



Panametrics water flow meters:

boundary busting longevity and quality

Summary

Late last millennium, Panametrics installed a model 6068 liquid clamp-on flow meter for the measurement of water in SIMEC Lochaber Hydro Power, a hydroelectric power plant in Scotland, to monitor turbine generator performance.

The measurements are used to determine the performance of the generators on the plant to ensure the actual power output and water flow are consistent with expected power output.

Panametrics has a long and successful track record with the Lochaber hydroelectric plant. The model 6068 was estimated to have been installed in the early '90s.

A dual channel DF868 was later installed in 1999 on the feed pipes when two new turbine generator units running in parallel to the first unit, were added on the station.

The electronics on both meters recently failed after more than 25 years of operation. Impressed by the durability, reliability, accuracy, and longevity of the technology the customer returned to Panametrics to replace and upgrade with equipment that feature digital communication capabilities.

It took the opportunity of replacing the 6068 with an ultrasonic clamp-on Aquatrans AT600 with Modbus. In addition, it replaced the old DF868 with a new DF868 with Modbus rather than repair the original.

Benefits:

- Long lasting performance
- No process interruption
- Strong reputation and local support
- Reliability and accuracy



Application

Medium:	Water
Pipe size and material:	Carbon Steel 924x22 mm (36"x1")
Flow rate:	0-12000m ³ /h (0-3122 GPH)
Temperature:	ambient
Requested accuracy:	<±2% of reading.

Challenges

The recent electronics failures were something that could be easily confirmed, but there was no immediate way to assess the state of the cables and the existing transducers. However, using a Panametrics portable PT900 flow meter the team was able to successfully confirm that the transducers and cables, dating back to the '90s, still performed flawlessly.

Solution

The customer ordered new electronics (1x AT600, 1x Dual Channel DF868 for two pipes), fully retro-compatible with the existing C-PT transducers/cables.

No changes were needed to the transducer installations other than changing the transducer couplant. The AT600 was mounted inside the 6068 case to minimize changes.

Both meters were programmed and checked by a Panametrics' Service Engineer. The new solutions were up and running in just a few hours. The data returned the expected flowrate, even though the original parameters had been lost with the failure of the old electronics.

The customer was pleased with the final outcome and said it was a great reflection of Panametrics flow meter accuracy, reliability and longevity. The customer expects to rely on accurate measurements for decades to come.



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