

Application note

Demineralize water production in a powerplant

Benefits:

- Easy to set up and program
- No process interruption
- Strong reputation in clamp on measurement
- Reliability and accuracy
- Strong local support



Summary

HEP is the national power company in Croatia and operates 26 hydroelectric, 4 thermal and 3 cogenerating plants. This application relates to a powerstation in one of those 3 cogeneration plants, which supplies both heat and energy to a nearby city.

Due to rising demand over the years, HEP added a new facility to the plant producing demineralized water to feed the powerplant. However, during the start-up the water flow was unstable and the plant operator reached out to a Panametrics' Channel Partner seeking a solution.

Application

Process details:

Media: demineralized water (non-conductive)

Pressure: 0 - 3 barg (0 - 43.5 psig)

Flow: between 34 - 100m³/h (150 - 440 GPM)

Temperature: 16°C (61°F)

Pipe material: PVC

Pipe size: From 225x20.5mm (8.9"x 0.8")

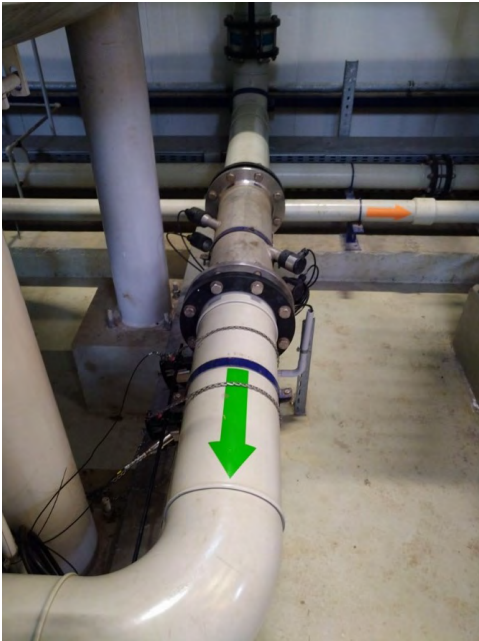
Accuracy: ±2% of reading

Challenge

An in-line ultrasonic flowmeter (supplied by a competitor) had been installed when the plant was originally constructed. However, its results were unstable, jumping from 100 to 140 to 80m³/h.

The customer was concerned! The team could not control the production and had to stop the pump, which meant halting operations. They immediately contacted Panametrics' Channel Partner.

It was soon established that it was crucial to ensure the demineralized water flow range stayed within a pre-defined threshold in order to safely start up the energy production process. The other critical factor was to have a 1 second refresh rate to improve pump control.



Inline and clamp on meters

Solution

Panametrics has enjoyed a strong relationship with HEP thanks to a total of 16 Aquatrans AT600 clamp-on ultrasonic flowmeters providing the customer with accurate and reliable data.

Familiar with HEP's set up, the Panametrics Channel Partner was able to secure stable and reliable measurements in less than 1 hour using the AT600.

The meter was positioned downstream of the existing inline meter. The team was able to determine that the inline meter was too close to the 90° bend leading to a non-fully developed flow profile despite the mid-radius transducers' position. However, some issues were experienced there too (as shown in the picture). So the team opted for another location along the line.

With Panametrics technology installed further downstream (not shown) with much more straight runs upstream and downstream, the resulting measurements were accurate and stable.

The customer was impressed by Panametrics technology and the Channel Partners' hands-on approach. Most importantly HEP was extremely happy it could continue the startup process without further interruptions.



Inline and clamp on electronics

Panametrics, a Baker Hughes business, provides solutions in the toughest applications and environments for moisture, oxygen, liquid and gas flow measurement.

Experts in flare management, Panametrics technology also reduces flare emissions and optimizes performance.

With a reach that extends across the globe, Panametrics' critical measurement solutions and flare emissions management are enabling customers to drive efficiency and achieve carbon reduction targets across critical industries including: Oil & Gas; Energy; Healthcare; Water and Wastewater; Chemical Processing; Food & Beverage and many others.

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