

DESULFURIZATION IN SEWAGE TREATMENT PLANTS

Task

Anaerobic fermentation produces gases containing methane, which are combustible (biogas). Depending on the raw material used for operation (feeding) of the plant, these gases contain impurities, such as hydrogen sulfide – a very harmful gas that when combined with water forms sulfurous acid. There are various methods available to minimize the hydrogen sulfide content in the process (desulfurization). Some are based on feeding of gas, such as air (oxygen) or liquids (e.g., iron(III) solution), while others are based on cleaning of the gas by a filter.

Solution

UNION Instruments offers an optimally equipped version of its modular INCA gas analyzer as a solution for this. This determines the content of hydrogen sulfide and oxygen, and the measured values serve as a control variable for the addition of gas or liquids. INCA uses a special measuring technique to measure over broad spectral ranges at very high accuracy. Further on, INCA uses a patented micro pulse method, which allows a measuring range of 0 to 10,000 ppm of H₂S and consequently even the "0" can still be resolved. The sample gas preparation is integrated in the device and cools and dries the gas.



The optional sample gas changeover is expandable up to 10 measuring points and is able to draw in sample gas from up to several hundred meters away.

User Benefit

The measured values provide plant operators with information about the process, enabling them to optimize plant operation in terms of both technical, safety and cost aspects (when to replace the activated carbon, low oxygen concentration) and to meet the increased requirements.

