

# Data Sheet

## Wood Gasifier Burkhardt V3.90 with Cogeneration Unit ECO 165 HG



<b>Complete System</b>	
Operation Mode	Parallel network operation
Electrical Power	165 kW (kVA) 199 kW maximal short time
Thermal Power	260 kW
Electrical efficiency (measured value)	30,0%
Heating Supply Temperature	max. 90 °C
Heating Return Temperature	max. 70 °C

<b>Wood Gasifier</b>	<b>Burkhardt V3.90</b>
Operation Process	Updraught co-flow gasification with stationary fluidised bed
Fuel	Wood Pellets (EN Plus A1)
Pellets Consumption	0,67 kg/kWhel (110 kg/h at 165 kWel)
Thermal Power	70 kW
Residual Product	Wood Charcoal/ Ash mixture 2-4 kg/h, Condensate 0,12 l/h
GCV Syngas	5,75 MJ/Nm <sup>3</sup> (min. 5,0 MJ/Nm <sup>3</sup> - max. 6,5 MJ/Nm <sup>3</sup> )
<b>Dimension, Weight and Connections</b>	
Length / Width / Height	5280mm / 2470mm / 4500mm
Weight without coolant	5500 kg
Heating Connection	DN40
Electrical Connection	3 x 400V 32A

<b>Cogeneration Unit</b>	<b>ECO 165 HG</b>
Basic Engine	MAN D26 (L6 engine)
Operation Process	4-cycle Otto with turbocharging
Displacement / Bore / Stroke	12,4 l / 126 mm / 166 mm
Rotation Speed	1500 1/min
Fuel	Wood Gas
Electrical Power	165 kW (kVA) 199 kW maximal short time
Thermal Power	190 kW
CHP coefficient	0,87
Exhaust Gas Flow Rate	1150 kg/h
NOx	500 mg/m <sup>3</sup> based on 5% O <sub>2</sub>
CO	300 mg/m <sup>3</sup> based on 5% O <sub>2</sub>
Benzene	1 mg/m <sup>3</sup> based on 5% O <sub>2</sub>
Dust	10 mg/m <sup>3</sup> based on 5% O <sub>2</sub>
Exhaust Gas Treatment	Oxidation Catalyst
Oil Consumption	ca. 0,034 l/h; max. 0,167 l/h
Synchronous Generator	Leroy Somer LSA 46.2 VL12
Cooling System	Air cooled
max. Power (Based on cos Phi 1)	199 kW
Voltage / Frequency / cos Phi	400 V / 50 Hz / 1
Efficiency	95,5%
<b>Dimension, Weight and Connections</b>	
Length / Width / Height	3760mm (3850mm) / 1730mm / 2600mm
Weight with coolant	4640 kg (5060 kg)
Heating Connection	DN50
Electrical Connection	3 x 400V 32A

The technical data are based on pellets with a heat value of 5 kWh/kg. The technical data are specified on standard terms and conditions according to DIN ISO 3046-1. All values are based on the system in norm operation. Standard terms and conditions: absolute air pressure 100 kPa; air temperature: 25 °C; relative air humidity: 30%. Power adaptation at ambient condition specified in DIN ISO 3046-1. At nominal power the tolerance for the specific fuel consumption is 5% and for the usable thermal power it is 7%. The process may cause power alternations of +/- 10%. The cooling water data is based on a rate of 35 % antifreeze. Reservation: We reserve the right to change the data and features without notice.