

## FLOW MEASUREMENT AND CUSTODY TRANSFER

*“Master Accurate Flow Measurement and Ensure Reliable Custody Transfer in Oil, Gas, and Industrial Operations.”*

### Schedule

Venue (In-house)	Fees
At Your Organization Premises	Ask For The Quotation

► **Available delivery methods:** Face-to-Face & Online Training, In-House Training

### Introduction

Accurate flow measurement is the cornerstone of process efficiency, revenue assurance, and regulatory compliance in oil, gas, and industrial operations. Custody transfer, where ownership of fluids or gases changes hands, requires the highest levels of precision, traceability, and accountability.

This course provides an in-depth understanding of flow measurement principles, instruments, calibration methods, and custody transfer standards. Participants will explore how to select, operate, and maintain flow metering systems for liquid and gas applications, ensuring accuracy and reliability throughout the process chain.

Through a practical, engineering-based approach, attendees will gain valuable insights into measurement technologies such as turbine, ultrasonic, Coriolis, differential pressure, and positive displacement meters, along with techniques for troubleshooting and performance verification.

### Objectives

By the end of this course, participants will be able to:

- Understand the fundamentals of flow measurement for liquids and gases.
- Identify different types of flow meters and their operating principles.
- Apply correct meter selection criteria based on process and fluid characteristics.
- Understand calibration, verification, and uncertainty analysis procedures.
- Interpret international standards for custody transfer (API, ISO, OIML, AGA, etc.).
- Recognize and prevent common flow measurement errors.
- Manage metering systems for compliance, accuracy, and profitability.
- Troubleshoot metering and instrumentation issues effectively.

## Why Attend

In industries where every drop counts — from oil and gas to petrochemicals and water utilities — even small measurement errors can lead to substantial financial loss. This course empowers professionals with the technical expertise and industry best practices required to ensure that flow measurement systems are accurate, compliant, and dependable.

Whether you are responsible for operations, engineering, or maintenance, mastering flow measurement and custody transfer processes will enhance your ability to safeguard both product integrity and company revenue.

## Target Audience

This course is ideal for:

- Measurement Engineers and Technicians
- Instrumentation and Control Engineers
- Operations and Production Supervisors
- Custody Transfer and Metering Specialists
- Calibration and Maintenance Personnel
- Process and Pipeline Engineers
- Quality Assurance and Compliance Professionals

## Individual Benefits

- Gain hands-on knowledge of flow measurement technologies and applications.
- Learn to identify and eliminate measurement errors.
- Improve decision-making in selecting, installing, and maintaining meters.
- Understand how to comply with global custody transfer standards.
- Strengthen analytical and troubleshooting capabilities.
- Enhance your technical credibility and career advancement potential.

## Organizational Benefits

- Ensure accurate product accountability and revenue protection.
- Minimize measurement disputes and losses in custody transfer.
- Improve system performance and reduce downtime.
- Strengthen compliance with international measurement regulations.
- Optimize metering system maintenance and calibration costs.
- Build in-house expertise in flow measurement and metering management.

## Instructional Methodology

The course applies a hands-on, technical, and standards-based learning approach featuring:

- Expert-led lectures with practical examples
- Instrumentation demonstrations and simulations
- Real-world case studies from oil, gas, and industrial sectors
- Group discussions and troubleshooting workshops
- Performance analysis and uncertainty exercises
- Interactive Q&A and knowledge-sharing sessions

## Course Outline

- Module 1: Introduction to Flow Measurement and Custody Transfer Principles
- Module 2: Types of Flow – Liquid, Gas, and Multiphase Flow Dynamics
- Module 3: Flow Meter Technologies – Turbine, Ultrasonic, Coriolis, DP, PD, and Vortex
- Module 4: Meter Selection, Installation, and Calibration Procedures
- Module 5: Custody Transfer Standards – API, AGA, ISO, OIML, and Local Regulations
- Module 6: Measurement Accuracy, Uncertainty, and Error Management
- Module 7: Flow Computer Systems and Data Integration
- Module 8: Troubleshooting, Maintenance, and Performance Verification
- Module 9: Case Studies: Custody Transfer in Oil & Gas Operations
- Module 10: Emerging Trends – Smart Metering, IoT, and Digital Measurement Systems

## Certification

Upon successful completion, participants will receive a Certificate in Flow Measurement and Custody Transfer, validating their professional competence in accurate measurement, calibration, and custody transfer operations across industrial sectors.

## Why Choose MAWA Events

- **Global Expertise:** More than 17 years of experience in professional training and consulting.
- **Industry-Leading Faculty:** Courses delivered by seasoned professionals with hands-on experience.
- **Practical Insights:** Learn to turn theory into actionable strategies for real-world business impact.
- **Client-Focused Solutions:** Customized programs designed to achieve your organisation's unique goals.

### In-House / Customized Training

Interested in running this course for your team?

Please contact us:

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