



INDUSTRIAL GAS ENGINE SGI-13

FUEL OPTIMIZED (266 kW)

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INDUSTRIAL GAS ENGINE SGI-13

Contents - General Information

Type of engine	SGI-13	
Base power COP	266 kWm / 1500 rpm	301 kWm / 1800 rpm
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: NON COMPLIANT 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	1500 rpm	1800 rpm
Engine speed	1500 rpm	1800 rpm
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	9,6 m/sec
Rotation seen from flywheel end	CCW	
Number of teeth on flywheel ring gear	158	
Flywheel housing	SAE1	
Mech. efficiency/lower heat value	42,4%	42%

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

Fuel consumption LHV	1500 rpm	1800 rpm
100% load	266 kW - 2287 Mj/h	301 kW - 2634 Mj/h
75% load	200 kW - 1839 Mj/h	226 kW - 2063 Mj/h
50% load	133 kW - 1351 Mj/h	151 kW - 1509 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	1500 rpm	1800 rpm
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	21,4 kg/min	26 kg/min

Cooling system	
HT and LT	Circulation pumps built on engine*1
Coolant volume (without 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	1 bar
Max. coolant temperature engine 'out'	90°C
Max. coolant temperature engine 'in' LT	40°C
Coolant water flow HT	max. 370 l/min (@ 0,5 bar pressure drop)*2
Coolant water flow LT	± 80 l/min*2
Press drop over engine system @60l/cm	0,5 bar
Heating	Electrical element
Miscellaneous	The design of the cooling system is based on water/glycol mixture of 60%/40% Specific heat content of the mixture is 3,8 kJ/kg.

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

Lubrication system	
Oil double filter type	Full flow Replaceable element + centrifugal filter
Oil capacity - With standard oil pan	30 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 viscosity	15W40 (temp. -15°C up to 30°C)



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Exhaust system	1500 rpm	1800 rpm
Max. back pressure without power loss	500 mmwc	
Exhaust flow	22,4 kg/min	27,1 kg/min
Exhaust temperature after turbo	540°C	525°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	1500 rpm	1800 rpm
Base power	266 kWm	301 kWm
HT circuit	154 kWm	178 kWm
LT circuit	49 kW	63 kW
Exhaust gas (if cooled back to 120°C)	114 kW	126 kW
Surrounding air	25 kW	30 kW

Sound level	1500 rpm	1800 rpm
Over-all sound pressure level at 1m from engine block (corrected for free field condition)	106 dB(A) at 250 Kwe	109 dB(A) at 285 Kwe

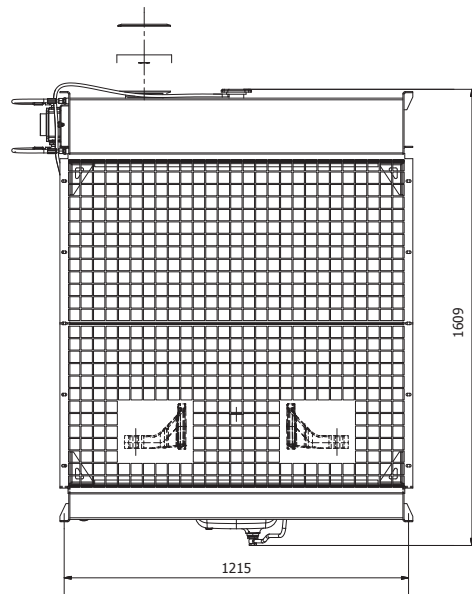
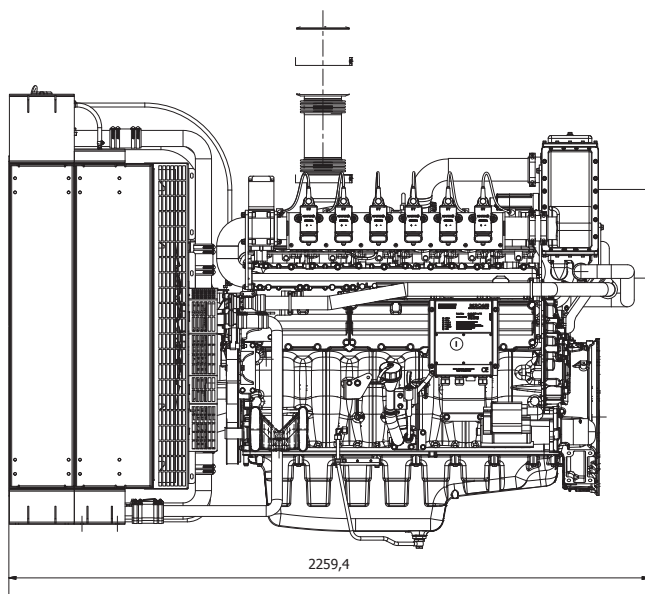
Contents - Defintions

Base load rating	Continous power according to the international performance standard ISO 3046.
Standard reference conditions	Note: standard reference conditions 27°C air inlet temperature, 152,4m A.S.L. 60% relative humidity. All engine performance data based on the abovementioned maximum continuous ratings.

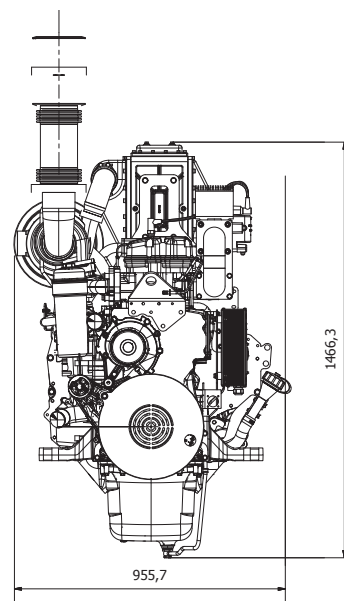
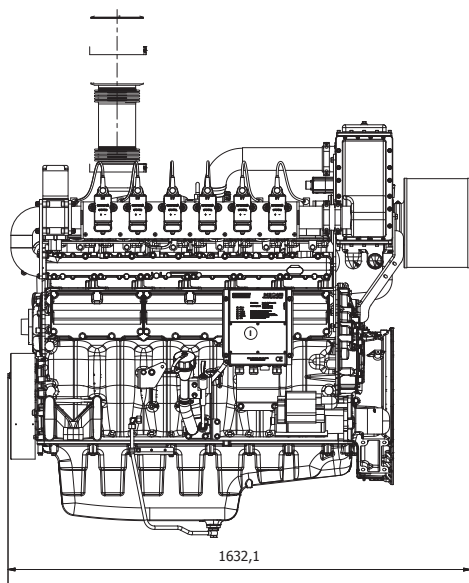


INDUSTRIAL GAS ENGINE SGI-13

Contents - 2D Drawing Set



STM: Powerpack application with 2 mechanical waterpumps



CGM: Combined heat/power application

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