

RTN load cells working for renewable energy sources

New methods of energy production

There is still no telling where the challenging problem of energy will lead us. We have a maximum of fifty years before fossil fuels become scarce. Which is why new methods of energy production are being called for and developed. With its "Renewable Energy Sources Act" (EEG), the Federal German Government is offering maximum support to the combination of green electricity and heat production, giving a much needed lift to an area which has so far received little attention: biogas.

Generating biogas...

Biogas, a mix of 50–70% methane, carbon dioxide and some trace gases, occurs naturally when vast numbers of bacteria break down organic matter in the absence of air.

This process is utilized in installations that make biogas. The gas produced is stored temporarily and then recycled in a combined heat and power plant. This generates electricity for feeding into the public grid and heat. With appropriate refinement, the gas can also be fed into the natural gas grid or used as fuel. About 30% of the energy contained in biogas is extracted as electricity and 60% as usable waste heat.

The regular loading of the fermenter, where the microbial breakdown of organic matter takes place, is controlled by automatic loaders, which feed in solids at pre-programmed intervals.

... with HBM weighing technology

Because of their robustness, compact construction and ease of mounting, measuring chains made up of ring-torsion load cells (RTN), junction boxes and WE2107/2110 weighing electronics from HBM are highly regarded.

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Fig. 1: Substrate store with feeding system (worm-type conveyor)



Figs. 2 and 3:
RTN load cells with loading foot (above)
connected in parallel via junction boxes (below)





Fig. 4:
Biogas installation in Southern Germany

Fig. 5:
How a biogas installation works



Manure

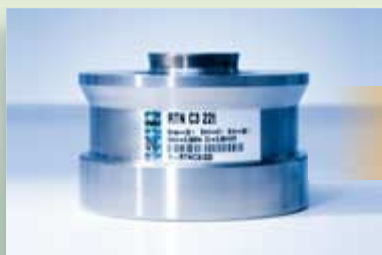
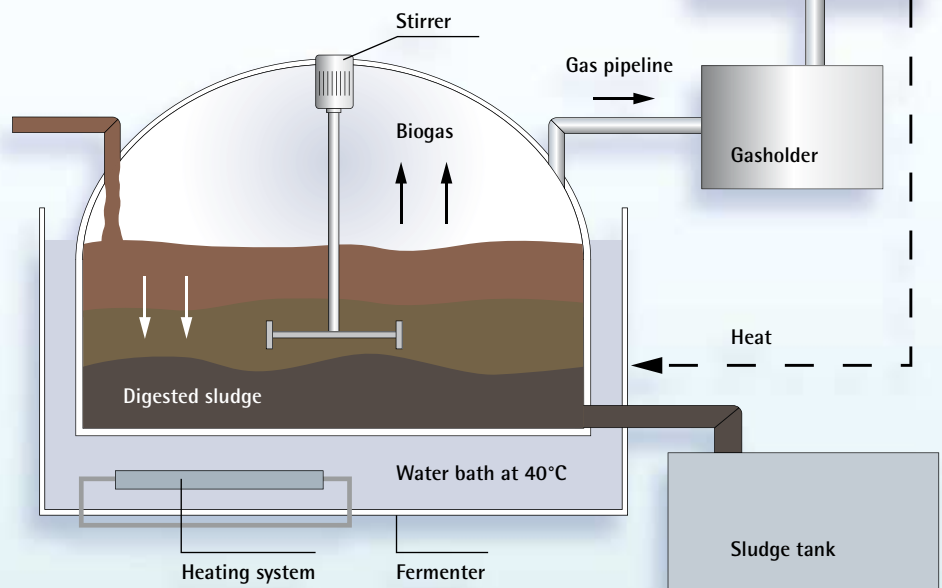


Fig. 6: Ring-torsion load cells (RTN), junction boxes and the WE2107 weighing indicator for controlling the automatic loader