GGW400G

INDUSTRIAL SPARK-IGNITED GENERATOR SET

Main Features		
Frequency	Hz	50
Voltage	V	400/231
Power factor	cos ϕ	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.

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

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.

ISO 9001 CE

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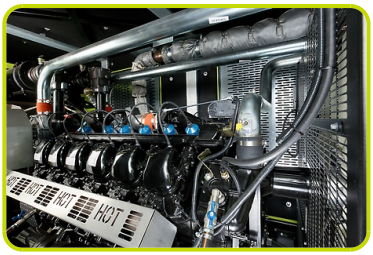
Engine specifications		
Engine Brand		Generac
Nr. of cylinder and disposition		12 V angle
Displacement	cm³	21900
Bore	mm	128
Stroke	mm	142
Compression Ratio		10:1
Aspiration		Turbocharged aftercooled
Operating Speed-Nominal	rpm	1500
Speed governor		Electronic
Frequency Regulation (steady state)	% (+/-)	0.25
Fuel		Natural Gas
Ignition		Electronic
Carburetor		Down Draft
Fuel consumption 100% ESP	kg/hr	67
Fuel consumption 75% ESP	kg/hr	53
Fuel consumption 50% ESP	kg/hr	39
Fuel consumption 25% ESP	kg/hr	26
Operating Fuel Pressure	kPa	1.7-2.7
Secondary Fuel Regulator		√
Fuel Shutoff Solenoid (Dual)		√
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
Battery charging alternator		√



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

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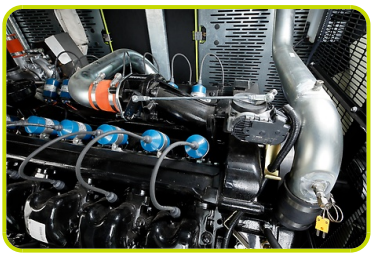
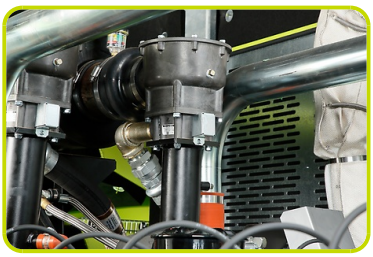
STANDARD FEATURES

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 Widing
- 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

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CONTROL SYSTEM

Power Zone®

Advanced integrated gen-set control platform that includes al 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 Excerciser
- RS232/485 Communications
- LAN communication
- 3-Phase sensing Voltage Regulator
- 2-Wire start Capability
- Date/Time Fault History (event Log)
- Isochronus 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(φ)
- 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 staped
- Snap Shot of key Operation Parameters during Alarms and Warnings
- Alarms and Warinings Spelled Out (No Alarm Codes)
- Multilingual

Other Protections

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

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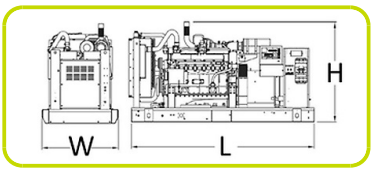
Installation data		
Total air flow	m³/min	610.70
Exhaust gas flow PRP	m³/min	51.6
Exhaust gas temperature LTP ESP	°C	732
Max exhaust backpressure	mbar	25.4

Electrical Data		
NOMINAL current	A	531.41
Circuit breaker	A	630
MAX current	A	592.13

OPEN VERSION

Dimensional data

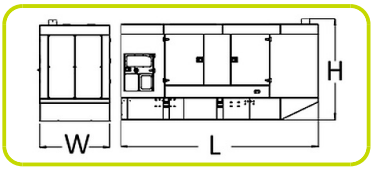
Length	(L) mm	3800
Width	(W) mm	1666
Height	(H) mm	1870
Weight	kg	3940



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

dB GUARANTEE

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OPTIONAL FEATURES

To be ordered with the equipment	:

GENSET EQUIPMENT

Coolant Pre-Heating System (convection type)	PHS1
Coolant Pre-Heating System (forced circulation)	PHS2
3-Way catalytic muffler	3WCM
Upsized Alternator	UAL
Permanent Magnet Generator on alternator	PMG
Genset Metal Nameplate	GMN
Without Batteries	WBAT
Hot Part Protection	HPP
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
Differential Protection	ADI
Auxiliary Contact for remote signalization	TLP
Remote Connection kit with Antenna	RCG

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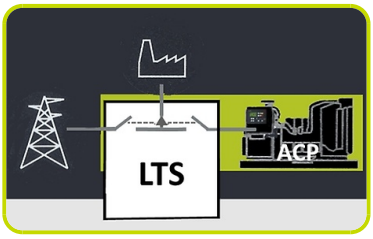
Accessories

Items available as accessory equipment

LTS - Load Transfer Switch [Accessories for ACP Automatic Control Panel]



The Load Transfer Switch (LTS) panel operates the power supply changeover between the generator and the Mains in backup applications, guarantying the feeding to the load within a short period of time.
It consists of a standalone cabinet which can be installed separate from the generating set. The logic control of the power supply changeover is operated by means of the Automatic Control Panel (ACP) mounted on the generating set, so therefore none logic device is required on the LTS panel.

LTS Type ATyS_D:

- Box type: steel enclosures
- Installation mode: Wall mounted <400A; Floor Standing =>630A
- Door: Hinged door closed with double barb locking.
- Ingress Protection: IP43
- Gland Plates: Removable on the top & bottom side
- Connections: Bottom/Bottom
- Motor unit
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- Connections: Bottom/Bottom
- Motor unit
- Switch position indicator
- Auto/Manual cover selector
- Housing for manual handle
- Padlocking mechanism
- Two side by side mounted load break switches
- Poles 4
- Double coils self-powered
- Voltage (coils): 208/277VAC (Tolerance+/-20% 166/333VAC)
- Frequency 50 & 60HZ
- Interface ATyS D10, fixed on the door for the status indication: Two lights to indicate the voltage presence of the grid and the diesel generator; Two lights for the switch position; Functionality mode (auto/manual) and cover protection IP65.
- *Compliant with IEC 60947-3, EN 61439-6-1 and GB 14048-11*

LTS SUPPLEMENTS AVAILABLE ON REQUEST:

- ***ESB -*** *Emergency Stop Button (installed on the panel front)*
- ***APP*** *- Additional IPXXB Protection (internal plexiglass)*

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