



# Wood Gas Combined Heat and Power Unit ENERGIN® M06 GEN+ H122

Datasheet, 250 mg NO<sub>x</sub>

The ENERGIN® GEN+ combined heat and power unit simultaneously generates electricity and uses the heat from the engine jacket water to heat water. 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 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 2000 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 GEN+ H122
Electrical power <sup>1</sup>	kW	122
Thermal power <sup>2</sup>	kW	85
Gas consumption <sup>3</sup> (LHV)	kW	362
Self consumption <sup>4</sup>	kW	4,3

## DESIGN

Fuel type		Wood Gas
Lower heating value LHV	kWh/Nm <sup>3</sup>	1,4
Gas flow pressure <sup>5</sup>	kPa	3,5 - 5,0
Inlet air temperature	°C	20
Exhaust temperature	°C	496
Hot water temperature <sup>6</sup>	°C	70 / 85
Hot water flow rate	m <sup>3</sup> /h	5,0

## EXHAUST EMISSIONS<sup>7</sup> WITHOUT CATALYST

NO <sub>x</sub>	mg/Nm <sup>3</sup>	250
CO	mg/Nm <sup>3</sup>	3000
Formaldehyde	mg/Nm <sup>3</sup>	100

## ENGINE

Manufacturer		R Schmitt Enertec
ENERGIN® Type		M06-HT2D41
Working principle		4-stroke
Cylinder configuration		6 in V / 90°
Valves per cylinder		4
Aspiration		turbocharged
Mixture cooling		2-staged
Displacement	ltr	11,3

## LUBE OIL

Lube oil volume	ltr	255
Consumption	ltr/OH	0,03

## ALTERNATOR

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



## PERFORMANCE<sup>8</sup>

Load		100 %	75 %	50 %
Electrical power	kW	122	92	61
Thermal power	kW	85	63	45
Fuel consumption	kW	362	277	199
Gas flow at LHV	Nm <sup>3</sup> /h	252	193	138
Electrical efficiency	%	33,7	33,2	30,7
Thermal efficiency	%	23,5	22,7	22,6
Total efficiency	%	57,2	55,9	53,3
Exhaust gas flow <sup>9</sup>	m <sup>3</sup> /h	1.828	1.414	1.020
Air requirement	m <sup>3</sup> /h	4.254	3.570	3.043
Exhaust air <sup>10</sup>	m <sup>3</sup> /h	3.699	3.161	2.761

## DIMENSIONS AND WEIGHTS WITH SOUND ENCLOSURE

Length	mm	3.200
Height	mm	2.000
Height with 90° elbow	mm	2.990
Width	mm	1.440
Dry weight	kg	3.110
Operational weight	kg	3.400

## CONNECTIONS

Exhaust	DN / PN	150 / 10
Fuel gas	DN / PN	80 / 16
Exhaust air	mm	720 x 720
Mixture	DN / PN	40 / 16
Process water	DN / PN	50 / 16

<sup>1</sup> +0 % tolerance on electrical power output

<sup>2</sup> - 3/+ 8 % tolerance for thermal power @ 496 °C

<sup>3</sup> +5 % tolerance on fuel consumption

<sup>4</sup> average self consumption without emergency cooling

<sup>5</sup> maximum variation of 10 % for set value

<sup>6</sup> Return/flow temperature

<sup>7</sup> Exhaust emissions related to 5 % oxygen in dry exhaust

<sup>8</sup> at standard conditions according to ISO 3046-1; cos φ = 1

<sup>9</sup> wet exhaust gas at 496 °C

<sup>10</sup> ΔT = 15 K



R Schmitt Enertec GmbH  
Siemensstraße 13  
56743 Mendig - Germany  
Phone +49 2652 93518 10  
Fax +49 2652 93518 22

R Schmitt Enertec International FZCO  
Apricot Tower, Office # 804, PO Box 341299  
Dubai Silicon Oasis, DSO, UAE  
Phone +971 4 333 5724  
Fax +971 4 333 9133

[www.rschmitt-enertec.com](http://www.rschmitt-enertec.com)  
[info@rschmitt-enertec.com](mailto:info@rschmitt-enertec.com)