



## Technical data sheet CHP 100 kW

### Biogas CHP JNW 100 BG with CHP dieselengine

Technical data unit		Values	
Power electric	kW	100	
Speed	1/min	1500	
.max. cooling water temperature	°C	88	
Length approx.	Mm	2200	
Width approx.	Mm	780	
Height approx.	Mm	1600	
Weight approx. medical history		1500	
Fuel connection	DN	according to DIN	40
Exhaust gas connection	DN	according to DIN	100
all information without add-on parts			
Energy balance unit		Values	
Rated thermal input	kW	287	
Cooling water heat can be used kW		76	
Mixture heat can be used kW		2	
Exhaust heat can be used up to 220°C	kW	57	
electrical efficiency (input)	%	34,8	
Thermal efficiency	%	47,0	
Total – Efficiency	%	81,9	
Current index	$P_{el} / Q_{useful}$	0,74	
cos phi		1	
100% load performance data			
Mass flows			
Combustion air	kg/h	510	
Fuel	kg/h	48	
Exhaust mass flow rate, humid	kg/h	530	
Exhaust gas flow, dry Nm <sup>3</sup> /h		490	
(0°C, 1013 mbar)			
Temperatures			
Exhaust gas temperature n. Turbine	°C	542	
Emissions			
NOx	mg/Nm <sup>3</sup>	< 500	at 5 % residual oxygen
CO	mg/Nm <sup>3</sup>	< 30	at 5 % residual oxygen
With catalyst (formaldehyde)	mg/Nm <sup>3</sup>	< 20	at 5 % residual oxygen
NMHC	mg/Nm <sup>3</sup>	< 150	at 5 % residual oxygen

Lubricating oil mobil MG40 Extra Plus and coolant mobil Antifreeze Extra 4060 Gas quality according to datasheet "Minimum gas quality requirement for gas engines"

Air ratio measured with lambdameter ETAS LA 4\_E. The technical data are based on a gas mixture of 60% methane and 40% carbon dioxide with a calorific value of 6.0 kWh/Nm<sup>3</sup>

and a methane number greater than 100. The technical data shall be based on standard reference conditions in accordance with

DIN ISO 3046-1. Standard reference conditions: absolute air pressure: 100k Pa, air temperature: 25 °C, relative humidity: 30 %, performance adjustment under ambient conditions according to DIN ISO 3046-1 The tolerance for specific fuel consumption is + 5 % at rated power

The tolerance for usable heat output is 7 % at rated output

The cooling water figures are based on a share of 40% antifreeze

<b>Mixture cooling to:</b>		
<b>Engine data</b>		50 Hz
$\lambda = 1.40$		
Rated speed	Min-1	1500
ISO standard performance	Kw	110
Air ratio	$\lambda$	1.40
Design		In-line engine
Number of cylinders		4
Bore	Mm	112
Hub	Mm	132
Cubic capacity	l	5,2
Direction of rotation seen on flywheel		Left
Flywheel housing		SAE 2
Flywheel connection		11,5 "
Compression ratio	$\epsilon$	11,5:1
Mittl. Piston speed	M/s	6,6
Lubricating oil consumption up to	kg/h	0,125
Engine oil capacity min./max.	l	16/20
Capacity of cooling water	l	16
.max. workload	bar	2
Cooling water flow min.	l/min	185
Cooling water temperature min.	°C	80
Cooling water temperature max.	°C	88
Difference (in-exit max.)	K	8
Mixture temperature inlet after throttle max.	°C	80
Mixture cooling water inlet temperature max.	°C	77
Mixture cooling water circulating flow NT min.	l/min	11
.max. inlet vacuum	Mbar	15
.max. exhaust back pressure	Mbar	40
Engine width	Mm	700
Engine length	Mm	980
Engine height	Mm	1010
Unladen weight of the engine	KG	530