

GMR-225V



Power Rating

Frequency	Hz	50
Voltage	V	400
Phases	№	3
Power factor	cos ϕ	0.8
Standby power LTP	kVA	220.00
Standby power LTP	kW	176.00
MAX current	A	318
Prime power PRP	kVA	200.00
Prime power PRP	kW	160.00
NOMINAL current	A	289



Ratings definition (According to standard ISO8528 1:2005)

PRP - Prime Power:

It is defined as being the maximum power which a generating set is capable of delivering continuously whilst supplying a variable electrical load when operated for an unlimited number of hours per year under the agreed operating conditions with the maintenance intervals and procedures being carried out as prescribed by the manufacturer. The permissible average power output over 24 h of operation shall not exceed 70 % of the prime power.

LTP - Limited-Time running Power:

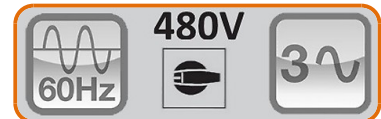
It is defined as the maximum power available, under the agreed operating conditions, for which the generating set is capable of delivering for up to 500 h of operation per year (whose no more than 300 for continuative use) with the maintenance intervals and procedures being carried out as prescribed by the manufacturers. No overload capability is available.

Power supply 50Hz 230V Three Phase (with supplement VSS)

Frequency	Hz	50
Voltage	V	230
Phases	№	3
Power factor	cos ϕ	0.8
Standby power LTP	kVA	220.00
Standby power LTP	kW	176.00
MAX current	A	552
Prime power PRP	kVA	200.00
Prime power PRP	kW	160.00
NOMINAL current	A	502

**Power supply 60Hz 480V Three Phase (with supplement DFS)**

Frequency	Hz	60
Voltage	V	480
Phase and connection	№	3
Power factor	cos ϕ	0.8
Standby power LTP	kVA	252.61
Standby power LTP	kW	202.09
MAX current	A	304
Prime power PRP	kVA	228.27
Prime power PRP	kW	182.62
NOMINAL current	A	275

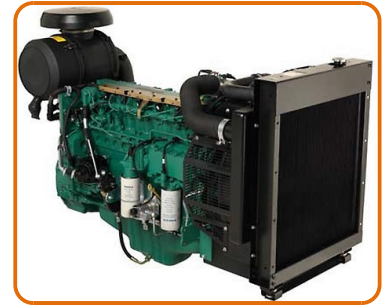
**Power supply 60Hz 208V Three Phase (with supplement VSS)**

Frequency	Hz	60
Voltage	V	208
Phase and connection	№	3
Power factor	cos ϕ	0.8
Standby power LTP	kVA	237.00
Standby power LTP	kW	189.60
MAX current	A	658
Prime power PRP	kVA	215.00
Prime power PRP	kW	172.00
NOMINAL current	A	597



Engine specifications

Engine manufacturer	Volvo	
Model	TAD753GE	
Engine cooling system	Water	
Nr. of cylinder and disposition	6 in line	
Displacement	cm ³	7150
Aspiration	Turbocharged	
Speed governor	Electronic	
Oil capacity	l	34
Lube oil consumption @ PRP (max)	%	0.1
Coolant capacity	l	34
Electric circuit	V	24
VERSION SWITCHABLE [50/60Hz]	YES	
ENGINE DATA	Hz	50
[50Hz] Operating Speed-Nominal	rpm	1500
[50Hz] Operating Speed-Nominal	rpm	1500
[50Hz] Exhaust emission level	3A	
[50Hz] Specific fuel consumption @ 75% PRP	g/kWh	213
[50Hz] Specific fuel consumption @ 100% PRP	g/kWh	205
ENGINE DATA	Hz	60
[60Hz] Operating Speed-Nominal	rpm	1800
[60Hz] Operating Speed-Nominal	rpm	1800
[60Hz] Specific fuel consumption @ 75% PRP	g/kWh	215
[60Hz] Specific fuel consumption @ 100% PRP	g/kWh	209



ENGINE EQUIPMENT

Standards

The engine performance corresponds to ISO 3046, BS 5514 and DIN 6271. Ratings are based on ISO 8528. Engine speed governing in accordance with ISO 3046/IV, class A1 and ISO 8528-5 class G3

Engine and block

- Optimized cast iron cylinder block with optimum distribution of forces
- Keystone top compression rings for long service life
- Replaceable valve guides and valve seats

Fuel system

- Common rail
- Engine mounted fuel pre-filter with water separator
- Fine fuel filter of cartridge insert type
- Gear driven fuel feed pump

Lubrication system

- Rotary displacement oil pump driven by the crankshaft
- Deep front oil sump ,Oil filler on top, Oil dipstick, short in front
- Integrated full flow oil cooler, side-mounted

Cooling system

- Belt driven, maintenance-free coolant pump with high degree of efficiency
- Efficient cooling with accurate coolant control through a water distribution duct in the cylinder block
- Reliable thermostat with minimum pressure drop

Intake and exhaust system

- Two-stage air filter, with cyclone

Alternator Specifications

Alternator	LEROY SOMER
Model	LSA 46.3 S3
Type	Brushless
Class	H
IP protection	23
Winding insulation	Protection System 2
Poles	4
Winding leads	12
Voltage regulation system	Electronic
Standard AVR	R 450 M
Voltage tolerance	% 0.5



SPECIALLY ADAPTED TO APPLICATIONS

The alternator is designed to be suitable for typical generator applications, such as: backup, marine applications, rental, telecommunications, etc.

TOP OF THE RANGE ELECTRICAL PERFORMANCE

- Class H insulation.
- Standard 12 wire re-connectable winding, 2/3 pitch, type no. 6.
- High efficiency and motor starting capacity.
- R 791 interference suppression conforming to standard EN 55011 group 1 class B standard for European zone (CE marking).

EXCITATION AND REGULATION SYSTEM

- Excitation system: AREP
- Voltage A.V.R.: R 450

REINFORCED MECHANICAL STRUCTURE

- Compact rigid assembly to better withstand generator vibrations.
- Steel frame
- Cast iron flanges and shields.
- Single-bearing designed to be suitable for heat engines.
- Half-key balancing bearing.
- Sealed for life ball bearing.

PROTECTION SYSTEM SUITED TO THE ENVIRONMENT

- The LSA is IP 23.
- Winding Protection for clean environments with relative humidity \leq 95%, including indoor marine environments.

COMPLIANT WITH INTERNATIONAL STANDARDS

The LSA alternator conforms to the main international standards and regulations:

- IEC 60034, NEMA MG 1.32-33, ISO 8528-3, CSA / UL 1146 (UL 1004 on request), marine regulations, etc.

The LSA is designed, manufactured and marketed in an ISO 9001 environment and ISO 14001.

CANOPY

Canopy painted in RAL9016 made up of modular panels with 1000h+ tested salt spray resistant zinc metal sheet, with access doors on each side with high quality gaskets and lockable handles for easy maintenance and service.



SUPER SILENT

Soundproofing by means washable and fireproof soundproofing material, to get noise attenuation - max 75B(A)@1m.
Exhaust silencer integrated in the genset shape with flat rain flap.



BASE FRAME

Heavy duty base guarantees the highest standards of durability and resistance, painted using a high quality powder coating process (1000+h tested salt spray resistance).
Fully bunded, able to retain 110% of all the sets fluids, the base frame is provided with integrated fork pockets and pull bar for easy maneuverability and site positioning.



FUEL TANK

Integrated metal fuel tank complete with double fuel refilling point (one each side)



LEAK PROOF TRAY WITH DETECTOR SENSOR

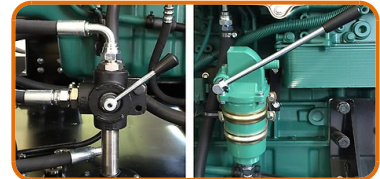
Fluid leak check in the leak proof tray .

FUEL VALVE (6 WAY)

System designed for use the fuel from external tank and increase the autonomy of the generator

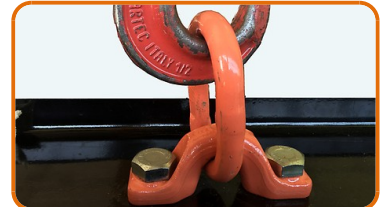
LUBE OIL DRAIN PUMP

Makes it easier to the engine oil change



SINGLE LIFTING POINT

Access easy by rung and handle incorporated (available on both sides)



PLASTIC BUMPER

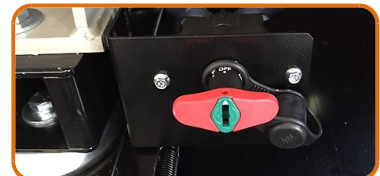
Protections for the transport and stocking



MANUAL BATTERY SWITCH

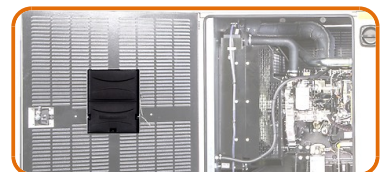
EARTH ROD

Earth stock with cable fixed inside the genset



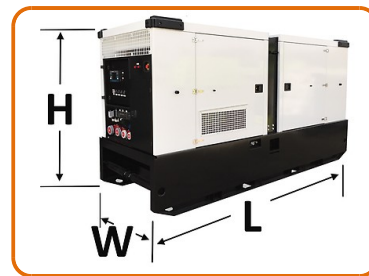
DOCS HOLDER

Box intenal for documents, manuals and electrical drawings



Dimensional data

Length	(L) mm	3860
Width	(W) mm	1300
Height	(H) mm	2100
Fuel tank capacity	l	1120



Autonomy

[50Hz] Fuel consumption @ 75% PRP	l/h	34.97
[50Hz] Fuel consumption @ 100% PRP	l/h	44.41
[50hz] Running time @ 75% PRP	h	32.03
[50Hz] Running time @ 100% PRP	h	25.22
[60Hz] Fuel consumption @ 75% PRP	l/h	41.53
[60Hz] Fuel consumption @ 100% PRP	l/h	52.75
[60hz] Running time @ 75% PRP	h	26.97
[60Hz] Running time @ 100% PRP	h	21.23



Noise level 50Hz (2000-14)

Guaranteed noise level (LWA)	dB(A)	97
Noise pressure level @ 1 mt	dB(A)	78
Noise pressure level @ 7 mt	dB(A)	68

Installation data

[50Hz] Exhaust gas flow @ PRP	m ³ /min	29.2
[50Hz] Exhaust gas temperature @ LTP	°C	505
[60Hz] Exhaust gas flow @ PRP	m ³ /min	34.7
[60Hz] Exhaust gas temperature @ LTP	°C	550

Control panel availability

AUTOMATIC CONTROL PANEL	ACP
MODULAR PARALLEL PANEL	MPP

ACP - Automatic Control Panel

Mounted on the genset, complete with digital control unit (AC-03) for monitoring, control and protection of the generating set, protected through doors with lockable handle.

CONTROL SECTION

- ON/OFF selector switch
- Emergency push button
- Differential protection with internal switch
- 5A Battery charger.
- Potentiometer for voltage adjustment (internal)
- Alternator AVR (single plug wiring)

Control unit (AC-03)

- Generating set: Voltage, Current, Frequency.
- Generating set Power (kVA - kW - kVAr - Cos ϕ).
- Mains: voltage.
- Hours-counter.
- Battery voltage.
- Engine speed r.p.m.
- Fuel level (%), Engine temperature, Oil Pressure

Command and others:

- Four operation modes: OFF - Manual starting - Automatic starting - Automatic test.
- Pushbutton for forcing Mains contactor or Genset contactor.
- Push-buttons: start/stop, fault reset, up/down/page/enter selection.
- Acoustic alarm.
- RS232 Communication port.

Protections:

- Engine protections: low fuel level, low oil pressure, high engine temperature,
- Genset protection: under/over voltage, overload, under/over battery voltage, battery charger failure.

Extra Instrumentation (analogue)

- Fuel level meter
- Mechanical hour counter

POWER SECTION

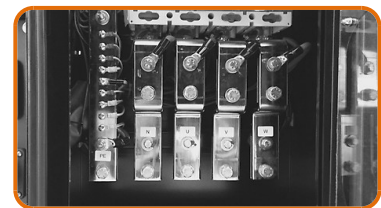
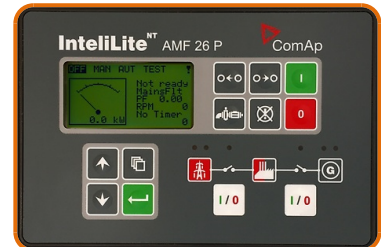
- It integrates 4 poles modular circuit breaker suitably rated with thermal and magnetic overloads.
- Large and robust busbar with cables passage opening from the bottom for easy power cable connection.
- Provided with safety switch to trip circuit breaker if operator open the power section door to operate on the bus bar.

SOCKET SECTION

- Two wires facility for remote start/stop ✓
- Plug for auxiliary power supply ✓
- Multipin connector for LTS ✓

SUPPLEMENT - Only available when order :

Socket Kit	Type	SPKB1
3P+N+T CEE 400V 125A	n	1
3P+N+T 400V 63A	n	1
3P+N+T CEE 400V 32A	n	1
3P+N+T CEE 400V 16A	n	1
2P+T CEE 230V 16A	n	1
230V 16A SCHUKO	n	1
Each socket with its own circuit breaker		•
Common differential protection for three phase sockets		•
Each single phase provided with earth fault protection		•
Other Kit Socket combinations available		✓



MPP - Modular Parallel Panel

Mounted on the genset, complete with digital control unit IntelliVision5 for monitoring, control, protection and load sharing for both single and multiple gen-sets operating in standby or parallel modes (up to 32 gen-sets in island).

CONTROL SECTION

- ON/OFF selector switch
- Emergency push button
- Differential protection with internal switch
- 5A Battery charger.
- Potentiometer for voltage adjustment (internal)
- Alternator AVR (single plug wiring)

Control Unit IntelliVision5 (5,7" Colour TFT display 320×240 pixels)

Majors Measures Available:

- Generating set: Voltage, Current, Frequency, Hours-counter
- Generating set Power: kVA, kW, kVAr, Cos φ, kWh, kVAh.
- Mains: Voltage, Current, Frequency, kW, kVAr, Cos φ.
- Engine: Speed (r.p.m.), Temperature, Oil Pressure
- Fuel level, Battery voltage

Comand and Others:

- Operation modes: OFF, AMF function, Single Parallel to mains Island application, Single Parallel to Mains AMF application, Multiple parallel genset Island application.
- Pushbuttons: start/stop, fault reset, up/down/page/enter selection.
- Acoustic alarm.

Protection:

- Engine protections: low fuel level, low oil pressure, high engine temperature.
- Genset protections: under/over voltage, overload, under/over frequency, starting failure, under/over battery voltage
- Others: overcurrent, short circuit, reverse power, Earth fault.

Extra Instrumentation (analogue)

- Fuel level meter
- Mechanical hour counter

POWER SECTION

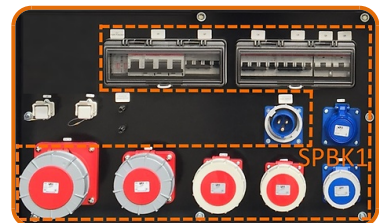
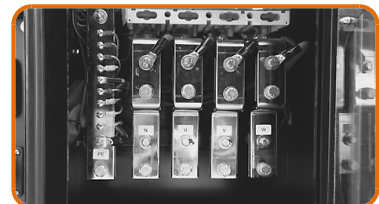
- It integrates 4 poles motorized moulded case circuit breaker suitably rated with thermal and magnetic overloads
- Large and robust busbar with cables passage opening from the bottom for easy power cable connection.
- Provided with safety switch to trip circuit breaker if operator open the power section door to operate on the bus bar.

SOCKET SECTION

- Multi-pin connectors for paralle running ✓
- Two wires facility for remote start/stop ✓
- Plug for auxiliary power supply ✓

SUPPLEMENT - Only available when order :

Socket Kit	Type	SPKB1
3P+N+T CEE 400V 125A	n	1
3P+N+T 400V 63A	n	1
3P+N+T CEE 400V 32A	n	1
3P+N+T CEE 400V 16A	n	1
2P+T CEE 230V 16A	n	1
230V 16A SCHUKO	n	1
Each socket with its own circuit breaker		•
Common differential protection for three phase sockets		•
Each single phase provided with earth fault protection		•
Other Kit Socket combinations available		✓

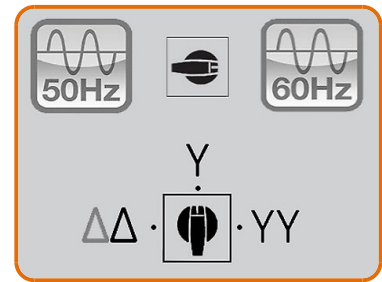


Supplements:

Only Available when order :

GENSET CONTROL EQUIPMENT

Dual Frequency Switch (50/60Hz)	Y400/230V 50Hz Y480/277V 60Hz	DFS
Voltage Selector Switch 2 positions (only with ACP/MPP and DFS)	Y400/230V 50Hz Y480/277V 60Hz YY208/120V 60Hz	VSS1
Voltage Selector Switch 3 positions (only with ACP/MPP and DFS)	Y400/230V 50Hz Δ 230V 3P 50Hz Y480/277V 60Hz YY208/120V 60Hz	VSS2
Voltage Selector Switch 2 positions (only with ACP/MPP and DFS)	Y400/230V 50Hz Δ 230V 3P 50Hz Y480/277V 60Hz	VSS4



ELECTRICAL OPTION

Remote control trough IL-NT-GPRS + ANTENNA Available for	(ACP)	RCG 16
Free Voltage Contacts with module IL-NT-EFCPM2 + IR-B8 relay board	(ACP)	TLP 6
Remote control trough with InternetBridge-NT	(only with MPP)	RCG 13
Free Voltage Contacts with module IGS-PTM +IR-B8 relay board	(only with MPP)	TLP 4
Differential Protection type B		ADI-B
Insulation Monitoring Device (Replace standard differential protection)		IMD
Socket Section Customized		SPKS
Control section internal lighting (automatic with door switch)		CLS
Internal Canopy Lighting system with manual switch		ICL
Engine analogue gauges (water temp / oil pressure)		EAG



MECHANICAL OPTION

Pre-heating system		PHS
Quick Fit Fuel connectors		QFC
Quick Fit Connectors inside the canopy		QFC1
Water Separator Filter		WSP
Heavy-DUTY Air Filter		HDF
Hot Parts Protections		HPP
Exhaust Spark Arestor ATEX certified		ESA
Air Shut-Off Valve		ASV
Galvanized Sliding Skid		GGs
Baseframe Bumpers		BFB



Accessories

Items available as accessory equipment	:
RTR-B Road Trailer with Drawbar Height-Adjustable	•
RTR - Road Trailer	•
STR - Site trailer	•



LTS - LOAD TRANSFER SWITCH - Accessories ACP

Automatic under-load change-over (AC22, AC23) from and to any of positions "1", "0", "2" both electrical and manual (emergency change-over), transfer function with direct transition from position "1" to position "2" and vice versa.

- Safety: locking by padlock preventing any electrical or manual operation, key lock for the selection of electrical or manual operation.- Quick operating time from pos. "1" to "2" and vice versa.
- Easy and fast electrical connections by means of terminal blocks of quick connection type.
- Conformity to standards: IEC 60947-1 IEC 60947-3, CEI EN 60947-1 / CEI EN 60947-3 IEC 439-1, CEI EN 60439-1 IEC 204-1, CEI EN 60204-1, VDE 0660 Teil 107

