

# GRW405V



## Power Rating

Emergency Standby Power ESP	kVA	400.0
Emergency Standby Power ESP	kW	320.0
Prime power PRP	kVA	365.0
Prime power PRP	kW	292.0
Frequency	Hz	50
Voltage	V	400/230
Phases	№	3
Power factor	cos $\phi$	0.8
Fuel		Diesel
[50Hz] Exhaust emission level		Stage IIIA
VERSION SWITCHABLE [50/60Hz]		YES



## Ratings definition (ISO-8528-1)

### ESP - Emergency Standby Power:

It is the maximum power available during a variable electrical power sequence, under the stated operating conditions, for which a generating set is capable of delivering in the event of a utility power outage or under test conditions for up to 200 h of operation per year with the maintenance intervals and procedures being carried out as prescribed by the manufacturers. The permissible average power output over 24 h of operation shall not exceed 70 % of the ESP.

### 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.

**G2 class load acceptance in accordance with ISO 8528-5:** Higher performance classes check upon request.

**Gensets are compliant with EC mark which includes the following directives and standards and subsequent modification and integration:**

- 2006/42/CE Machinery safety
- 2014/30/UE Electromagnetic compatibility
- 2014/35/UE electrical equipment designed for use within certain voltage limits
- 2000/14/EC Sound Power level. Noise emissions outdoor equipment. (amended by 2005/88/EC) – If applicable
- 97/68/EC Emissions of gaseous and particulate pollutants. (amended by 2016/1628 EC) – If applicable
- ISO 8528 as applicable
- 2011/65 ROHS
- EN 12100, EN 13857, EN 60204 as referred into the ISO8528-13

**Company with quality certification ISO 9001**

### Engine specifications

Engine Brand	Volvo	
Model	TAD1352GE	
Engine cooling system	Water	
Nr. of cylinder and disposition	6 in line	
Displacement	cm <sup>3</sup>	12780
Aspiration	Turbocharged	
Speed governor	Electronic	
Oil capacity	l	36
Lube oil consumption PRP (max)	%	0.1
Coolant capacity	l	24
Electric circuit	V	24
Fuel	Diesel	
VERSION SWITCHABLE [50/60Hz]	YES	
ENGINE DATA	Hz	50
[50Hz] Operating Speed-Nominal	rpm	1500
[50Hz] Exhaust emission level	Stage IIIA	
[50Hz] Specific fuel consumption 75% PRP	g/kWh	204
[50Hz] Specific fuel consumption 100% PRP	g/kWh	196
ENGINE DATA	Hz	60
[60Hz] Operating Speed-Nominal	rpm	1800
[60Hz] Exhaust emission optimized for EPA tier (EPA)	Tier 3	
[60Hz] Specific fuel consumption 75% PRP	g/kWh	209
[60Hz] Specific fuel consumption 100% PRP	g/kWh	205

### Alternator Specifications

Alternator	Leroy Somer	
Model	LSA 46.3 L11	
Type	Brushless	
Class	H	
IP protection	23	
Insulation Protection Systems	Protection System 2	
Poles	4	
Winding leads	12	
Voltage regulation system	Electronic	
Voltage tolerance	%	0.5

### Installation data

[50Hz] Cooling air	m <sup>3</sup> /min	446.80
[50Hz] Exhaust gas flow PRP	m <sup>3</sup> /min	54.8
[50Hz] Exhaust gas temperature ESP	°C	500
[60Hz] Cooling air	m <sup>3</sup> /min	522.80
[60Hz] Exhaust gas flow PRP	m <sup>3</sup> /min	62.7
[60Hz] Exhaust gas temperature ESP	°C	535

### Electrical Data

Battery Voltage	V	24
Circuit breaker	A	800
Max current	A	577



## Genset Equipment

### CANOPY

Canopy painted 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.

### 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 bundled, 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.

### SINGLE LIFTING POINT

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

### MANUAL BATTERY SWITCH

Single pole battery switch inside the enclosure.

### EARTH ROD

Earth stock with cable fixed inside the genset.

### DOCS HOLDER

Box internal for documents, manuals and electrical drawings.

### LUBE OIL DRAIN PUMP

Makes it easier to the engine oil change.

### FUEL VALVE (6 WAY)

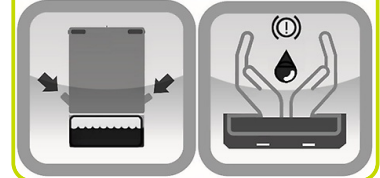
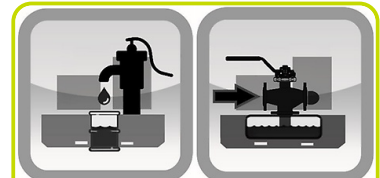
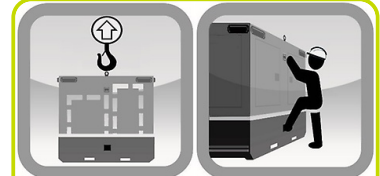
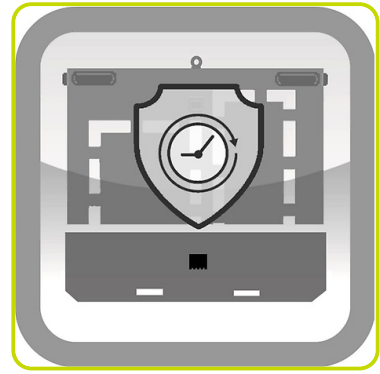
System designed for use the fuel from external tank and increase the autonomy of the generator.

### 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 Tank - Autonomy

Fuel tank location		Internal
Fuel tank material		Metal
Fuel tank capacity	l	1180
[50Hz 400V] Fuel consumption 75% PRP	l/h	59.07
[50Hz 400V] Running time 75% PRP	h	19.98
[50Hz 400V] Fuel consumption 100% PRP	l/h	75.20
[50Hz 400V] Running time 100% PRP	h	15.69



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## Control panel - Options Available:

AUTOMATIC CONTROL PANEL	ACP
MODULAR PARALLEL PANEL	MPP



## ACP - AUTOMATIC CONTROL PANEL

### CONTROL SECTION:

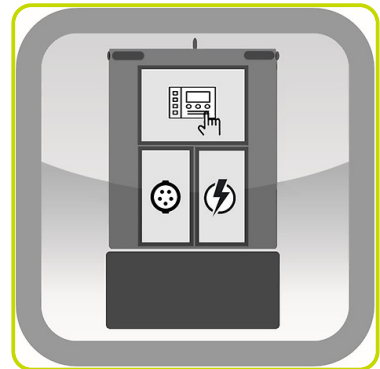
- Auto Mains Failure (AMF) function
- Gen-set controller for single genset operating in standby or prime power modes
- Full gen-set monitoring and protection
- Detailed event and performance log with time and date
- Emergency push button
- Extra Instrumentation (analogue): Fuel level meter; Mechanical hour counter
- Differential protection with internal switch
- Battery charger.

### SOCKET SECTION:

- Two wires facility for remote start/stop
- Plug for auxiliary power supply
- Socket Kit: Equipment and configurations available as a supplement.

### 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.



## MPP - MODULAR PARALLEL PANEL

### CONTROL SECTION:

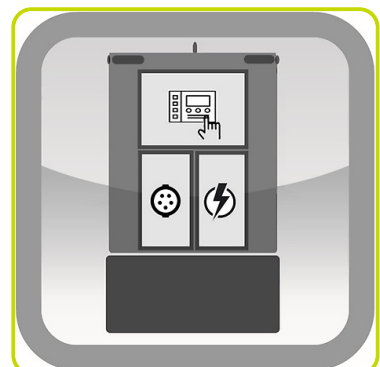
- Modular parallel panel allows the genset to work in parallel (up to 32 gen-sets)
- Easy switching between parallel to mains or multiple genset applications
- Full gen-set monitoring and protection
- Detailed event and performance log with time and date
- Colour display 7" TFT with 800x480 px resolution
- Wide range of communication and connection capabilities available
- Emergency push button
- Extra Instrumentation (analogue): Fuel level meter; Mechanical hour counter
- Differential protection with internal switch
- Battery charger.

### SOCKET SECTION:

- Multi-pin connectors for parallel running.
- Two wires facility for remote start/stop.
- Plug for auxiliary power supply.
- Socket Kit: Equipment and configurations available as a supplement.

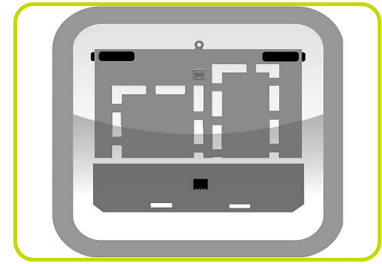
### POWER SECTION

- 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.



## CANOPY VERSION

- Weatherproof Enclosure made of galvanized sheet metal allows to protect genset from corrosion and aggressive condition.
- Enclosure soundproofed by means of washable and fireproof soundproofing material, allow to reach low noise level.
- Exhaust residential silencer integrated inside the genset equipped with rain flap.
- Enclosure equipped with bumpers to prevent damage during genset handling and transport.



### Dimensional data Canopy Version

Length	(L) mm	4165
Width	(W) mm	1500
Height	(H) mm	2130
Weight	kg	4515

### Noise Level 50Hz

Guaranteed noise level (LWA)	dB(A)	97
Noise pressure level @ 1 m	dB(A)	78
Noise pressure level @ 7 m	dB(A)	67



## OPTIONAL FEATURES:

To be ordered with equipment (when necessary) :

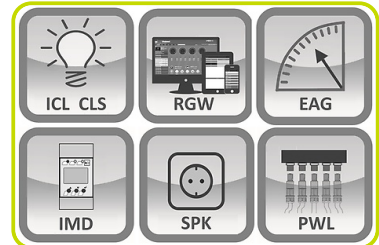
### GENSET CONTROL EQUIPMENT

Dual Frequency Switch (50/60Hz)	Y400/230V 50HzY480/277V 60Hz	DFS
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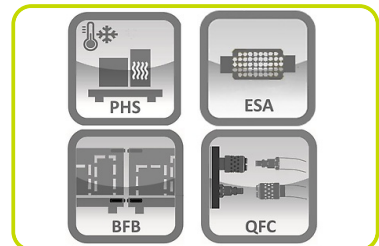
### ELECTRICAL OPTION

Internal Canopy Lighting system with manual switch		ICL
Control section internal lighting (automatic with door switch)		CLS
DSE2157 Output (8) Expansion Module		ARM7
DSE890 MKII DSEWebNet ® Gateway 4G (GSM/Ethernet)		RGW2
Engine analogue gauges (water temp / oil pressure)		EAG
Insulation Monitoring Device (Replace standard differential protection)		IMD
Socket kit		SPK
Power lock		PWL
Bus bar arrangement		ERDF



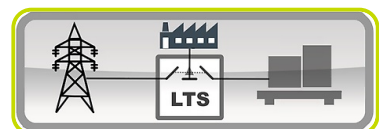
### MECHANICAL OPTION

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



### ACCESSORIES

Items available as accessory equipment		:
Load Transfer Switch [Accessories for ACP Panel]		LTS



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