

AMI SAC254

Simplifying monitoring of organics in potable water treatment processes

The AMI SAC254 is an online monitor for continuous measurement of UV absorption at a wavelength of 254 nm. UV absorption is a surrogate measuring principle to determine organic material (DOC, TOC, etc.) in water treatment processes.

- Unique, patented principle of operation – dynamic absorption measurement at multiple optical path lengths:
 - Stable measurement without drift, insensitive to fouling
 - Broad measuring range from 0 up to 300 m^{-1} with 0.05 m^{-1} detection limit
- Integrated turbidity correction at 550 nm according to DIN 38404-3
- Integrated grab sample functionality for manual measurement, verification and calibration.



UV Absorption Organics Monitor

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Spectral Absorption Coefficient – SAC₂₅₄

SAC₂₅₄ is a sum parameter, which indicates the organic load in potable water and wastewater, as UV absorption at 254 nm is typically dominated by organic contaminants.

Correlation to multiple carbon-based parameters (DOC, TOC, etc.) makes SAC₂₅₄ a versatile measurement since elevated levels of organic carbon (OC) are related to many water quality issues:

OC decreases the microbiological stability of drinking water and the presence of disinfectants. It is a precursor for the formation of carcinogenic organic disinfection by-products and can give rise to taste and odour issues itself if present at ppm levels. The efficiency of UV disinfection is reduced as the inactivation of pathogens competes with UV absorption by DOC.

Accordingly, the efficient removal of OC is a major goal during potable water production and wastewater treatment. Monitoring OC through UV absorption is a technically simple and fast method compared to DOC/TOC online analyzers or lab measurements. The AMI SAC254 enables early detection of water quality changes which require the adjustment of treatment steps or further measures in order to assure a constantly high water quality.



Range of Applications

Raw Water Intake

Monitoring changes in the raw water composition of organic load for trending analyses to allow for continuous detection and early adjustment of the treatment process.

Coagulation/Flocculation/ Sedimentation

Monitoring the effective removal of natural organic matter (NOM).
Optimization of chemical feed for improved process efficiency.

UV Disinfection

Energy saving through optimized operation of UV disinfection.

Micropollutant Removal

Process control of activated carbon and ozone dosing.

Activated Carbon Filtration

Continuously monitoring the effectiveness of activated carbon filtration for accurate predictions of the filter saturation.