

Part III : Technical Specification GL411C 50kWe

General Data

GasLine industrial gas generator set, type GL 411 C.

Output	kVA	: 62
	kWe	: 50
Frequency	Hz	: 50
Air temperature	°C	: 25

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.

Part III : Technical Specification GL411C 50kWe

Engine Data

Water-cooled, 4-stroke, Turbo charged, lean-burn gas engine with intercooler:

Engine		: SANDFIRDEN
Type		: SGI-4
Power output *)	kW	: 55
Curve		: COP
Speed	rpm	: 1500
Number of cylinders		: 4 in line
Displacement	dm3	: 4,4
Bore x stroke	mm	: 108 x 120
Compression ratio		: 13,5 : 1

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

Fuel system

Heavy duty industrial ignition system with controller.
 One ignition coil per cylinder.
 Sparkplugs for industrial use.
 Electronically adjustable air/fuel mixer.
 Throttle valve with actuator.
 Speed control.

Lub oil system

Lub oil level monitoring system consisting of:
 - oil level controller.
 - lub oil tank, capacity 22 litre.
 Centrifugal lub oil cleaner.
 Lub oil drain pump.
 Piston cooling by oil nozzles.
 Enlarged oil sump.

Air inlet system

Engine mounted airfilter
 Intercooler, suited for natural gas.

Engine brackets

Front mounted engine brackets.

Exhaust system

Water cooled exhaust.
 Turbo charger without heat insulation.
 90° exhaust bend including flanges and gaskets.
 Exhaust compensator with flange gaskets.

Cooling system

Part III : Technical Specification GL411C 50kWe

Engine driven cooling water pump for HT-system.
Engine driven cooling water pump for LT-system.
Thermostat.
HT connections cooling system
LT connections cooling system

Electrical system

Electric starter, 24 V, double poled.
Without alternator.
Battery charger, 24 V, 16 Amp.

Several

SAE-2 flywheel housing.
11.5" flywheel.
Internal crankcase ventilation.
Front end protection cover.

Part III : Technical Specification GL411C 50kWe

Alternator Data

Alternator		: STAMFORD
Type		: UCI 224 E
Voltage	V	: 440
		: 3-phase serie star winding no. 311
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%
AVRi interface Module.		

Scope of supply includes:

SAE adaptor flange.
Single bearing.
AVR control system type MX-341.

Part III : Technical Specification GL411C 50kWe

Engine Control and Monitoring System

General

Engine control box with All-In-One GAS engine controller, AFR controller and 12" Vision Touch display.

Wiring and sensors mounted on the engine including cable harness to control box.

Engine controller

All-In-One GAS 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.

Engine control 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 control 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
- Overload protection

AIN8 Analog Input Module.

Part III : Technical Specification GL411C 50kWe

Control box mounted back side of skid.

Distribution board

Distribution board, 400 Amp, set mounted in separate panel, consisting of:

- MCCB switch
- Thermal protection
- Motor drive
- Feedback signal
- G99 Compliant relays (Only for sets in UK)

Part III : Technical Specification GL411C 50kWe

Assembly

Frame and assembly

Engine and alternator flexible mounted on a common base frame.

Radiator mounted on frame.

Frame painted black and provided with:

- Drip tray.
- Drain plug.
- Mounting strips for electrical wiring.
- 6-point support for the genset.

Battery container, integrated in the genset frame.

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

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.

Part III : Technical Specification GL411C 50kWe

Miscellaneous

Shipped loose parts

Silencer 6" with SA 35 dB(A) incl mounting kit.
Gas fuel train for natural gas and a gas flow capacity of 40 m³/h.
Stainless steel hose to mixer, dia. 1,5" and length 650 mm.

Documents

One (1) documentation binder (Eng.), consisting of:

- Factory Acceptance Testreports
- General Arrangement Drawing
- Electric diagrams
- Operator manuals
- Part catalogues
- Additional information

Data CD/USB Stick with documentation is included.

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.