Part III : Technical Specification POS B)

General Data

GasLine industrial gas generator set, type GL 612 A.

Output	**kVA**	: 60
	kWe	: 48
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/dm**	: 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, natural aspirated, lean-burn gas engine:

Engine		: SANDFIRDEN
Type		: NG-7
Power output *)	**kW**	: 54
Speed	**rpm**	: 1500
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.
GAC 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

Full flow lub oil filter.
Gear driven lub oil pump.
Lub oil cooler.
Lub oil drain pump.

Air inlet system

Engine mounted air cleaner.

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Exhaust system

Water cooled exhaust manifold.
90° exhaust bend including flanges and gaskets.
Exhaust compensator with flange (shipped loose).

Cooling system

Cooling water connections for HT- and LT-system.
Engine water coolers.
Exhaust gas cooler.
Delivery excluding pumps and thermostat.
Jacket water heater temperature controlled including ON/OFF switch.

Electrical system

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 2.
Flywheel, 11,5.
Internal crankcase ventilation.
Protection covers for all moving parts.
Cylinderhead with 2-valves per cylinder.

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Alternator Data

Alternator		: STAMFORD
Type		: UCI 224 E
Insulation class		: H
Temperature rise class		: H at 40 °C ambient temperature
Voltage	**V**	: 380, 400, 415 or 440
		: 3-phase serie star winding no. 311/312
Frequency	**Hz**	: 50
Load factor		: 0,8
Protection		: IP23
Short circuit current		: 300%

Scope of supply includes:

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

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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 attemps 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, 160 Amp, set mounted, consisting of:
- MCCB switch
- Thermical protection
- Motor drive
- Feedback signal
- G59 relais (for sets in UK only)

Several

IO88 Input/Output Unit.
AVRi interface Module.

Parallel operation

Genset suited for parallel operation including:
- automatic synchronising and breaker control integrated in All-In-One controler.
- droop trafo in alternator.

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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 (optional)
- 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

Commissioning

Commissioning in Europe, per set one (1) man for three (3) days,
including travelling and lodging.

Warranty

3000 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 20070418Ec.