

Issues

The gain of forming hydrogen sulphide in wastewater collection systems causes:

- Odour nuisance around the collection systems
- Corrosion on collection systems and other constructions
- Highly hazardous for workers in wastewater treatment plants
- Reinforced sludge bulking in sewage treatment plants

The optimisation of chemical treatment of wastewater is vitally important. Thereby the following will be reached out:

- Prevention of overdosage
- Saving of expensive chemicals
- Increasing the lifetime of the collection systems



S-Online applied in a pressure pipe system for wastewater

A novel metering system

- H₂S analyzer for monitoring the H₂S pollution on the entry and the outlet of the pressure pipeline with triggering of a metering pump
- Calculation of the amount of chemicals regarding the pH value, redox potential, conductivity, oxygen content and temperature
- Software for calculation of the needed amount of chemicals for wastewater treatment and for data handling



Sewage treatment plant - main application area of the S-Online

Results

- Extensive test runs in a pilot plant
- Long-term test with real wastewater and 3 different chemicals (Iron (II), Nutriox, iron nitrate)
- Optimisation of algorithms for different chemicals
- Saving of 18 to 30 % of chemicals
- Enhancements for real long-term operations

On-road test

- Connection of the metering system with the wastewater pressure pipeline
- On-site control of chemical dosage as needed
- Adjusted for different wastewater compositions
- Significant reduce of H_2S load immediately after start-up
- Research into variation of H_2S load regarding weather conditions, temperature and composition of wastewater

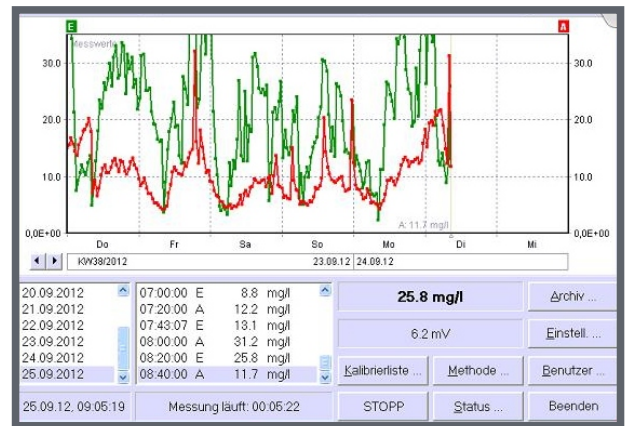
Specifications of S-Online

Typical duration of measurement:	5 ... 15 min
Resolution:	0.1 µg abs., output signal linear
Measuring range:	0.01 ... 1000 ppm
Sample volume:	0.01 ... 20 mL
Gas supply:	Internal pump or compressed air
Gas flow:	Up to 50 L/h
Power supply:	220 ... 230 V, 50 Hz, 2 A
Power input:	100 W
Protection class:	IP66
Dimensions:	600 x 720 x 370 cm (W x H x D)
Weight:	20 kg

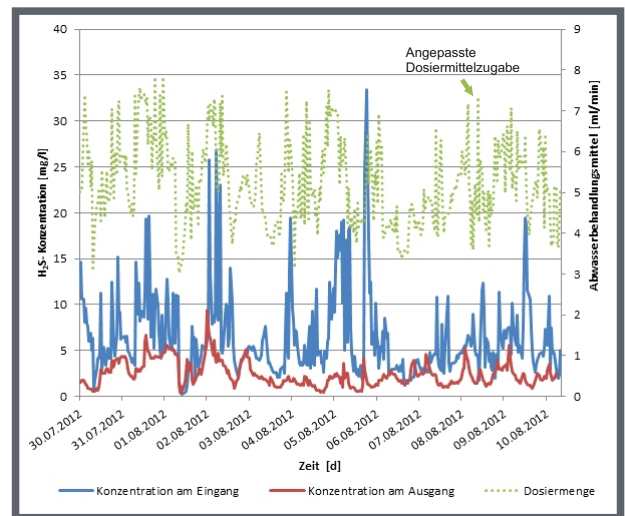
We are here for you



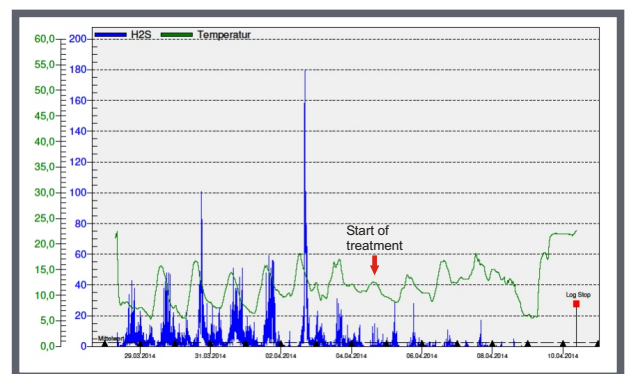
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Automatic recording of measuring values



Sulphide concentration in the pilot plant



Sulphide emission (gas) at the end of the pressure pipeline