

INDUSTRIAL GAS ENGINE SGI-13

Natural Gas | 163 kW | 1500 rpm

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INDUSTRIAL GAS ENGINE

SGI-13

Contents - General Information

Type of engine	SGI-13
Base power COP	163 kWm
Engine make and type	Scania, SGI-13
Weight excl. Lub. oil and coolant	± 1100 kg
Dimensions (LxWxH)	1670 mm x 930 mm x 1465 mm
<ul style="list-style-type: none">Emissions: - TA-Luft (NO_x < 500 mg/m³ @ 5%O₂ CO < 300 mg/m³ @ 5%O₂ formaldehyde < 30 mg/m³) If applicable with Oxicat.- BEMS (NO_x < 340 mg/m³ @ 3%O₂).- Others on request.Several options available like gas train, control system, genset, sound proof canopy, parallel operation, dual speed operation PM alternator, cooling water expansion tank, lubrication oil level monitor, stainless steel exhaust silencer, cooling package etc.	

Contents - Engine Technical Data

Engine Data	BEMS	TA-Luft
No. Of cylinders/configuration	6 in line	
Cycle	4 stroke	
Bore and stroke	130 mm x 160 mm	
Displacement	12,7 dm ³	
Compression ratio	12,5 : 1	
Piston speed	8,0 m/sec	
Rotation seen from flywheel end	CCW	
Number of teeth on flywheel ring gear	158	
Flywheel housing	SAE1	
Eff. efficiency/lower heat value	42,0%	43,6%

Fuel system	
Mixer type	Motortech VariFuel
Governor and actuator	Electronic throttle valve
Knock control	DetCon 2

Fuel consumption LHV	BEMS	TA-Luft
100% load	1392 MJ/h	1344 MJ/h
Engines are factory set to the following natural gas specifications at 288°K and 101kPa	ISO-FDIS 15403	



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Contents - Engine Technical Data

Fuel requirements	
Methane number	> 80, < 80 derate
Relative humidity	< 80 %
Minimal gas pressure	35 mbar

Air intake and ventilation	BEMS	TA-Luft
Air filter type	Replaceable paper element	
Max. combustion air filter restriction	50 mmwc	
Permissible vacuum in engine room	20 mmwc	
Max. air intake temperature	30°C	
Air consumption at full load	14,3 kg/min	14,0 kg/min

Cooling system	
HT and LT	Circulation pumps built on engine ^{*1}
Coolant volume (with heat exch.)	16 dm ³
Water pump type	2x Centrifugal-Polybelt driven ^{*1}
Opening temp. of thermostats	80 - 87 °C ^{*1}
Max. pressure on engine pump inlets	0,85 bar
Max. coolant temperature engine 'out'	90°C
Max. coolant temperature engine 'in' LT	35°C
Coolant water flow HT	max. 370 l/min (@ 0,5 bar pressure drop) ^{*2}
Coolant water flow LT	± 100 l/min ^{*2}
Press drop over engine system	0,5 bar
Heating	Electrical element
Miscellaneous	See the technical information manual: Recommended fuel, cooling fluids and approved oils Sandfirden Gas Engines (Industrial and marine engines)

^{*1}Not applicable on CoGen / ^{*2}Not applicable on CoGen, depending the configuration

Lubrication system	
Oil filter type	Full flow Replaceable element + centrifugal filter
Oil capacity - With standard oil pan	35 dm ³
Oil type used by the factory	Mobil Pegasus Special
Oil consumption	< 0,3 gr/kWh
Oil changes interval stand (circumstances dep.)	600 h
Oil grade and oil viscosity	See the technical information manual: Recommended fuel, cooling fluids and approved oils Sandfirden Gas Engines (Industrial and marine engines)



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Contents - Engine Technical Data

Exhaust system	BEMS	TA-Luft
Max. back pressure without power loss	500 mmwc	
Exhaust flow	15,0 kg/min	14,7 kg/min
Exhaust temperature after turbo	531°C	533°C

Electric system	
Control system	Optional Electronic
Starter motor electric capacity	6 kW
Start aid relay capacity min.	64 Amp
Cold start ability CCA10 min.	800 Amp

Heat rejection	BEMS	TA-Luft
Base power	163 kW/m	163 kW/m
HT circuit	65 kW	63 kW
LT circuit	16 kW	12 kW
Exhaust gas (if cooled back to 120°C)	123 kW	120 kW
Surrounding air	26 kW	21 kW

Sound level	
Over-all sound pressure level at 1m from engine block (corrected for free field condition)	106 dB(A) at 163 Kw

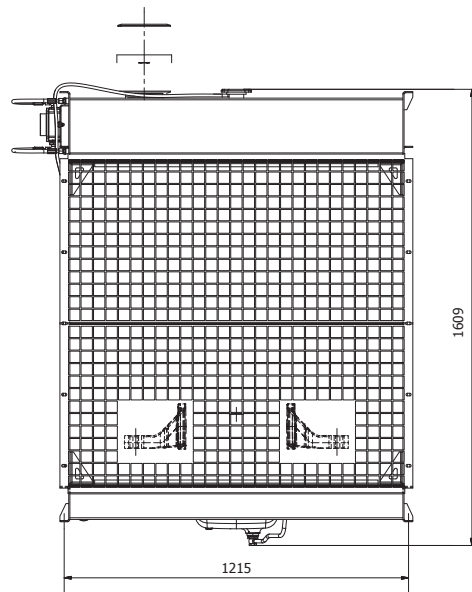
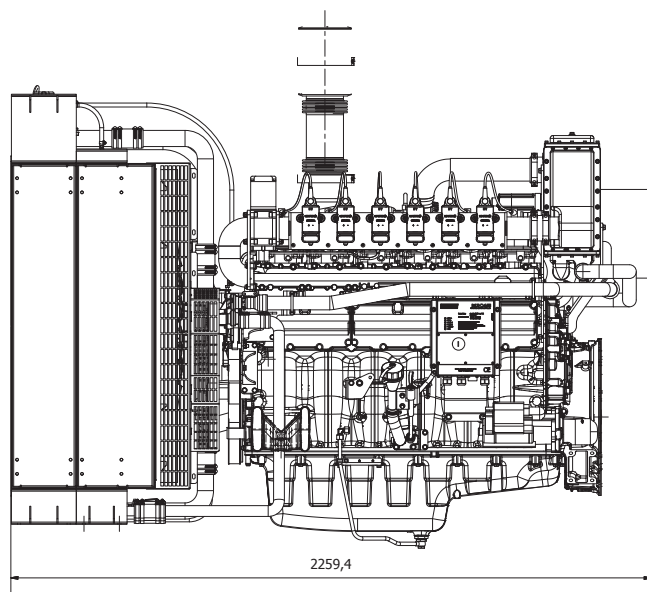
Contents - Defintions

Base load rating	Continous power according to the international performance standard ISO 3046.
Standard reference conditions	Note: standard reference conditions according to ISO 3046 (25°C air inlet temperature, 1000 mBar ambient pressure, 30% relative humidity). All engine performance data based on the abovementioned maximum ratings.

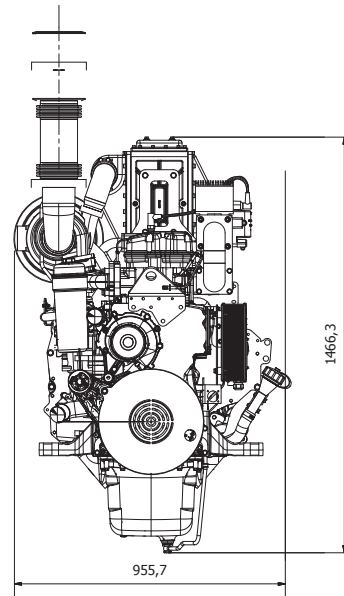
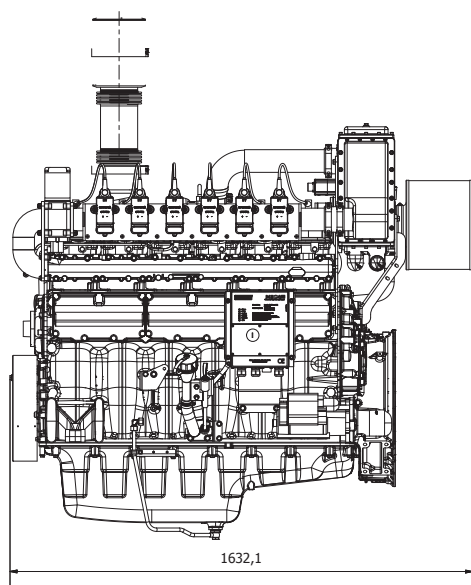


INDUSTRIAL GAS ENGINE SGI-13

Contents - 2D Drawing Set



STM: Powerpack application with 2 mechanical waterpumps



CGM: Combined heat/power application

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