

Part III : Technical Specification GL612C 100kWe

General Data

GasLine industrial gas generator set, type GL 612 C.

Output	kVA	: 129
	kWe	: 104
Frequency	Hz	: 60
Air temperature	°C	: 25
Classification		: Set build according to class, without certificate.

COP, Continuous power

For continuous operation at a constant load for unlimited number of hours per year. Power definition according to ISO 8528. Power test code ISO 3046.

Reference conditions

Atmospheric conditions		
Barometric pressure	hPa	: 1000
Relative humidity	%	: 30
Fuel		
Energy value	kJ/m³	: 31000
Density	kg/dm³	: 0,67
Methane Number		: 80 *)

*) Note:

Output determined as per above is called sold output and is what is stated in Technical Data and Brochures. Deviating figures may cause output corrections.

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Engine Data

Water-cooled, 4-stroke, lean-burn gas engine with turbo charger and intercooler:

Engine		: AGCO POWER
Type		: SGI-7
Power output *)	kW	: 120
Speed	rpm	: 1800
Cycle		: D2
Number of cylinders		: 6 in line
Displacement	dm³	: 7,4
Bore x stroke	mm	: 108 x 134
Compression ratio		: 12 : 1

*) Outputs have been determined under given test conditions according to the international performance standard ISO 3046.

Fuel system

VariFuel2 air/fuel ratio mixer.
 Throttle actuator / speed control system.
 Electronic MOTORTECH ignition system, pulse pick-up on the camshaft.
 Ignition coils.
 Sparkplugs for gas engines.
 Gas fuel train build on set with stainless steel hose to mixer, 40-50 mBar inlet pressure.

Lub oil system

Lub oil level monitoring system consisting of:
 - oil level controller.
 - lub oil tank, capacity 22 litre.

Air inlet system

Engine mounted air cleaner.

Exhaust system

Dry exhaust manifold.
 Turbo charger.
 90° exhaust bend including flanges and gaskets.
 Exhaust compensator with flange.
 Exhaust gas temperature sensor (PT-100) for every cylinder.

Cooling system

Radiator , set mounted, with double cooling element for HT- and LT-system.
 Engine driven cooling water pump for HT-system.
 Engine driven cooling water pump for LT-system.
 Pusher fan, diameter 825 mm.
 Thermostat.
 Jacket water heater temperature controlled including ON/OFF switch.

Electrical system

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Electric starter, 24 V, single poled.

Battery charger, 24 V, 16 Amp, build on the control box frame.

Battery container, integrated in the genset frame.

Starter batteries, 2x 12V with cold cranking amps >800 Amp, maintenance free types.

Several

Flywheel housing SAE 1.

Flywheel, 14.

Internal crankcase ventilation.

Protection covers for all moving parts.

Cylinderhead with 2-valves per cylinder.

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Alternator Data

Voltage	V	: 440
Frequency	Hz	: 60
Load factor		: 0,8
Insulation class		: H
Temperature rise class		: H, 125°C rise at 40°C ambient temp.
Protection		: IP23
Short circuit current		: 300%

Scope of supply includes:

SAE adaptor flange.
Single bearing.
AVR control system type AS-440.

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Engine Control and Monitoring System

General

All-In-One engine controller is mounted in a control box.
Key switch mounted in the control box.
Control box mounted left hand side of skid.
Wiring and sensors mounted on the engine including cable harness to control box.

Engine controller

All-In-One is a dedicated controller for genset applications. It controls, monitors and protects the gas engine and alternator. The controller is equipped with a powerful graphic display with icons, symbols and bar graphs for intuitive operation, which together with high functionality sets new standards in engine controls.

Engine functions

- engine control
- engine monitoring and protections
- speed measurement
- running hours counter
- voltage monitoring starter batteries
- number of start attempts registration
- on screen alarm list indication
- event and time driven engine history for back tracing
- binary, analogue and CAN engine communication
- languages selectable
- MODBUS communication selectable

Generator functions

- Generator Circuit breaker control
- Main circuit breaker control
- Synchronization

Monitoring system

Alarms consisting of:

- alarm cooling water temperature (high)
- alarm cooling water level (low)
- alarm lub oil pressure engine (low)
- alarm lub oil temperature engine (high)

Engine shut down consisting of:

- cooling water temperature (high high)
- lub oil pressure engine (low low)
- overspeed (high)

Generator monitoring consisting of:

- 3 phase monitoring
- Over/Under Frequency
- Over/Under voltage

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- Overload protection

Distribution board

Distribution board, 250 Amp, set mounted in separate panel, consisting of:

- MCCB switch
- Thermal protection
- Motor drive
- Feedback signal

Several

Knock detection.

AIN8 Analog Input Module.

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Assembly

Frame and assembly

Engine and alternator flexible mounted on a common base frame.
Frame painted black and provided with:

- drip tray
- drain plug
- mounting strips for electrical wiring
- 6-point support for the genset

Test run and classification

Genset tested on Sandfirden test bench, and contains

- FAT and performance test according to test protocol
- acceptance by class (if applicable)
- alarm and shut down test
- parallel running (if applicable, "max. 2x 600 kWe")
- final check before delivery

Finishing

Genset painted in Sandfirden blue (RAL 5010).
Set provided with warning stickers and hoisting instructions.
Genset sealed in plastic.

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Miscellaneous

Shipped loose parts

Silencer 5" with SA 35 dB(A) incl mounting kit.

Commissioning

Without commissioning. (See our general terms and conditions.)

Documents

Warranty

8000 Running hours or twelve (12) months after start-up, but not beyond eighteen (18) months after delivery from Suppliers plant, whichever occurs first. For more information we refer to our Terms and Conditions.