



*Training Course:
Oil and Gas Processing Flow Measurement*

*1 - 5 December 2024
Cairo (Egypt)
Holiday Inn & Suites Cairo Maadi, an IHG Hotel*

Training Course: Oil and Gas Processing Flow Measurement

Training Course code: EN235435 From: 1 - 5 December 2024 Venue: Cairo (Egypt) - Holiday Inn & Suites Cairo Maadi, an IHG Hotel Training Course Fees: 3900 € Euro

Introduction

Flow measurement is a critical aspect of the oil and gas industry, impacting everything from production efficiency to safety and regulatory compliance. This 5-day training program is designed to provide a comprehensive understanding of the various flow measurement technologies used in the oil and gas sector. Participants will gain in-depth knowledge of the principles, applications, installation, calibration, and maintenance of different flow meters, as well as data interpretation and safety considerations. Through a combination of theoretical instruction and practical exercises, this program aims to equip professionals with the skills necessary to optimize flow measurement processes in their operations.

Objectives

- **Understand the Importance of Flow Measurement:** Gain insights into the role of accurate flow measurement in the oil and gas industry and its impact on production efficiency, safety, and regulatory compliance.
- **Learn About Various Flow Measurement Technologies:** Acquire detailed knowledge of different types of flow meters, including their working principles, applications, and limitations.
- **Master Installation and Calibration:** Develop practical skills for the correct installation, calibration, and maintenance of flow meters to ensure accurate and reliable measurements.
- **Interpret Flow Measurement Data:** Learn to analyze and interpret flow measurement data for process optimization and troubleshooting.
- **Ensure Safety in Flow Measurement:** Understand the safety considerations involved in flow measurement and how to manage hazardous environments.
- **Stay Updated on Emerging Technologies:** Explore recent advancements and future trends in flow measurement technologies.

Target Audience

- **Engineers and Technicians:** Professionals involved in the installation, calibration, and maintenance of flow measurement systems in the oil and gas industry.
- **Process Operators:** Individuals responsible for monitoring and optimizing production processes who need to understand flow measurement data and its implications.

- Quality Assurance and Compliance Personnel: Staff tasked with ensuring that flow measurement systems meet regulatory and safety standards.
- Project Managers: Managers overseeing oil and gas projects who need a comprehensive understanding of flow measurement to make informed decisions.
- Technical Sales and Support Staff: Personnel providing technical support or selling flow measurement equipment who require a deeper understanding of the technologies and their applications.

Training Program Outline

Day 1: Introduction to Flow Measurement

- Welcome and Introduction
 - Overview of the training program
 - Importance of flow measurement in the oil and gas industry
- Basic Principles of Flow Measurement
 - Definition and types of flow
 - Units of measurement
- Types of Fluids in the Oil and Gas Industry
 - Liquids, gases, and multiphase flows
- Overview of Flow Measurement Technologies
 - Positive displacement, differential pressure, turbine, ultrasonic, Coriolis, and magnetic flow meters
- Selection Criteria for Flow Meters
 - Factors influencing the choice of flow meters
- Q&A Session and Recap

Day 2: Flow Measurement Technologies

- Differential Pressure Flow Meters
 - Working principles
 - Types: Orifice plates, Venturi tubes, and flow nozzles

- Applications and limitations
- Positive Displacement Flow Meters
 - Working principles
 - Types: Rotary vane, gear, and diaphragm meters
 - Applications and limitations
- Turbine Flow Meters
 - Working principles
 - Applications and limitations
- Q&A Session and Recap

Day 3: Advanced Flow Measurement Technologies

- Ultrasonic Flow Meters
 - Working principles
 - Types: Transit-time and Doppler
 - Applications and limitations
- Coriolis Flow Meters
 - Working principles
 - Applications and limitations
- Magnetic Flow Meters
 - Working principles
 - Applications and limitations
- Comparison of Flow Measurement Technologies
 - Pros and cons of different technologies
- Q&A Session and Recap

Day 4: Installation, Calibration, and Maintenance

- Installation of Flow Meters

- Best practices for accurate measurements
- Common installation issues and solutions
- Calibration of Flow Meters
 - Importance of calibration
 - Calibration methods
- Maintenance of Flow Meters
 - Routine maintenance procedures
 - Troubleshooting common problems
- Case Studies
 - Real-world examples of flow measurement challenges and solutions
- Q&A Session and Recap

Day 5: Data Interpretation and Safety

- Data Collection and Interpretation
 - Understanding flow measurement data
 - Analyzing and interpreting data for process optimization
- Safety in Flow Measurement
 - Safety considerations during installation and operation
 - Managing hazardous environments
- Emerging Technologies in Flow Measurement
 - Recent advancements and future trends
- Final Q&A Session and Recap
- Assessment and Certification
 - Written test and practical demonstration
 - Feedback and discussion
 - Awarding certificates of completion

Registration form on the Training Course: Oil and Gas Processing Flow Measurement

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