

The Next Generation of Multiphase Meters

Martijn Tol, Morten Brandt, Lars Anders Ruden, and Jyotsna Joshi

Roxar Flow Measurement

This paper will examine how multiphase meters are addressing these challenges as well as tracking their development over the last 20 years. The paper will look at some of the key benefits of previous meters (such as reliable capacitance/permittivity and low power consumption), but also areas where improvements could be made, such as the accurate measurement of complex flow regimes, inductance issues, flexibility, weight and the need for a gamma back-up.

In particular, the paper will examine the design and technology behind developing a third generation multiphase meter with the goal of generating greater accuracy and providing more detailed knowledge on flow rates and complex flow patterns.

In addition, the paper will examine the process undergone to develop a non-radioactive version of the multiphase meter, without compromising measurement uncertainty, and the development of a Field Replaceable Insert Venturi which allows for extended service life and operating range.

The paper will be of interest to any operator or well testing company who is looking to increase the well testing, flow assurance, and production optimization capabilities of multiphase meters.