

TECHNICAL SPECIFICATION

GL612-C



Invoice Address

Operation Address

Contact Person	
Phone Number	
Quotation by	James Thompson

Unit	Sandfirden GL612-C
Engine type	
Power outputs	54kWm / 56kVA / 44kWe

General data

Gas Line industrial gas generator set, type GL 612-C

Output	kVA	122	Frequency	Hz	50
	kWe	97	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 - 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.

Atmospheric conditions:			Fuel:		
Barometric pressure	hPa	1000	Energy Value	kJ/m ³	31000
Relative humidity	%	30	Density	kg/dm	0.67
			Methane number		80

Engine Data - Water-cooled, 4-stroke, natural aspirated, lean-burn gas engine:

Engine		AGCO Power	Number of cylinders		6 in line
Type		SG1-7	Displacement	dm ³	7.4
Power output*	kW	110	Bore x Stroke	mm	108 x 134
Speed	RPM	1500	Compression ratio		12:1

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

Fuel system

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| <ul style="list-style-type: none"> VariFuel2 air/fuel ratio mixer. GAC throttle actuator / speed control system. Electronic MOTORTECH ignition system, pulse pick-up on the camshaft. | <ul style="list-style-type: none"> Ignition coils. Sparkplugs for gas engines. Gas fuel train build on set with stainless steel hose to mixer, 40-50 mBar inlet pressure. |
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Lube Oil system

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| <ul style="list-style-type: none"> Full flow lube oil filter. Gear driven lube oil pump. | <ul style="list-style-type: none"> Lube oil cooler. Lube oil drain pump. |
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Air Inlet system

- Engine mounted air cleaner

Exhaust system

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| <ul style="list-style-type: none"> Water cooled exhaust manifold 90° exhaust bend including flanges and gaskets. | <ul style="list-style-type: none"> Exhaust compensator with flange (shipped loose). Turbo charger Exhaust gas temperature sensor (PT-100) for every cylinder. |
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Cooling system

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| <ul style="list-style-type: none"> 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. | <ul style="list-style-type: none"> Pusher fan, diameter 825 mm. Thermostat. Jacket water heater temperature controlled including ON/OFF switch. |
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Electrical system

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| <ul style="list-style-type: none"> Electric starter, 24 V, single poled. Battery charger, 24 V, 16 Amp, build on the control box frame. | <ul style="list-style-type: none"> Battery container, integrated in the genset frame. Starter batteries, 2x 12V with cold cranking amps >800 Amp, maintenance free types. |
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Other / miscellaneous

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| <ul style="list-style-type: none"> Flywheel housing SAE 1. Flywheel 14 | <ul style="list-style-type: none"> Protection covers for all moving parts. Cylinder head with 2-valves per cylinder. |
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- Internal crankcase ventilation.

Alternator data

Alternator Type	STAMFORD UCI 274 D	Temperature rise class	H@40°C ambient temperature
Voltage (V)	380, 400, 415 or 440	Protection	IP23
Winding	3-phase series star no 311/312	Short circuit current	300%
Frequency (Hz)	50	Scope of supply includes:	SEA adaptor flange
Load factor	0.8		Single bearing
Insulation class	H		Anti-condensation heater AVR control system (MX-341)

Engine control & monitoring system

Motortech "All-In-One" (AIO) engine controller is mounted in a control box.

Key switch mounted in the control box.

Control box mounted at end of skid. (See drawings below).

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

AIO 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. Functions include -

Control functions:

- Engine control
- Engine monitoring and protections
- Speed measurement
- Running hours counter
- Voltage monitoring of 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
- Remote access as standard

Generator functions:

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

Monitoring system – Alarms & shut down (standard)

Alarms:

- Cooling water temperature (high)
- Cooling water level (low)
- Lube oil pressure engine (low)
- Lube oil temperature engine (high)

Shut downs

- Cooling water temperature (high high)
- Lube oil pressure engine (low low)
- Overspeed (high)

Generator monitoring

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

Distribution board – consisting of -

- MCCB switch
- Thermal protection
- Motor drive
- Feedback signal
- G59 relay (Motortech MainsPro)

Miscellaneous

- Motortech AIN8 analog input module
- Motortech IO8/8 expansion card
- Motortech AVRi AVR control

Assembly & Testing

- Engine & Alternation mounted on common base frame
- Frame painted black complete with –
 - Drip tray
 - Drain plug
 - Mounting strips for electrical
 - 6 point support for genset
 - Painted in Sandfirden blue (RAL 5010)
- Genset tested on Sandfirden test bench, including -
 - FAT & acceptance test according to test protocol
 - Acceptance by class (if applicable)
 - Alarm & shutdown test
 - Parallel running
 - Final pre-delivery checks and Warning stickers
 - Hoisting instructions and sealed in plastic for shipping

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 Sandfirden Terms and Conditions 20070418Ee.

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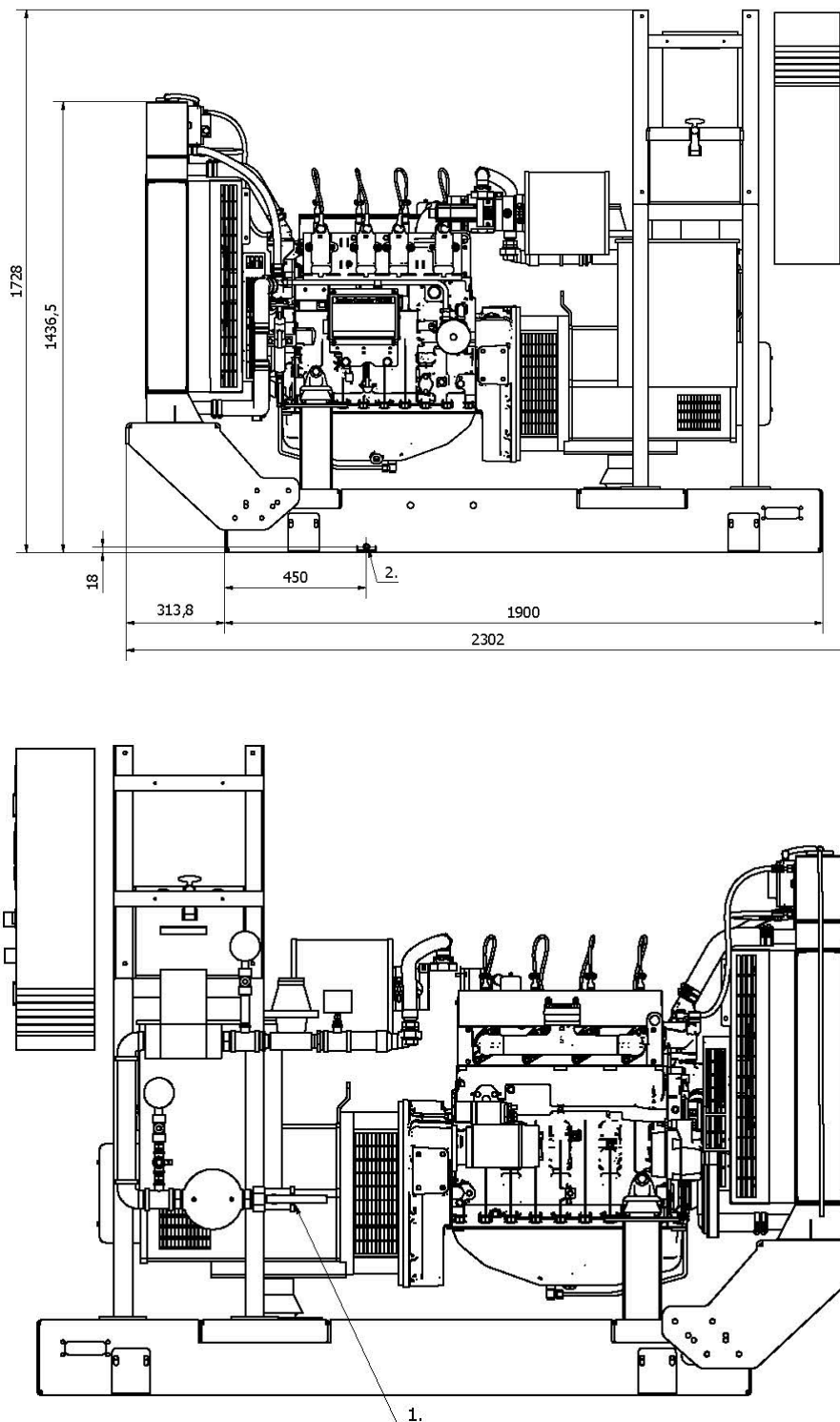
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Drawing & dimensions – side views

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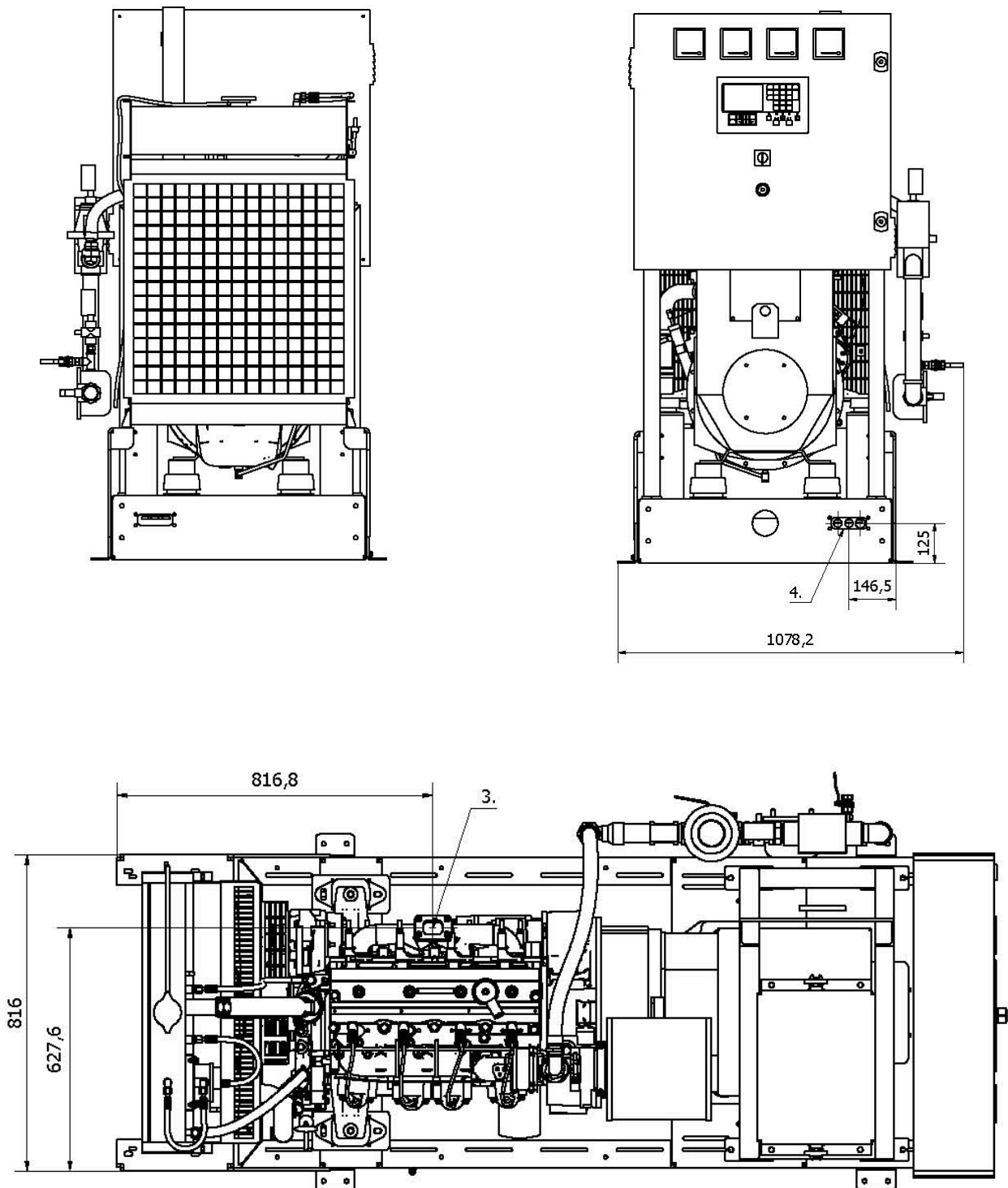


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Drawing & dimensions – end & plan views



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Drawing & dimensions – isometric view

