



Instrumentation Selection for Oil and Gas Applications (Flow)

MODULE

About the Skill Module

In this module we discuss various types of flow meters, including their technology, components, features, use, and technology in the oil and gas industry.

Target Audience

Process, chemical, and mechanical engineers, (i.e., non-instrumentation and non-electrical disciplines), as well as other technical and non-technical professionals with little or no background in IC&E systems.

You Will Learn

Participants will learn how to:

- Review the basics of flow profiles
- Discuss the different technologies used for flow switches
- Identify the working principle, and advantages and disadvantages of the following positive displacement meters
- Identify the working principle, advantages and disadvantages of the following head loss meter technologies
- Describe the basic working principle of a turbine meter
- Explain Faraday's law and how this may be applied to the measuring liquid flow
- Describe the working principle of Doppler-based meters
- Review the working principle of transit-time meters
- Explain the working principles of clamp-on meters
- Review some of the tube arrangements used in Coriolis measurement
- Describe the phenomenon of vortex shedding and the formation of vortices
- Explain how the Strouhal factor varies with the bluff body shape and Reynolds number
- Describe the working principle of a typical vortex meter
- Discuss the role of a three-phase separator
- Identify the need for multiphase flow metering (MPFM)
- Explain the differences between calibration, verification, proving, and validation
- Discuss some of the on-site open and closed tank prover systems
- Explain the working principle of a bidirectional pipe prover
- Describe the working principle of eight unidirectional pipe prover
- Review the use and working principle of piston provers

- Describe the role of a LACT system
- Discuss the role of environmental influences
- Identify some common selection criteria
- Explain Safety Instrumented System (SIS) and their uses

Product Details

Categories: Upstream

Disciplines: Instrumentation, Controls & Electrical

Levels: Basic

Product Type: Individual Skill Module

Format: On-Demand

Duration: 6 hours (approx.)

\$395.00