Heartbeat Technology in the water/wastewater industry

Micropilot FMR50

Heartbeat Technology
The pulse of your measurement

Do you want to increase your plant's availability and decrease costs? With Heartbeat Technology, Endress+Hauser offers the widest choice of measuring devices incorporating a groundbreaking diagnostics and verification concept designed with this purpose in mind.

Through a clever combination of diagnostics, verification and monitoring, Heartbeat Technology enables safe and cost-efficient plant operation throughout the entire life cycle.

Heartbeat Technology

Micropilot FMR50 radar device

Challenges in the water/wastewater industry Sludge is a regular byproduct of wastewater treatment and must be treated and disposed of separately. Anaerobic sludge stabilization in digester tanks is used in many cases. This process enables plant operators to reduce by approximately one half the volume of sludge to be disposed of while also generating energy sources in the form of biogas and heat. This has a positive impact on the energy balance of the entire plant.

This all sounds very positive, and yet some plants struggle with sudden foam formation and the disruption this entails. Digester tanks are an area of the system regulated by ATEX, and so disruptions not only have a negative impact on general plant availability and cost but also constitute a definite safety risk. Foam can be prevented or reduced through the use of anti-foam additive, sprinkler systems or agitators to break down the foam mechanically.

Requirements for an optimized solution The tendency towards foam formation in digester tanks is determined by many factors, including bacterial composition in the biological phase or varying system loads. In any case, it is in the interest of operators of wastewater treatment plants for cost-intensive, anti-foam measures to be implemented in a targeted manner, in other words only when foam is actually being generated. It is only when an operator has a reliable method of detecting foam that they can save costs without compromising plant safety and availability.

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People for Process Automation

Our solution The Micropilot FMR50 with additional switch output reliably detects foam formation and also provides verification and monitoring functions thanks to Heartbeat Technology.

Benefits When it comes to foam formation, Heartbeat Technology determines the ideal time to add the expensive additive and optimizes its dosage. It also controls the sprinkler system when necessary rather than periodically. This ensures that the process is never compromised, that there is no contamination by unwanted foam and that the use of additives is minimized.

Heartbeat Technology provides a safe and automated means of monitoring foam formation, allowing you to control your processes while optimizing cost. Heartbeat Technology pays for itself in less than a month.

Sample calculation

Additive is used six times per day, costing €500 in each case.

Heartbeat Technology detects foam and reduces the use of additive by approx. 30%. This means that Heartbeat Technology pays for itself after just the first day.

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PU01205F/00/EN/01.17

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