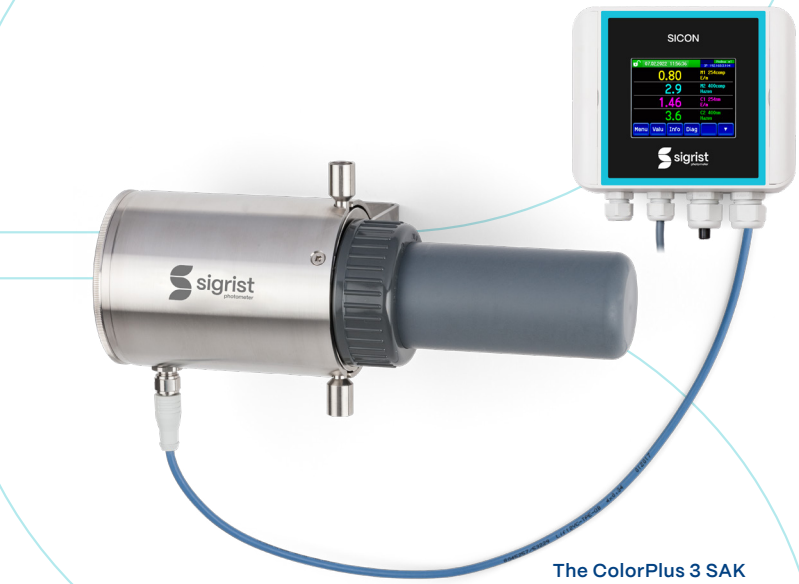
sigrist photometer

APPLICATION REPORT

DOC Measurement in Raw Water

Raw water is often contaminated with dissolved substances. These are only visible to the eye if the water is colored in the visible range of light. However, the impurities are often organic compounds that are not visible to the eye. The ColorPlus 3 from Sigrist is used to detect and quantify these.



The ColorPlus 3 SAK

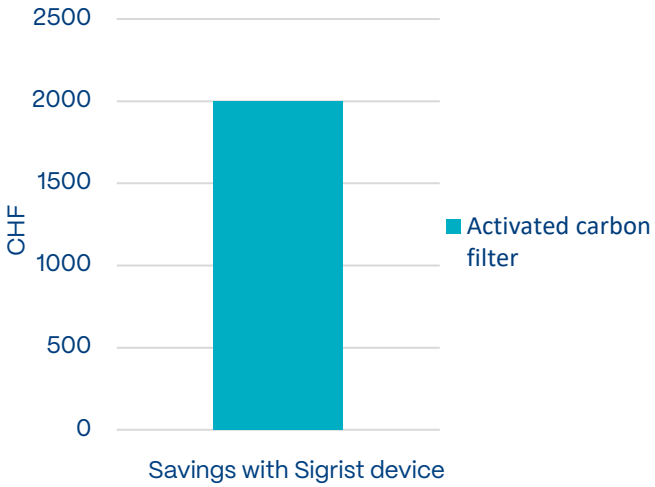
Dissolved organic substances or dissolved organic carbon (DOC) must be eliminated in the water treatment process. For this reason, the concentration is measured at the entry of the waterworks and after the cleaning stage. The measurement runs continuously.

The Solution

The ColorPlus 3 SAK 254 measures the absorption coefficient at 254 nm. A large number of organic substances absorb at this wavelength. This value is therefore not substance-specific, but merely reflects the general contamination of a water sample with organic substances. The photometer is either connected to a SiCon control unit or to another Sigrist photometer. This makes it easy to set limit values and alarms. These alarms can be transmitted to a control system via a variety of analog and digital outputs.

The Customer Benefit

The measurement of DOC is used to monitor activated carbon filters. Their regeneration is expensive and should only take place when the filter is saturated. For this purpose, the activated carbon is cleaned in a multi-stage process, for which temperatures of up to 800°C are required. The filter service life can be optimized by measuring DOC after filtration. It is estimated that annual costs of CHF 2000 can be saved.



Technical Details

- On-line measurement of DOC (UV absorption) with optional color measurement
- Compensation of window contamination
- Easy-to-clean measuring cell without tools

Practical Measuring Tasks (Examples)

In combination with turbidimeter, the ColorPlus 3 SAK 254 can also be used for efficient flocculant dosing.

In raw water, the measurement of the OilGuard 2 W and the ColorPlus 3 can be partially correlated and gives an idea of the microbiological load of the water.

Did you know?

SAK stands for spectral absorption coefficient in German. This very abstract term describes how much light is attenuated by absorption at a certain wavelength. This is why the abbreviation is always followed by the wavelength.

There is also the SSK (this stans for spectral attenuation coefficient in German). The spectral attenuation coefficient describes the attenuation of light by the sample at a certain wavelength. The attenuation is caused by absorption and turbidity. The following therefore applies: SAK = SSK – turbidity

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