Water Flow Meter Calibration in NMI Laboratory of Finland

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Centre for Metrology MIKES has gravimetric national standard and also two closed type devices, named as D500 and D100, for water flow calibrations in Finland. These calibration rigs are based on reference meters. Flow rate in the D500 rig is possible up to 2700 m³/h and it has an electromagnetic reference meters size of DN500 and DN150. The D100 contains Coriolis flow meters as a reference meter and their size are DN50 and DN15. Lowest measurement uncertainty is 0.3% (*k* = 2) for both rigs. Laser Doppler Velocimetry measurements have been done in the D500 rig to verify the proper flow profiles between the meter under test and the reference meter. This presentation will show in detail the results, the construction and the performance of the calibration rigs.