

INDUSTRIAL GAS ENGINE SGI-13

Natural Gas | 266 kW | 1500 rpm

| | | | |
|-----------------|------------------------------|--------------------------------------|---|
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INDUSTRIAL GAS ENGINE SGI-13

Contents - General Information

| Type of engine | SGI-13 |
|---|----------------------------|
| Base power COP | 266 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 | 43,3% | 44,8% |

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

| Fuel consumption LHV | BEMS | TA-Luft |
|---|----------------|-----------|
| 100% load | 2168 MJ/h | 2139 MJ/h |
| 75% load | 1665 MJ/h | 1665 MJ/h |
| 50% load | 1186 MJ/h | 1186 MJ/h |
| Engines are factory set to the following natural gas specifications at 288°K and 101kPA | ISO-FDIS 15403 | |



INDUSTRIAL GAS ENGINE

SGI-13

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 | 23,0 kg/min | 22,0 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) |



INDUSTRIAL GAS ENGINE SGI-13

Contents - Engine Technical Data

| Exhaust system | BEMS | TA-Luft |
|---------------------------------------|-------------|-------------|
| Max. back pressure without power loss | 500 mmwc | |
| Exhaust flow | 23,8 kg/min | 23,0 kg/min |
| Exhaust temperature after turbo | 541°C | 542°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 | 266 kWm | 266 kWm |
| HT circuit | 67 kW | 65 kW |
| LT circuit | 50 kW | 50 kW |
| Exhaust gas (if cooled back to 120°C) | 200 kW | 194 kW |
| Surrounding air | 26 kW | 26 kW |

| Sound level | |
|--|---------------------|
| Over-all sound pressure level at 1m from engine block (corrected for free field condition) | 106 dB(A) at 266 Kw |

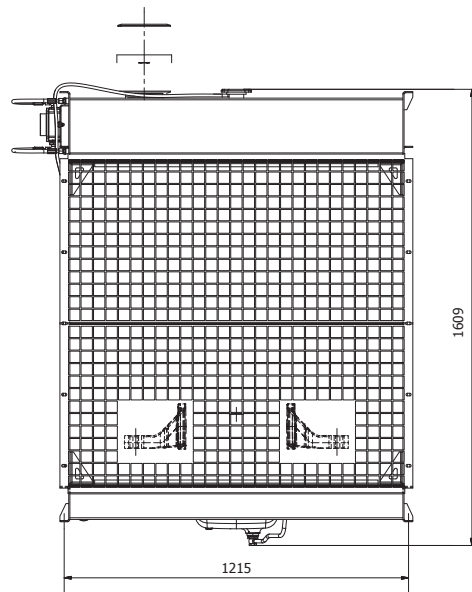
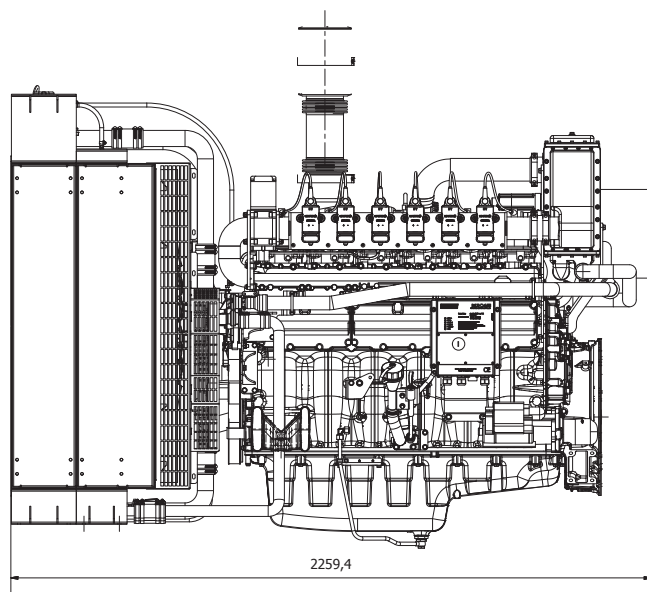
Contents - Defintions

| | |
|-------------------------------|---|
| 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. |

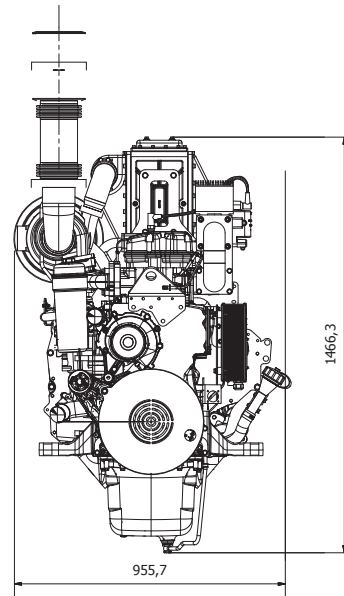
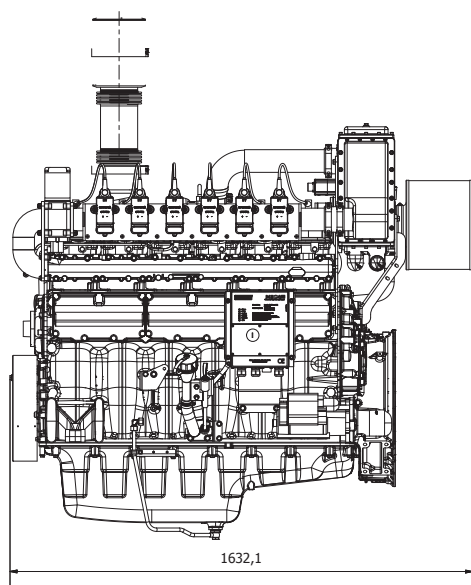


INDUSTRIAL GAS ENGINE SGI-13

Contents - 2D Drawing Set



STM: Powerpack application with 2 mechanical waterpumps



CGM: Combined heat/power application

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