

# Micro Motion® Meters Improve Water Quality, Reduce Costs in Water Utility's Chemical Injection

## RESULTS

- Improved water quality
- Lowered costs by reducing usage of PAX and other expensive chemicals
- Lowered costs by limiting manual monitoring of water intake



## APPLICATION

A water treatment plant has several different chemical injection applications. Most importantly, in the beginning of the treatment process, alum or PAX is applied to incoming raw water as a clumping agent to pull dirt and particulates into filters. Further along in the process there are several other critical injection applications, which include chemicals such as pre- and post-caustic, polymer, and polyphosphate; and gases such as chlorine and ammonia.

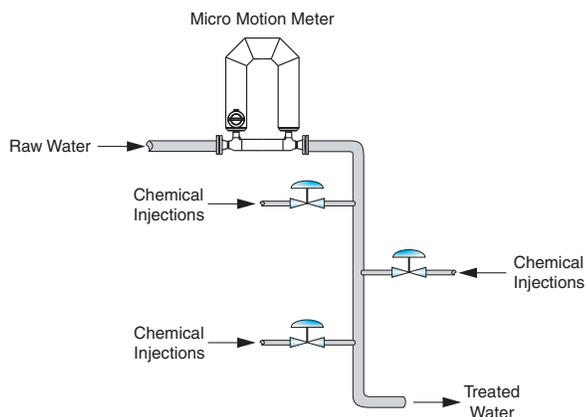
A water treatment plant used positive displacement pumps for all these applications. The raw water intake measuring the flow from the metering pumps was checked against drawdown cylinders every hour. This measurement was used to determine injection quantities. Since there was a lag time between measurements, the amount of chemical injected could fall short or exceed the correct dosage.

## CHALLENGE

PAX is an expensive, highly-corrosive alternative to alum. Because of its high cost and corrosive properties, it is critical to release the correct dosage (15–20 ppm) into the water stream. Not only can using too much be costly, using too much or too little upsets the blanket in the water, causing problems throughout the rest of the water treatment cycle. The existing positive displacement pump was unable to provide the level of accuracy required by the process. The plant was looking for a flowmeter that would offer precise mass flow measurements at a reasonable price. In addition, the plant wanted to improve the timeliness of measurements in order to better control the use of chemicals.

*Using Micro Motion meters, the plant improved its water quality while simultaneously reducing chemical usage.*

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### SOLUTION

The water utility installed a Micro Motion® Coriolis flowmeter for its alum/PAX application. The flowmeter provided accurate alum/PAX measurements, causing the water to stabilize. The utility had tighter controls and improved water quality.

The utility's supervisor was so pleased with the results of the flowmeter in the PAX application that he replaced the metering pumps in the other chemical and gas injection applications with Micro Motion meters. As a result, the injection amounts were always paced accurately to the raw water. The water flow is constantly changing, but the flowmeters continuously and accurately measured the raw water intake.

Using Micro Motion flowmeters, the plant has improved its water quality while simultaneously reducing chemical usage, which translates into lower costs.

