

## LIQUID PIPING SYSTEMS FUNDAMENTALS

*"Build foundational knowledge in design, operation, and maintenance of liquid piping systems"*

### Schedule

Date	Venue	Fees (Online)
24 - 25 Nov 2026	Online	USD 700 per delegate

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

### Introduction

Liquid piping systems are essential in industries such as oil & gas, petrochemical, water treatment, and chemical processing. This 2-day online training provides participants with foundational knowledge of liquid piping system design, components, operation, and maintenance. Attendees will understand key principles of fluid flow, piping layout, and system optimization to ensure safe and efficient operation.

The course combines theory, practical examples, and interactive exercises to help participants learn how to manage piping systems effectively, troubleshoot operational issues, and ensure compliance with industry standards. By the end of the training, participants will have the skills to support the safe and efficient operation of liquid piping systems in their organization.

### Objectives

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

- Understand the principles of liquid flow and piping system design.
- Identify components and instrumentation used in piping systems.
- Analyze operational parameters and troubleshoot system issues.
- Implement safety and maintenance practices for piping systems.
- Apply industry standards and best practices in liquid piping operations.

## Why Attend

- Gain practical knowledge of liquid piping systems and components.
- Learn how to optimize system performance and reliability.
- Enhance operational safety and compliance with industry standards.
- Network with professionals in piping, engineering, and operations.
- Acquire skills applicable to industrial and plant operations.

## Target Audience

This program is designed for:

- Piping engineers, design engineers, and operators.
- Maintenance personnel and technicians.
- Process engineers in oil & gas, chemical, or water treatment facilities.
- Project engineers and plant managers responsible for piping systems.

## Individual Benefits

Key competencies that will be developed include:

- Understanding the design and operation of liquid piping systems.
- Knowledge of components, instrumentation, and monitoring practices.
- Skills in troubleshooting and maintaining piping systems.
- Awareness of safety, regulatory, and compliance requirements.

## Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved safety and efficiency of liquid piping systems.
- Reduced downtime and operational risks.
- Enhanced compliance with industry standards and regulations.
- Increased technical competency of operational and engineering teams.

## Instructional Methodology

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

- Strategy Briefings - Fundamentals of piping system design, operation, and maintenance.
- Case Studies - Real-world examples of liquid piping system applications.
- Workshops - Hands-on exercises in system analysis, troubleshooting, and optimization.
- Peer Exchange - Group discussions on operational challenges and best practices.
- Tools - Checklists, templates, and guidelines for piping system design and monitoring.

## Course Outline

Detailed 2-Day Course Outline

Training Hours: 9:00 AM – 5:00 PM Daily Format: 3–4 Learning Modules | Coffee Breaks & Lunch Break included

Day 1: Fundamentals of Liquid Piping Systems (09:00 – 04:00)

Module 1: Introduction to Piping Systems (09:00 – 11:00)

- Types of piping systems and applications.
- Basic principles of fluid flow and pressure.

Module 2: Piping Components and Materials (11:15 – 01:00)

- Pipes, valves, fittings, and instrumentation.
- Selection criteria for materials and components.

Module 3: System Design and Layout (02:00 – 04:00)

- Piping design principles, layout considerations, and routing.
- Common design challenges and solutions.

Day 2: Operation, Maintenance, and Troubleshooting (09:00 – 04:00)

Module 4: Monitoring and Instrumentation (09:00 – 11:00)

- Flow meters, pressure gauges, and sensors.
- Monitoring system performance and parameters.

Module 5: Safety and Maintenance Practices (11:15 – 01:00)

- Preventive maintenance and inspection techniques.
- Safety procedures and compliance requirements.

Module 6: Case Studies and Practical Applications (02:00 – 04:00)

- Troubleshooting operational issues.
- Developing actionable improvement plans.

## Certification

Participants will receive a Certificate of Completion in Liquid Piping Systems Fundamentals, validating their foundational knowledge in piping system design, operation, maintenance, and safety practices.

## 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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