MAWA EVENTS

Address: No. 857, Block A2. Leisure Commerce Square - No 9., 46150 Petaling Jaya, Selangor, Malaysia

Phone: +601116373203 | **Email:** info@mawaevents.net

CONTROL VALVE FUNDAMENTALS

"Master the Principles and Operation of Control Valves for Optimal Process Performance"

Schedule

Date	Venue	Fees (Online)
22 – 23 Dec 2026	Online	USD 700 per delegate

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

Introduction

Control valves are essential components in process industries, regulating flow, pressure, temperature, and level to ensure safe and efficient operations. This 2-day online training provides participants with a solid understanding of control valve fundamentals, including design, operation, selection, and troubleshooting.

Through practical examples, interactive discussions, and hands-on exercises, participants will develop the knowledge and skills needed to optimize valve performance, minimize downtime, and ensure reliability in oil, gas, and industrial processes. The course emphasizes industry best practices and standards for control valve management.

Objectives

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

- Understand the basic principles and components of control valves.
- Select appropriate valves based on process requirements.
- Identify common operational issues and troubleshoot effectively.
- Understand actuator and positioner functions and calibration.
- Apply best practices for control valve maintenance and reliability.

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Why Attend

- Gain a thorough understanding of control valve types and applications.
- Learn how to optimize process performance through effective valve operation.
- Improve maintenance strategies and reduce operational downtime.
- Understand troubleshooting techniques to resolve common valve issues.
- Network with professionals in process operations and asset management.

Target Audience

This program is designed for:

- Process engineers and operators
- Maintenance and reliability engineers
- Instrumentation and control engineers
- Asset managers in oil, gas, and industrial facilities
- Technical personnel responsible for valve operation and maintenance

Individual Benefits

Key competencies that will be developed include:

- Knowledge of control valve principles, design, and components
- Ability to select and size control valves for various applications
- Skills in troubleshooting and optimizing valve performance
- Understanding of actuator and positioner operation and calibration
- Capability to implement maintenance best practices and reliability strategies

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved process control and operational efficiency
- Reduced downtime and maintenance costs
- Enhanced reliability and safety of critical valve operations
- Compliance with industry standards and best practices
- Optimized asset management and lifecycle performance

Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings – Overview of control valve principles, types, and standards
- Case Studies – Real-world examples of valve selection, troubleshooting, and optimization
- Workshops – Hands-on exercises for valve operation, calibration, and maintenance planning
- Peer Exchange – Group discussions on operational challenges and solutions
- Tools – Templates and guides for valve selection, inspection, and maintenance

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Course Outline

Detailed 2-Day Course Outline

Training Hours: 7:30 AM – 3:30 PM Daily Format: 3–4 Learning Modules | Coffee breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

Day 1: Fundamentals of Control Valves

Module 1: Introduction to Control Valves (07:30 – 09:30)

- Overview of control valves and their role in process control
- Types of control valves and applications
- Key components and terminology

Module 2: Valve Sizing and Selection (09:45 – 11:15)

- Selection criteria for various process conditions
- Flow characteristics and control strategies
- Material compatibility and environmental considerations

Module 3: Actuators and Positioners (11:30 – 01:00)

- Types of actuators and their operation
- Positioner function, calibration, and troubleshooting
- Integration with control systems

Module 4: Workshop – Valve Operation Basics (02:00 – 03:30)

- Hands-on exercises in valve operation and monitoring
- Practical tips for performance optimization

Day 2: Advanced Practices and Maintenance

Module 1: Common Operational Issues (07:30 – 09:30)

- Identifying and diagnosing valve performance problems
- Troubleshooting techniques for flow, pressure, and leakage issues

Module 2: Maintenance Best Practices (09:45 – 11:15)

- Preventive and predictive maintenance strategies
- Inspection, testing, and lifecycle management

Module 3: Performance Optimization (11:30 – 01:00)

- Strategies to enhance reliability and efficiency
- Reducing downtime and improving process stability

Module 4: Workshop and Q&A (02:00 – 03:30)

- Practical exercises on troubleshooting and maintenance planning
- Interactive discussion and lessons learned

Certification

Participants will receive a Certificate of Completion in Control Valve Fundamentals, validating their expertise in control valve principles, operation, troubleshooting, and maintenance practices for oil, gas, and industrial processes.

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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.
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