

# V450U

Engine VOLVO , TAD1640GE  
Alternator LEROY SOMER , LSA472S5

## STANDARD FEATURES

450 KW / 563 KVA FULLY PACKAGED GENERATOR SET INCLUDES:

- VOLVO Heavy duty diesel engine, 4 stroke, 1800rpm, Turbo
- LEROY SOMER brushless alternator. IP23 protection, Insulation class H
- MERLIN GERIN, Main line circuit breaker, wired, maximum output rated
- Digital auto-start control panel. CE and UL compliant
- Incorporated metallic fuel tank for day use
- Auto Start control feature included for interoperation with ATS/AMF
- 24V charging alternator and 24V DC electric starter motor
- 24V charged DC starting battery with electrolyte and cables
- Dry type air filter, fuel filter and oil filter elements installed
- Mechanically welded chassis with vibration isolators
- Each unit prototype and individually factory load bank tested
- The generator accepts 100% rated load in one step as per NFPA110 and meets ISO8528-5 class G-3 for transient response
- Compliant with ISO3046, ISO8528, BS4999, BS5514, BS5000PT99, AS1359, IEC34, UTE5100, VDE0530 and ISO9001:2000



AVAILABLE ACCESSORIES AND OPTIONS:

- Steel or Aluminum weather proof, sound attenuated enclosures
- UL142 listed, double wall fuel tanks from 50 to 10,000 Gal
- UL1008 listed, automatic transfer switches from 50 to 3000 Amp
- D.O.T. compliant heavy duty road trailers from 3000 to 30000 Lbs
- Automatic battery chargers, Engine preheaters, Remote annunciators and many more

Voltage	Power ESP kWe/kVA	Power PRP kWe/kVA	Standby Amps	Dimensions - Open	Weight - Open
480/277	450 / 563	409 / 511	677		
440/254	450 / 563	409 / 511	739	Leng : 3470mm [137in]	3490kg [7694lbs] Net
240/120	429 / 536	390 / 487	1289	Widt : 1500mm [59in]	4030kg [8885lbs] Gross
230/115	411 / 514	374 / 467	1290	Heig : 2043mm [80in]	
220/127	450 / 563	409 / 511	1478		
208/120	450 / 563	409 / 511	1563		
600/347	450 / 563	409 / 511	542		

## 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.

**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 ESP/PRP 27 C°/40 C° Air Inlet Temp, 1000 m/1000 m m A.S.L. 60 % relative humidity.

## WEATHER / SOUND PROOF ENCLOSURES

Model	dB(A)@1m	dB(A)@7m	Dimensions - Enclosed	Weight - Enclosed	Tank
 M229-DW	N/A	N/A	Leng : 5083mm [200in] Widt : 1560mm [61in] Heig : 2700mm [106in]	5370kg [11839lbs] 7080kg [15609lbs]	1770 L 467 Gal
 M229	84	73.8	Leng : 5031mm [198in] Widt : 1560mm [61in] Heig : 2435mm [96in]	4740kg [10450lbs] 5280kg [11640lbs]	500 L 132 Gal

## GENERAL POWER LIMITED, INC

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## ENGINE SPECIFICATIONS

<b>DATA GENERAL DATA</b>	Engine model	VOLVO TAD1640GE , 4-temps, TURBO , AIR/AIR 6 X
	Cylinder arrangement	L
	Displacement (C.I.)	16.12
	Bore (mm) X Stroke (mm)	144 X 165
	Compression ratio	17.5 : 1
	Speed (RPM)	1800
	Pistons speed (m/s)	9.9
	Maximum stand-by power at rated RPM (kW)	479
	Frequency regulation (%)	0.5
	BMEP (bar)	17.8
	Governor type	ELECTRONIC
<b>EXHAUST SYSTEM</b>	Exhaust gas temperature (°C)	444
	Exhaust gas flow (L/s)	1633
	Max. exhaust back pressure (mm CE)	1000
<b>FUEL SYSTEM</b>	Fuel consumption 110% load (gal/hr)	118.33
	Fuel consumption 100% load (gal/hr)	104.52
	Fuel consumption 75% (L/h)	78.39
	Fuel consumption 50% (L/h)	54.33
	Maximum fuel pump flow (L/hr)	180
<b>OIL</b>	Oil capacity (L)	48
	Min. oil pressure (bar)	0.7
	Max. oil pressure (bar)	6.5
	Oil consumption 100% load (L/h)	0.1
	Carter oil capacity (L)	42
<b>THERMAL BALANCE</b>	Heat rejection to exhaust (kW)	381
	Radiated heat to ambient (kW)	22
	Heat rejection to coolant (kW)	188
<b>AIR INTAKE</b>	AIR INTAKE_entree_max%	500
	Intake air flow (L/s)	710
<b>COOLANT SYSTEM</b>	Radiator & Engine capacity (L)	60
	Max water temperature (°C)	103
	Outlet water temperature (°C)	93
	Fan power (kW)	15
	Fan air flow w/o restriction (m <sup>3</sup> /s)	13.5
	Available restriction on air flow (mm CE)	25
	Type of coolant	GLYCOL
	Thermostat (°C)	86-96
<b>EMISSIONS</b>	Emissions PM (g/kWh)	N/A
	Emission CO (g/kW.h)	N/A
	Emissions HCNOx (g/kWh)	N/A
	Emission HC (g/kW.h)	N/A

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## ALTERNATOR SPECIFICATIONS

DATA GENERAL DATA	Alternator brand	LEROY SOMER
	Alternator	LSA472S5
	Number of phase	3
	Power factor (Cos Phi)	0.8
	Altitude (m)	<1000
	Overspeed (rpm)	2250
	Number of pole	4
	Excitation system	SHUNT
	Insulation class / Temperature class	H / H
	Regulation	R230
	Total harmonics TGH/THC	<4
	Wave form : NEMA=TIF-TGH/THC	<50
	Wave form : CEI=FHT-TGH/THC	<2
	Number of bearing	1
	Coupling	DIRECT
	Voltage regulation 0 to 100%	+/-0.5%
	Recovery time (Delta U = 20% transitoire) (ms)	500
OTHER DATA	Continuous Nominal Rating 40°C (kVA)	531
	Standby Rating 27°C (kVA)	625
	Efficiencies 4/4 load (%)	93.9
	Air flow (cfm)	1.1
	Short circuit ratio (Kcc)	0.32
	Direct axis synchro reactance unsaturated (Xd) (%)	373
	Quadra axis synchro reactance unsaturated (Xq) (%)	223
	Open circuit time constant (T'do) (ms)	1855
	Direct axis transient reactance saturated (X'd) (%)	20
	Short circuit transient time constant (T'd) (ms)	100
	Direct axis subtransient reactance saturated (X''d) (%)	16
	Subtransient time constant (T''d) (ms)	10
	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) (ms)	15
	No load excitation current (io) (ms)	0.9
	Full load excitation current (ic) (A)	3.9
	Full load excitation voltage (uc) (A)	39
	Recovery time (Delta U = 20% transitoire) (ms)	500
	Motor start (Delta U = 20% perm. or 50% trans.) (ms)	1136
	Transient dip (4/4 charge) - PF : 0,8 AR (%)	17.3
	No load losses (kW)	8.91
Heat rejection (kW)	29.34	

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## CONTROL PANEL

### Standard

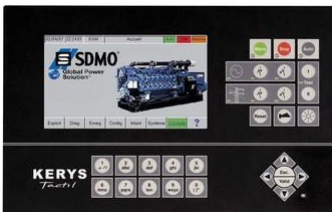


### TELYS 2

#### 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  
 Remote monitoring and control

### Option



### KERYS

#### 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, Synchronization/Parallel capable

## ACCESSORIES AND OPTIONS

### Option

### 50 to 3000 AMP Automatic Transfer Switches, UL1008 listed



With a Series 300 transfer switch, you get a product backed by ASCO Power Technologies, the industry leader

- True double-throw operation: single solenoid design is inherently interlocked & prevents contacts from stopping between sources
- Easy-to-read flush-mounted control and display panel provides LED indicators for switch position and source availability
- Standard engine exerciser for weekly automatic testing with or without load
- UL 1008 listed for Transfer Equipment and CSA C22.2 listed
- NFPA 110 for Emergency & Standby Power & the National Electrical (NEC) Articles 700, 701 and 702

### Option

### 50 to 10000 GAL fuel tanks, UL142 listed



- UL listed. Secondary containment tank meeting UL 142 tank requirements
- NFPA compliant. Designed to comply with the installation standards of NFPA 30 and NFPA 37
- Emergency pressure relief vents. Meets UL requirements; ensures adequate venting of inner and outer tank under extreme pressure and/or emergency conditions
- Electrical stub-up area with removable end channel
- Normal vent • Inner tank emergency vent sized to UL 142 specs
- Direct reading mechanical fuel gauge • Fuel in basin switch
- Satin black paint finish

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# M229

## Weather / Soundproof Enclosure

### STANDARD FEATURES

- They protect stationary and mobile generator against the bad weather, against the theft and enables the reduction of the noise level.
- Enclosures are of 12 gauge steel. Steel sheet are electro zinc coated before painting (inside and outside) with a polyester powder rust inhibiting coat .
- High corrosion resistance: stainless covered with zinc and made in dichromate, bolts and rivets, anodized aluminium alloy hinges flexible seals between body sections.
- Soundfoam between 20 and 50 mm (1 to 2 in) acoustical sound treatment
- Lifting eye(s) on top of the enclosure fixed to the skid
- Large doors allow easy access to the generator set for service and monitoring purposes
- Window in "securit" glass mounted on enclosure door for control viewing .
- A critical silencer is mounted inside the enclosure
- Emergency stop button is accessible from outside enclosure.



Model	dB(A)@1m	Sound level dB(A)@7m	LWA	Dimensions (mm)	Weight (kgs)	Tank (l)
V450U	84	73.8	N/A	5031 x 1560 x 2435	4740	500

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