MERCURY

Advanced Liquid and Gas Flow Measurement

6 – 10 June 2027
Istanbul (Turkey)



Dubai - UAE: +971 4 450 5697
Istanbul - Türkiye: +90 539 599 1206
Amman - Jordan: +962 79 712 3347

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Ref: 15727_322532 **Date:** 6 – 10 June 2027 **Location:** Istanbul (Turkey) **Fees:** 5500 Euro

Introduction:

Accurate liquid and gas flow measurement is crucial for optimizing performance, ensuring safety, and maintaining operational efficiency in industrial processes and engineering. The Advanced Liquid and Gas Flow Measurement course delves into the sophisticated technologies and methodologies employed to measure and analyze flow rates in various systems.

This Advanced Liquid and Gas Flow Measurement course covers advanced topics, including state-of-the-art measurement techniques, instrumentation, and calibration procedures, providing an understanding of the principles and practices involved. Participants will explore various flow measurement devices, such as Coriolis, ultrasonic, and magnetic flow meters, and learn to apply these technologies to complex applications.

The Advanced Liquid and Gas Flow Measurement course will equip attendees with the skills and knowledge to effectively select, implement, and maintain advanced flow measurement systems. It will enhance their ability to manage and control industrial processes with precision and confidence. Precise flow measurement is for operational efficiency and financial accounting in oil and gas in oil and gas.

This Advanced Liquid and Gas Flow Measurement course addresses oil and gas flow measurement, diving into unique aspects like wet gas flow measurement, pipeline transportation, and custody transfer. Learners will become proficient in selecting and utilizing gas flow measurement devices and liquid flow measurement sensors and understanding the gas flow measurement formula, including using an orifice meter for gas flow measurement.

Natural gas flow measurement involves specific challenges and requires adherence to specialized protocols. This Advanced Liquid and Gas Flow Measurement training highlights gas flow measurement techniques, units, and instruments prevalent within the industry and implementation in processes such as distribution and transport. Attendees will have a firmer grasp of natural gas flow measurement methodologies and the selection of appropriate liquid and gas flow measurement devices.

Targeted Groups:

- Process Engineers.
- Instrumentation Technicians.
- Maintenance Engineers.
- Operations Managers.
- Quality Control Specialists.
- Automation Professionals.
- Safety Engineers.
- Research and Development Teams.

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Course Objectives:

At the end of this Advanced Liquid and Gas Flow Measurement course, the participants will:

- Understand advanced techniques for measuring liquid and gas flow.
- Learn to select and implement appropriate flow measurement instruments.
- Develop skills in calibrating and validating measurement systems.
- Analyze and interpret flow measurement data for operational optimization.
- Troubleshoot and maintain advanced flow measurement systems.
- Ensure compliance with industry standards and safety regulations.
- Enhance system efficiency through effective measurement practices.

Targeted Competencies:

By the end of this Advanced Liquid and Gas Flow Measurement training, the participant's competencies will:

- Advanced Flow Measurement Techniques.
- Calibration and Validation Procedures.
- Instrumentation Selection and Integration.
- Data Analysis and Interpretation.
- Troubleshooting and Maintenance.
- System Optimization and Efficiency.
- Compliance with Industry Standards.
- Safety and Risk Management.

Course Content:

Unit 1: Fundamentals of Flow Measurement:

- Overview of flow measurement principles.
- Types of flow meters and their applications.
- Key parameters: flow rate, velocity, and pressure.
- Understanding fluid dynamics and flow profiles.
- Introduction to measurement accuracy and precision.
- Calibration techniques and their importance.

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Unit 2: Advanced Flow Measurement Technologies:

- In-depth study of Coriolis flow meters.
- Operation and application of ultrasonic flow meters.
- Magnetic flow meters and their uses.
- Thermal dispersion flow measurement methods.
- Comparison of different measurement technologies.
- Selecting the right technology for specific applications.

Unit 3: Calibration and Validation Procedures:

- Principles of flow meter calibration.
- Step-by-step calibration procedures.
- Using calibration standards and equipment.
- Validation techniques and best practices.
- Troubleshooting calibration issues.
- Ensuring long-term accuracy and reliability.

Unit 4: Data Analysis and Interpretation:

- Collecting and managing flow measurement data.
- Analyzing data for trends and anomalies.
- Using software tools for data visualization.
- Interpreting results to make informed decisions.
- Techniques for improving data accuracy.
- Reporting and documenting flow measurement findings.

Unit 5: System Optimization and Maintenance:

- Strategies for optimizing flow measurement systems.
- Regular maintenance routines and schedules.
- Diagnosing and fixing common issues.
- Upgrading and retrofitting existing systems.
- Implementing best practices for system longevity.
- Ensuring compliance with safety and industry standards.