

The ENERGIN® CHP combined heat and power unit simultaneously generates electricity and uses the heat from the engine jacket water and exhaust to heat water. The power output can be controlled between 50 and 100 % of nominal rating. It can be operated in parallel with the public network or with an isolated load. As an option, automatic emergency operation and/or island-parallel operation with other generators is possible.

The unit is supplied as a compact, fully functional unit, with or without a sound attenuating enclosure. The engine, generator, heat exchangers for oil and jacket water and exhaust as well as the control and power panel are mounted, ready for operation on the vibration-decoupled base frame. A lubrication oil system, which allows operation of up to 2500 hours without manual lube oil refilling, is integrated on the unit.

The electrical control system provides protection and control functions for automatic or manual operation. A 12" touch panel informs about operating conditions and allows the operation and parameterization of the system. Various interfaces are available for communication with other power generators and an overhead control system. An Ethernet interface allows connection to the Internet for remote monitoring and remote maintenance.

The entire system is certified according to the BDEW medium voltage directive (Grid code).

TECHNICAL DATA

Manufacturer		R Schmitt Enertec
ENERGIN® Type		M06 CHP G140
Electrical power ¹	kW	140
Thermal power ²	kW	186
Gas consumption ³ (LHV)	kW	363
Self consumption ⁴	kW	2,3

DESIGN

Fuel type		Natural Gas
Lower heating value LHV	kWh/Nm ³	10,0
Gas flow pressure ⁵	kPa	2,2 - 5,0
Inlet air temperature	°C	20
Exhaust temperature	°C	120
Hot water temperature ⁶	°C	70 / 90
Hot water flow rate	m ³ /h	#NAME?

EXHAUST EMISSIONS⁷ WITH CATALYST

NO _x ⁸	mg/Nm ³	500
CO	mg/Nm ³	300
Formaldehyde	mg/Nm ³	20

ENGINE

Manufacturer		R Schmitt Enertec
ENERGIN® Type		M06-GT0D41
Working principle		4-stroke
Cylinder configuration		6 in V / 90°
Valves per cylinder		4
Aspiration		turbocharged
Mixture cooling		without
Displacement	ltr	11,3

LUBE OIL

Lube oil volume	ltr	255
Consumption	ltr/OH	0,05

ALTERNATOR

Manufacturer		Leroy Somer
Type		LSA 46.3 S4
Voltage	V / Hz	400 / 50
Speed	1/min	1.500
Efficiency	%	95,2



PERFORMANCE⁹

Load		100 %	75 %	50 %
Electrical power	kW	140	105	70
Thermal power	kW	186	144	106
Fuel consumption	kW	363	278	199
Gas flow at LHV	Nm ³ /h	36	28	20
Electrical efficiency	%	38,6	37,8	35,2
Thermal efficiency	%	51,2	51,8	53,3
Total efficiency	%	89,8	89,6	88,5
Exhaust gas flow ¹⁰	m ³ /h	671	483	324
Air requirement	m ³ /h	4.499	3.737	3.114
Exhaust air ¹¹	m ³ /h	3.951	3.341	2.847

DIMENSIONS AND WEIGHTS WITH SOUND ENCLOSURE

Length	mm	3.240
Height	mm	2.030
Height with 90° elbow	mm	2.950
Width	mm	1.470
Dry weight	kg	3.430
Operational weight	kg	3.830

CONNECTIONS

Exhaust	DN / PN	150 / 10
Fuel gas	DN / PN	50 / 16
Exhaust air	mm	720 x 720
Process water	DN / PN	50 / 16
Exhaust condensate	DN / PN	Rp 1/2"

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