

# GGW400G

## INDUSTRIAL SPARK-IGNITED GENERATOR SET



### Main Features

Frequency	Hz	50
Voltage	V	400/230
Power factor	cos $\phi$	0.8
Phase		3
Fuel		Natural Gas



### Power Rating

Emergency Standby Power ESP	kVA	400
Emergency Standby Power ESP	kW	320
Prime power PRP	kVA	360
Prime power PRP	kW	288



### Designed to the following standards:








Ratings definition according to standard ISO8528 1:2005 normative 1000mbar, 25°C, 30% relative humidity.

#### 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:

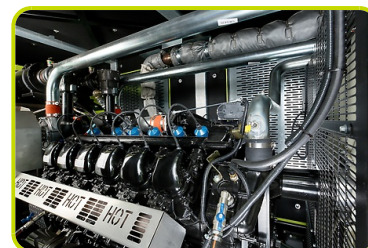
It is defined as being the maximum power which a generating set is capable of delivering continuously whilst supplying a variable electrical load when operated for an unlimited number of hours per year under the agreed operating conditions with the maintenance intervals and procedures being carried out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

	BS 5514 and 6271
	SAE J1349
	NFPA 37, 70, 99, 110
	NEC 700, 701, 702, 708
	ISO 3046, 7637, 8528, 9001
	NEMA ICS10, MG1, 250, ICS6, AB1
	ANSI C62.41



### Engine specifications

Engine Brand	Generac	
Nr. of cylinder and disposition	12 V angle	
Displacement	cm <sup>3</sup>	21900
Bore	mm	128
Stroke	mm	142
Compression Ratio	10:1	
Aspiration	Turbocharged aftercooled	
Operating Speed-Nominal	rpm	1500
Speed governor	Electronic	
Frequency Regulation (steady state)	% (+/-)	0.25
Fuel	Natural Gas	
Ignition	Electronic	
Carburetor	Down Draft	
Fuel consumption 75% ESP	kg/hr	53
Fuel consumption 100% ESP	kg/hr	67
Operating Fuel Pressure	kPa	1.7-2.7
Engine cooling system	Water	
Cooling fan	Type	Mechanical
Coolant capacity	l	77.6
Oil Pump	Type	Gear
Oil filtration	Type	Full Flow Spin-On Cartridge
Oil capacity	l	30
Electric circuit	V	24



### Alternator Specifications

Alternator	Mecc Alte	
Model	ECO40-1S	
Poles	4	
Class	H	
Type	Brushless	
Standard AVR	DER1-A	
Voltage tolerance	%	1
IP protection	23	
Voltage regulation system	Electronic	



### Fuel Consumption Rates

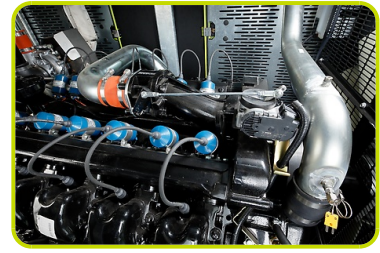
Fuel type	Natural Gas	
Fuel consumption 25% ESP	sm <sup>3</sup> /hr	35.6
Fuel consumption 50% ESP	sm <sup>3</sup> /hr	53.4
Fuel consumption 75% ESP	sm <sup>3</sup> /hr	72.6
Fuel consumption 100% ESP	sm <sup>3</sup> /hr	91.8
Refence gas with density of 0.73 kg/smc and HHV=37.6 MJ/smc		



## STANDARD FEATURES

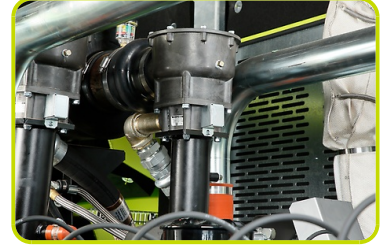
### ENGINE SYSTEM

- Oil Drain Extension
- Heavy Duty Air Cleaner
- Fan Guard
- Stainless Steel Flexible Exhaust Connection
- Factory-Filled Oil And Coolant
- Industrial Exhaust Silencer
- Air Filter restriction indicator



### Fuel System

- Primary And Secondary Fuel Shutoff
- Fuel Line NPT Connection



### Cooling System

- Close Coolant Recovery System
- UV/Ozone resistant hoses
- Factory Installed Radiator
- 50/50 Ethylene Glycol Antifreeze
- Radiator Drain Extension



### Electrical System

- Battery Charging Alternator
- Battery Cables
- Battery Tray
- Rubber-Booted Engine Electrical Connections
- Solenoid Activated Starter Motor

### ALTERNATOR SYSTEM

- Class H Insulation Material
- 2/3 Pitch
- Skewed Stator
- Auxiliary Winding Excitation System
- Sealed Bearing
- Amortisseur Winding
- Full-Load Capacity Alternator

### GENERATOR SET

- Internal Genset Vibration Isolation
- Wrapped Exhaust Piping (Enclosed Only)
- Bottom (floor) power cable outlet
- 1-year Warranty or 1000 hours
- Exhaust silencer Mounted in the Discharge Hood (Enclosed Sets)

### ENCLOSURE (if selected)

- High-Performance Sound Absorbing Material
- Gasketed Doors
- Galvanized Sheet Metal Construction
- Upward Facing Discharge Hood (exhaust)
- Stainless Steel Hinges



## CONTROL SYSTEM

### Power Zone®

Advanced integrated gen-set control platform that includes all drives and functions to manage the gas gen-set and perform an optimal combustion of the fuel, while maximizing performance.

### User Interface (UI)

- 7" Colour Display with touch screen
- User-friendly icons
- Remote Connection via WiFi or Bluetooth

### Mode of Operation

- Manual - Automatic (ACP)
- Parallel (MPP) genset-to-genset with 4-Poles motorized CB available in MPP configurations
- Single gen-set automatic start (2-Wire)
- Single Gen-set with Mains Failure control (AMF)
- Gen-to-gen parallel (unlimited) with remote start

### Program Functions

- Programmable Crank Limiter
- 7-Day programmable Exerciser
- RS232/485 Communications
- LAN communication
- 3-Phase sensing Voltage Regulator
- 2-Wire start Capability
- Date/Time Fault History (event Log)
- Isochronous Governor Control
- Audible Alarms and shutdown
- Auto On/Off Manual Switch
- E-Stop Button (Mushroom)
- Customizable Alarms, Warnings, Events
- Modbus protocol
- Predictive Maintenance Algorithm
- Sealed Boards
- Password Parameter Adjustment Protection
- Single Point Ground
- Alarm Information Automatically Announced on the touchscreen display

### Full System Status Display

- Power Output (kW)
- Power Factor  $\cos(\phi)$
- kWh total and last run
- Active/Reactive/Apparent Power
- All Phase AC voltage
- All Phase Currents
- Oil Pressure
- Coolant Temperature
- Coolant Level
- Engine Speed
- Battery Voltage
- Frequency

### Alarms And Warnings

- Oil Pressure
- Coolant Temperature
- Coolant Level
- Low Fuel Pressure Alarm
- Engine Overspeed
- Battery Voltage
- Alarms and Warnings times and date stamped
- Snap Shot of key Operation Parameters during Alarms and Warnings
- Alarms and Warnings Spelled Out (No Alarm Codes)
- Multilingual

### Other Protections

- Circuit Breaker (III poles)
- Emergency stop button
- 4-Poles motorized CB (Optional MPP)



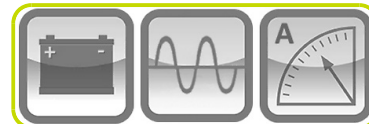
### Installation data

Total air flow	m <sup>3</sup> /min	610.70
Exhaust gas flow	m <sup>3</sup> /min	51.6
Exhaust gas temperature	°C	732
Max exhaust backpressure	mbar	25.4



### Electrical Data

Nominal current	A	531.41
Max current	A	592.13
Circuit breaker	A	630

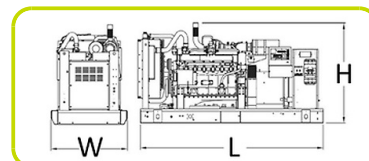


### OPEN VERSION



### Dimensional data

Length	(L) mm	3800
Width	(W) mm	1666
Height	(H) mm	1870
Weight	kg	3940

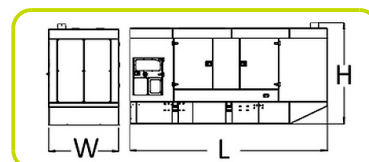


### CANOPY VERSION



### Dimensional data Canopy Version

Length	(L) mm	4700
Width	(W) mm	1700
Height	(H) mm	2290
Weight	kg	4840



### Noise Level

Guaranteed noise level (LWA)	dB(A)	97
Noise pressure level @ 1 m	dB(A)	77
Noise pressure level @ 7 m	dB(A)	67

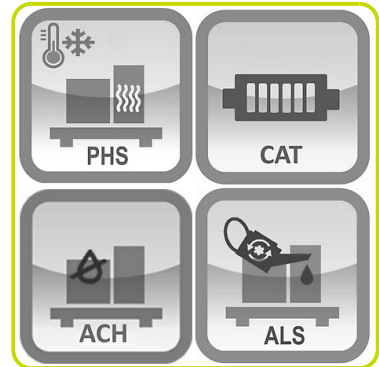


## OPTIONAL FEATURES

To be ordered with equipment (when necessary) :

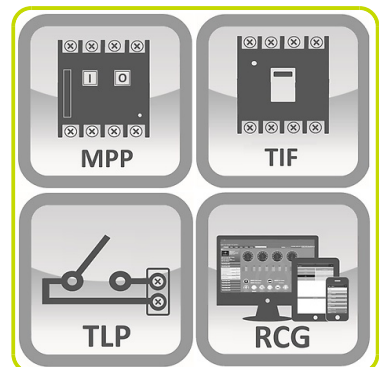
### GENSET EQUIPMENT

Coolant Pre-Heating System (convection type)	PHS
3-Way catalytic muffler	CAT
Upsized Alternator	UAL
Alternator anti-condensation heater	ACH
Permanent Magnet Generator on alternator	PMG
Genset Metal Nameplate	GMN
Without Batteries	WBAT
Automatic Lube Oil Top Up System with lube oil tank	ALS
Different Canopy Colour	DCC



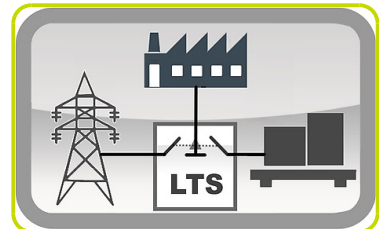
### CONTROL PANEL

Genset-to-Genset Parallel Control (4-Poles motorized CB)	MPP
Four poles circuit breaker	TIF
Auxiliary Contact for remote signalization	TLP
Remote Connection kit with Antenna	RCG



## Accessories

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



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