



Mechanical Engineering

## Valve Maintenance and Piping System Protection

## Course Introduction

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This training course is designed to provide participants with the essential concepts of valve maintenance and piping system protection. This course covers topics such as maintenance and operation of gate, globe, ball, plug, check, and special-purpose valves, actuators and various accessories. Participants will explore valve selection based on application, and the methods of protecting piping systems.

## Target Audience

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1. Maintenance & Reliability Engineers – Ensuring valve and piping system integrity.
2. Piping & Mechanical Engineers – Designing and maintaining safe flow systems.
3. Plant Operators & Technicians – Conducting inspections and troubleshooting.
4. Asset & Corrosion Management Specialists – Preventing failures and prolonging system life.

## Learning Objectives

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- Gain a comprehensive understanding of the general maintenance and repair procedures for different types of valves.
- Enumerate the several types of special valves and the operating characteristics of each.
- Discuss the installation, maintenance, and repair of special valves.
- Understand the function and operation of a valve actuator
- Recognize the various types of valve actuators and describe the installation, maintenance, and repair of each.
- Learn the operating characteristics of various accessories, including gauges, meters, accumulators, and air receivers
- Identify the various types of common valves and the operating characteristics of each.

- Determine the factors that controls the selection of a valve for a given application.
- Understand the selection and proper use of tools in valve installations.
- Identify the methods of tracing process lines.
- Explain the various methods of protecting piping systems from heat, cold, and corrosion.
- Conduct installation, inspection, and maintenance of insulation and other forms of piping system protection.

## Course Outline

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### • 01 DAY ONE

- **Valve Maintenance**

- Threaded
- Welded
- Brazed and flanged connections
- Installing and repairing gate, globe, angle, ball, plug
- Check valves

### • 02 DAY TWO

- **Special Valves**

- Installation and repair of butterfly
- Diaphragm
- Pop safety
- Relief
- Pressure-reducing
- Pressure-regulating
- Quick-opening valves

### • 03 DAY THREE

- **Actuators and Accessories**

- Actuator installation
- Maintenance, and repair
- Bourdon tube
- Bimetallic and bellows gauges
- Flowmeters
- Rotating unions
- Accumulators

• **04 DAY FOUR**

- **Valve Selection**
- Valve applications, materials, and identification
- Soldered, threaded, and flanged valve connections
- Tool selection
- Valve positioning

• **05 DAY FIVE**

- **Piping System Protection**
- Installing and maintaining insulation
- Steam tracers
- Protection from freezing and corrosives
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- Active and passive protection
- Inspection
- Supports

**Confirmed Sessions**

FROM	TO	DURATION	FEES	LOCATION
April 28, 2025	May 2, 2025	5 days	4250.00 \$	UAE - Dubai
June 16, 2025	June 20, 2025	5 days	4250.00 \$	UAE - Abu Dhabi
Sept. 1, 2025	Sept. 5, 2025	5 days	4250.00 \$	UAE - Dubai