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Professionals in TOP performance

INDUSTRIAL GAS ENGINE SGI-13

TECHNICAL DATA

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INDUSTRIAL GAS ENGINE SGI-13

Contents - General Information

Type of engine	SGI-13	
Base power COP	215 kWm/ 1500 rpm	242 kWm/ 1800 rpm
Engine make and type	Scania, SGI 13	
Weight excl. lub oil and coolant	± 1100 kg	
Dimensions (LxWxH)	1670 mm, 930 mm, 1465 mm	
• 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.		



INDUSTRIAL GAS ENGINE

SGI-13

Contents - Engine Technical Data

Engine data		
Engine speed	1500 rpm	1800 rpm
No. of cylinders/configuration	6 in line	
Cycle	4 stroke	
Bore x 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	SAE 1	
Mech. efficiency/Lower heat value	39,7 %	39,7 %

Fuel system	
Mixer type	MotortechVariFuel
Governor and actuator	Electronic throttle valve
Knock control	DetCon2

Fuel consumption LHV	1500 rpm	1800 rpm
100% load	215 kW - 1944 MJ/h	242 kW - 2184 MJ/h
75% load	161 kW - 1551 MJ/h	182 kW - 1746 MJ/h
50% load	107 kW - 1141 MJ/h	121 kW - 1295 MJ/h
Engines are factory set to the following natural gas specification at 288°K and 101 kPa	ISO-FDIS 15403	



INDUSTRIAL GAS ENGINE

SGI-13

Contents - Engine Technical Data

Fuel requirements	
Methane number	>80, <80 derate
Relative humidity	<80 %

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	20,7kg/min	25,6kg/min

Cooling system	
HT and LT	Circulation pumps built on engine
Coolant volume (without heat exchanger)	16 dm ³
Water pump type	2x Centrifugal-Polybelt driven
Opening temp. of thermostats	80-87°C
Max. pressure on engine pump inlets	1 bar
Max. coolant temperature engine 'out'	90°C
Max. coolant temperature engine 'in' LT	40°C
Cooling water flow HT	max. 370 L/min (@ 0,5 bar pressure drop)
Cooling water flow LT	± 100 l/min
Press drop over engine system LT	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.



INDUSTRIAL GAS ENGINE

SGI-13

Contents - Engine Technical Data

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)

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 CCA10min.	800 Amp

Heat rejection	1500 rpm	1800 rpm
Base power	215 kWm	242 kWm
HT circuit	136 kW	155 kW
LT circuit	35 kW	46 kW
Exhaust gas (if cooled to 120°C)	108 kW	114 kW
Surrounding air	20 kW	23 kW



INDUSTRIAL GAS ENGINE SGI-13

Contents - Definitions

Base load rating	Continuous 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.



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