Euroloop Further Increases Calibration Confidence with Daniel 3418 Gas Ultrasonic Flow Meter at Gas Flow Lab

RESULTS

- Proven repeatability of the flow meter over a range of flows, pressures and temperatures
- Good rangeability, linearity and pressure dependency
- With a CPA 65e flow conditioner at 10D upstream length, removal shows no clear signs of mismeasurement
- Short term reproducibility combined with low repeatability gives performance similar to turbine technology

APPLICATION

Third-party flow meter calibration for custody transfer in Oil & Gas industry

CUSTOMER

Euroloop, a calibration facility for high-flow natural gas and liquid hydrocarbon flow meters, located in the Netherlands

CHALLENGE

Ensuring that every calibrated flow meter provides the user with an accurate, traceable measurement is key for accurate custody transfer for oil and gas customers. Translating flow conditions of a reference meter to a meter under test is prone to several assumptions. Possible issues such as stratification, line pack, valve leakage, pulsations, flow profiling, gasket protrusion, etc., are not always easy or directly noticeable at either section. A high-class calibration facility strives for the best quality available. Being able to monitor the quality of the calibration directly at the meter under test conditions, with the highest accuracy and without disturbing the process, is therefore desirable.

SOLUTION

Installing the latest generation 8-path gas ultrasonic flow meter, monitoring each calibration, aids Euroloop in the assessment of the behavior of the meter under test. Being able to produce reproducible, repeatable data in a real-time environment helps the calibration facility to properly asses the meters under inspection. Results show excellent repeatability and short-term reproducibility, potentially uncovering alternatives to the volumetric standards used in calibration facilities.

"Custody transfer meters are the cash registers for the oil and gas market. Proper maintenance, knowledge and verification is of the highest importance considering the vast volumes traveling through pipelines worldwide."

– Euroloop
Metrology and Quality Assurance Manager

The Daniel 3418 Gas Ultrasonic Flow Meter with 8-path shows improvement in repeatability and short-term reproducibility.