FUEL MADE FROM STRAW AND MANURE



ENERGY FROM FIELD RESIDUES IN THE CYCLE OF NATURE

Whether manure, straw, gardening material or organic waste – BioG has the right technical and biological solution to convert these residues into valuable raw materials.

Scan and learn more about the BioCNG filling station!



BIO FUELS

BioCNG FILLING STATION

Solutions for green energy

BioG – your partner for converting field residues into a valuable raw material. From harvesting to dosing, processing, foreign matter separation, conveying technology, control and electrics, we supply interface-free systems including CE certification and risk analysis.

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PRODUCE FUEL NOW WITH YOUR OWN FILLING STATION AND SECURE THG CERTIFICATES

BioCNG is purified biogas that is compressed to 250 bar. It is used in all commercially available CNG vehicles.

And this is how it works:
A partial flow of around 10 to 20 % of the biogas produced is taken from the biogas plant, then purified, compressed and separated into CO_2 and CH_4 via a membrane. After that, it will be compressed to 250 bar and stored in pressurised cylinders. At the end of the process, BioCNG is delivered to CNG vehicles via a dispensing system. The offgas with approx. 82 % CO_2 and 18 % CH_4 is fed back into the gas flow to the biogas engine.

DATA AND FACTS:

Sizes: 7 to 47 kg CNH/h

- One membrane stage achieves a CH_4 content of 95 to 98 %
- The off-gas then still has a CH_4 content of 15 to 20 % (three stage membrane separation: 0,2 %)
- Biogas extraction of 10 % = reduction of CH_4 content by 4 %
- A 960 litre cylinder bank stores 240 m³ or 170 kg of CH_4 at 250 bar.
- Approx. 1/3 can be refueled, i.e. approx. 56 kg per refueling process with 73 litres of diesel
- 1 kg of CNG = 1.5 litres petrol or 1.3 litres diesel
- Own energy consumption: 10–14 %
- Storage banks can be expanded modularly in 960-litre increments.



BIOFUELS FILLING STATION SINGLE-STAGE SYSTEM

	HFT 35-1	HFT 65-1
Biogas volume m³/h	35,0	65,0
CH_4 m³/h at 52 % CH_4	18,2	33,8
$C0_2$ in off-gas at 48 % m³/h	16,8	31,2
CH_4 for CNG m³/h	14.9	27.7
CNG kg/h at 97 % CH_4	11.0	20.4
CNG kg/day	262.8	488.6
CNG kg/year	95,935	178,349
Diesel litres/year	124,716	231,854
Material t FM/a – 33 % TS – 160 Nm³ CH_4 TS	2,353	4,375

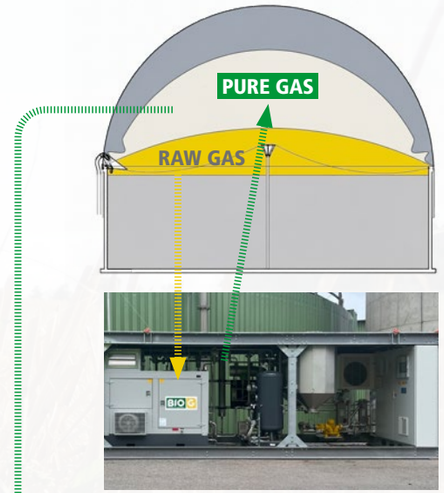
BIOFUELS FILLING STATION THREE-STAGE SYSTEM

	HFT 20-3	HFT 40-3	HFT 60-3	HFT 125-3
Biogas volume m³/h	20.0	40.0	60.0	125.0
CH_4 m³/h at 52 % CH_4	10.4	20.8	31.2	65.0
CNG kg/h at 97 % CH_4	7.6	15.3	22.9	47.8
CNG kg/day	183.5	366.9	550.4	1,146.6
CNG kg/year	66,961	133,923	200,884	418,509
Diesel litres/year	87,050	174,100	261,150	544,062
Material t FM/a – 33 % TS – 160 Nm³ CH_4 TS	1,642	3,285	4,927	10,265

OPTIONAL BUFFER STORAGE

Benefits

- longer processing-unit operating time
- improved coverage of peak demand



Gas cleaning/separation/compression





High-pressure compression and refuelling system ▸ **Consumer**