

## Phosphorus load peaks in the influent?

Precipitant metering optimised by W.T.O.S.

### The initial situation

The Schlüchtern treatment plant always used to struggle with load peaks from a rain overflow tank that otherwise worked well. The phosphate precipitation, which was initiated manually, was often pushed to its limits by these peaks. As a result of this, the predefined value of 1.2 mg/L was not always able to be achieved.

- ▶ Strong surges with high phosphorus loads
- ▶ Manual precipitant metering
- ▶  $P_{tot}$  monitoring value: 1.2 mg/L

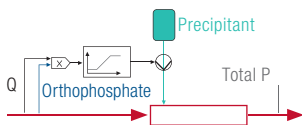


Figure 1: Schematic diagram of the W.T.O.S. precipitant control system

### The plant

- ▶ Capacity: approx. 27,500 PE
- ▶ Built in 2001
- ▶ Intermittently aerated biological treatment step
- ▶ Chemical P precipitation
- ▶ Aerobic sludge stabilisation



### The solution

A PHOSPHAX sc was installed in the distribution structure for final sedimentation to measure the phosphate levels continuously. Based on these measurement values, together with the influent volume signal, a W.T.O.S. P module (real-time controller) calculates the amount of precipitant required. As a result of this process, the precipitant is now always metered in accordance with the load.

Thanks to the level of reliability now provided, the Schlüchtern treatment plant was able to declare a lower value straight away. Current monitoring value: 0.9 mg/L (and still falling).

- ▶ Continuous P measurement with PHOSPHAX sc
- ▶ Load-dependent precipitant control
- ▶ New  $P_{tot}$  monitoring value of 0.9 mg/L

### The advantages

- ▶ Optimum use of precipitant
- ▶ Reliable compliance with effluent values
- ▶ **Possible costs reclaimed: almost EUR 240,000**

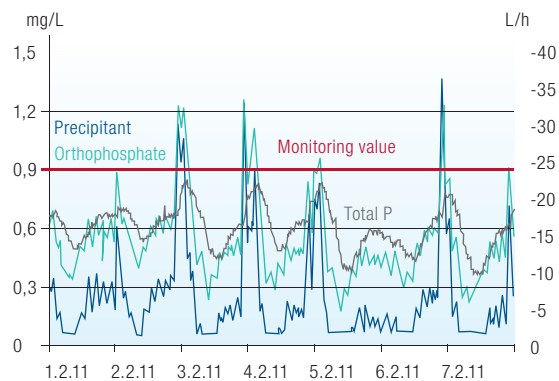


Figure 2: Original hydrograph curves for the W.T.O.S.-controlled, load-dependent precipitant metering system.



More information on this project can be found at [www.hach-lange.co.uk](http://www.hach-lange.co.uk)

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