

Mediterranea delle Acque Optimizes Drinking Water Treatment with Rosemount Magnetic Flowmeters

RESULTS

- Reduction of maintenance activities of final filtration by 10%
- Operative costs reduction by 5%
- Verification activities reduced by 50%
- Overall Equipment Efficiency increased by 1%



APPLICATION

Drinking Water Treatment Plant

CUSTOMER

Mediterranea delle Acque is a major Water company in Italy, that manages drinking water treatment and distribution in the region of Liguria, Italy. The company, established in the city of Genova, uses water coming from 6 dams, 30 drilled wells, 48 rivers and 453 springs. Five large drinking water treatment plants deliver potable water into the 1,700 km distribution network serving over 700,000 people.

CHALLENGE

The plant includes preliminary disinfection, flocculation and final filtering operations. These processes require accurate measurement of the water flowrate which generally varies between 30 l/sec and 60 l/sec but can range between zero and 70 l/sec, depending on the drinking water demand - which is strongly variable depending on the period of the year. Instrument reliability is critical as any incident which would result in the instrument being out of service would affect the delivery of drinking water to a large territory.

The treatment plant was using magmeters from another manufacturer but was not able to optimize the sand filtering operations due to accuracy limitation of the magmeters. Moreover, the magmeters were a very basic level of technology often adopted by water plants, which were unable to deliver any kind of diagnostic information on the health of the meter or on the reliability of the measurement.

Mediterranea delle Acque was looking for a magmeter technology which would support optimization of the final filtering sections by providing the most accurate measurement available to track and predict filter usage and schedule filter backwash cycles for maximum efficiency. They were also interested in advanced diagnostic technologies which would simplify maintenance and reduce maintenance and operational costs.

“I could not imagine that the magmeter technology would provide such amazing advantages. During the first year of operation, we have seen that the Rosemount Magnetic Flowmeter technology brings unparalleled value in our applications by reducing maintenance activities and operational costs.”
Mediterranea delle Acque,
Technology Manager

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SOLUTION

For this challenging drinking water application, Mediterranea delle Acque selected Rosemount Magnetic Flowmeters. While water treatment plants often select basic, low feature metering, Mediterranea delle Acque envisioned how improved performance and intelligent diagnostics would impact their plant. The highly accurate and repeatable meters enabled better control of final treatment filter usage and better prediction of the washing cycles.

As a result, the plant experienced a reduction of filter system maintenance costs of 10% by optimizing the time between washing cycles of each sand filter section. To simplify installation, the flowmeters were preconfigured by Rosemount based on the plant information, resulting in an estimated 95% reduction in site configuration time. The reliability of the meters have been exceptional with no down time due to meter issues during the first year of service. Thanks to the broad rangeability, the meter has maintained precise measurement across all conditions, from zero to maximum summertime flow rate. Additionally, Smart Meter Verification technology helped reduce operating costs 5%, and reduced the cost of periodic meter verification by 50% and increasing operative efficiency by 1%.



Rosemount Magnetic 10-inch flowmeter installed at Mediterranea delle Acque in the filtering area.

RESOURCES

Emerson Process Management Water/Wastewater Industries

<http://www2.emersonprocess.com/en-us/divisions/power-water/Pages/powerwater.aspx>

Rosemount Magnetic Flowmeters and Magmeters

<http://www2.emersonprocess.com/en-US/brands/rosemount/Flow/Magnetic-Flowmeters/Pages/index.aspx>

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