

# Proficiency test for measurement equivalence in water flow metering with Coriolis mass flow meters in South Korea

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There are more than twenty accredited laboratories for flow measurement in South Korea according to KOLAS, the Korea Laboratory Accreditation Scheme. Among them, twelve accredited laboratories participated in the proficiency test for water flow metering arranged by KASTO, the Korea Association of Standards and Testing Organization, in 2015. KRISS prepared for the proficiency test with the water flow standard system (WFSS), of which measurement range was between 3.6 m<sup>3</sup>/h – 200 m<sup>3</sup>/h. The participating laboratories were divided into three groups to test low flow range (3.6 m<sup>3</sup>/h – 12 m<sup>3</sup>/h) and high flow ranges (40 m<sup>3</sup>/h – 80 m<sup>3</sup>/h and 40 m<sup>3</sup>/h – 200 m<sup>3</sup>/h). The transfer standards were two Coriolis mass flow meters. All the participating laboratories satisfied the measurement equivalence with the WFSS at KRISS. However, there was one example which demonstrated the importance of density measurement for volume flow metering with the mass flow meters.

*Keywords:* Coriolis flow meter, flow standards, gravimetric flow metering, proficiency test, water flow



Fig. 1 Transfer standards for the proficiency test

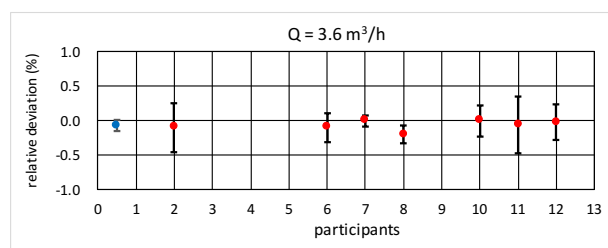


Fig. 2 Relative deviations at 3.6 m<sup>3</sup>/h