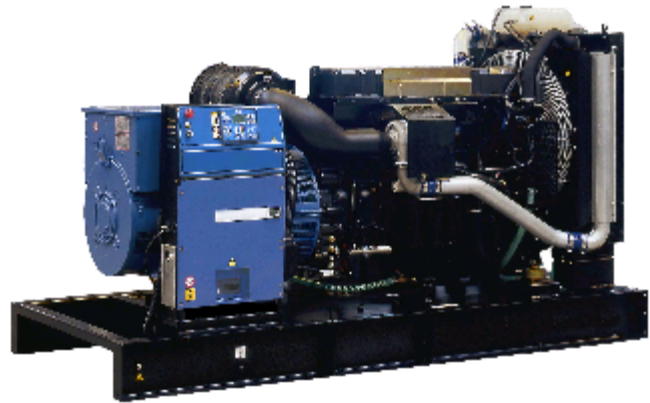
## DIESEL GENSET

MODEL	GS400
Stand-by Power @ 60Hz	400kW / 500 kVA
Prime Power @ 60Hz	364 kW / 455 kVA

### Standard Features

#### General features :

- Engine (VOLVO , TAD1242GE )
- Engine EPA Carb Charge alternator 24 V , Governor: Electronic type ECU
- 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
- CSA Certified



### Generator Ratings

Voltage	HZ	Phase	P.F	Standby Amps	Standby Ratings kW/kVA	Prime Ratings kW/kVA
480/277	60	3	0.8	601	400 / 500	364 / 455
440/254	60	3	0.8	656	400 / 500	364 / 455
380/220	60	3	0.8	760	400 / 500	364 / 455
240/120	60	3	0.8	1164	387 / 484	352 / 440
230/115	60	3	0.8	1162	370 / 463	337 / 421
220/127	60	3	0.8	1312	400 / 500	364 / 455
208/120	60	3	0.8	1343	387 / 484	352 / 440
600/347	60	3	0.8	481	400 / 500	364 / 455

Stand-By ratings are available for the duration of any power outage. No overload capacity is specified at this ratings. Prime ratings are available per BS 5514, DIN 6271, ISO-3046 and IEC 34-1 with 10% overload capacity one hour in twelve hours.

### Conditions of sale

- We provide a full line of products with high quality recognized engines and alternators.
- Service and parts are available from our distributors as a single source of responsibility.
- Each and every unit is factory tested. All generator sets are also prototype tested.
- Two years limited warranty , please refer to the conditions terms . Five years extended are 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	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	Electronic type ECU

### Exhaust System

Exhaust gas flow	1250L/s [2649cfm]
Exhaust temperature	505°C [941°F]
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]
Total fuel flow	550L/h [145.3gal/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 [0.0gal/hr]
Oil capacity carter	31L [8.2gal]

### Thermal balance 100% load

Heat rejection to exhaust	272kW [15466Btu/mn]
Radiated heat to ambient	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	10.3m3/s [21827cfm]
Available restriction on air flow	47mm CE [1.9in. WG]
Type of coolant	Glycol-Ethylene
Thermostat	82-95 °C

### Emissions

HC	43.27 gr/bhp/h
CO	3.73 gr/bhp/h
Nox	43.27 gr/bhp/h
PM	7.46 gr/bhp/h



## 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

	LEROY SOMER LSA472VS3
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	R448
Sustained short circuit current	3 IN = 10s
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	525 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

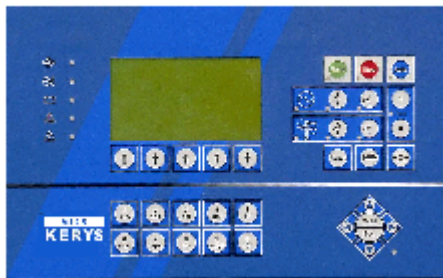
**Control Panels**

**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
- Key start panel

### Exhaust

- Residential silencer
- Critical silencer
- Flexible exhaust conn.

### Literature

- Parts
- Maintenance

### Fuel

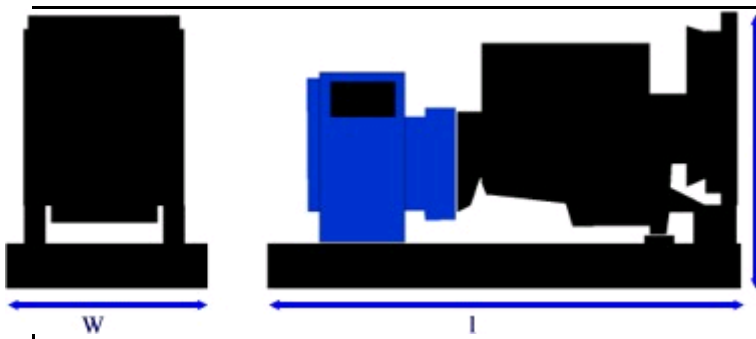
- Day tank
- Subbase fuel tanks UL
- Water separator fuel filter

### Enclosure M228

- Silent 73 db @ 23 Ft (stby)

## Weight and Dimensions

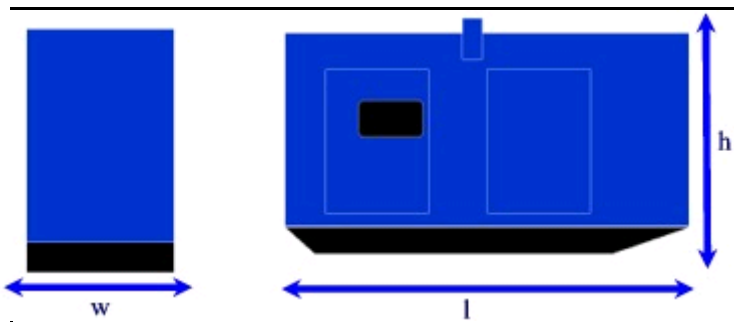
### Open Model



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

Weight :  
3040kg [6700lbs] Net 3110kg [6854lbs] Brut

### With Optional Enclosure



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

Weight :  
4160kg [9169lbs] Net 4240kg [9345lbs] Brut