



VEGA sensors in synthetic fuel production

The mobility revolution is one of the major drivers of climate protection measures. A promising approach to reducing CO₂ emissions lies in synthetic fuels from renewable energy sources. The Polish company Ekobenz specialises in the production of just such bio-hydrocarbons. In this state-of-the-art manufacturing process, VEGA sensors monitor levels and interfaces, i.e. separation layers.

Why synthetic fuels?

Synthetic fuels are produced through chemical synthesis and are considered a promising alternative to fossil fuels, for example those made from petroleum. One big advantage of synthetic fuels: They can also be used for existing vehicles, where they can replace conventional fuels and thus significantly reduce their CO₂ emissions.

What products are obtained with this method?

To produce synthetic fuels, Ekobenz uses ethyl alcohol which, among other things, is obtained from waste products. A catalyser, helps initiate the bio-hydrocarbon synthesis. In the course of the process, bio-butane-propane (bio-LPG), liquid bio-hydrocarbons (bio-petrol) and aromatic bio-hydrocarbons are produced.

What is involved in the manufacturing process?

"In order to reduce CO₂ emissions, we've developed technologies that are unique worldwide," explains Piotr Kobieć, Head of Production at Ekobenz. In the production process, the company relies on a "state-of-the-art processing plant" fitted with "unique automation solutions" and "first-class instrumentation technologies." An important part of the plant are VEGA sensors that enable reliable monitoring of the process parameters.

What do the sensors measure?



In a 3-phase separator, the **VEGAFLEX 81**, a level sensor based on the guided wave radar principle, can measure the hydrocarbon/water interface. The data is necessary for controlling the amount of water that is pumped from the container to the wastewater treatment plant. This prevents the unwanted escape of hydrocarbons. Continuous level measurement in the floors of the column is necessary.

Stable monitoring of the level of the medium in the process is also essential. This is achieved by using multiple VEGAFLEX 86 radar sensors in a bypass tube – these deliver precise measurements even under extreme pressure and temperature conditions.

VEGAFLEX 81 guided wave radar sensors measure the separation layers in the 3-phase separator.

What advantages do VEGA sensors offer?

VEGA's measuring instruments are known mainly for their precise and maintenance-free operation. This sets them apart from the previously installed level transmitters with magnetic floats, which proved to be less than optimal due to their cumbersome operation, measurement instability and frequent need for cleaning. VEGAFLEX sensors measure almost any liquid – even under challenging process conditions. For example, in applications with buildup, steam and foam, the measuring results are still reliable and accurate. The sensors also withstand the constantly high temperatures – which fluctuate between 140 and 280 °C. They also fulfil the company's requirements for Ex certification in compliance with ATEX standards.

How are the measuring instruments rated with regard to operability?



'As simple as possible for the user' – VEGA's guiding principle – is also very much appreciated by Ekobenz. Thanks to PACTware, integrating the sensors was efficient and intuitive, as this software made it easy to configure the measuring instruments. "PACTware also makes it possible to quickly change the parameters of a sensor, carry out diagnostics and create documentation during production," says Mateusz Zurawski, VEGA Sales Engineer, citing further advantages.

"Simple, user-friendly operation is particularly important to us," says Ekobenz Operations Manager Piotr Kobiec, who is extremely satisfied with the VEGA instruments. The fact that the VEGA Data Viewer is included free of charge in the service package is also a real plus. As a user, Kobiec most of all values the high measurement certainty of the virtually maintenance-free sensors. There is also the innovative solutions that enable the measured values to be accessed in many different ways: "If we're not directly at the sensor or on site, we can monitor them remotely – whether by computer, tablet or smartphone."

The VEGA Tools app enables remote monitoring of the measured values in the separation tank.

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