

# Practical Pump and Valve Technology

## Venue Information

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**Venue:** London UK

**Place:**

**Start Date:** 2025-07-14

**End Date:** 2025-07-18

## Course Details

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**Net Fee:** £4750.00

**Duration:** 1 week

**Category ID:** METC

**Course Code:** METC-15

## Syllabus

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### **courses Syllabus**

#### **Introduction**

This courses offers a comprehensive understanding of pumps and valves, covering various types, terminology, and operational aspects. Delegates will explore centrifugal and positive-displacement pumps, mechanical seals, sealing systems, bearings, and couplings, along with different valve types for isolation and control.

#### **Objectives**

Upon completion of this courses, participants will:

1. Understand the different types of pumps and valves and their associated terminology.
2. Gain insight into pump performance, including friction, pressure, and cavitation.
3. Learn about positive displacement and centrifugal pumps, along with failure mechanisms and performance analysis.

implement maintenance plans effectively.

## **courses Content**

### **Day 1 – Pumping Systems**

- Introduction to Pump Types and Terminology
- Pump Performance and Understanding Head
- Friction in Valves, Piping & Fittings
- Cavitation in Pumps and Valves
- Net Positive Suction Head (NPSH) and Cavitation Types

### **Day 2 – Pump Types**

- Positive Displacement and Reciprocating Pumps
- Rotary Pumps and Failure Mechanisms
- Centrifugal Pump Theory and Components
- Matching Pumps with Drivers and Performance Analysis

### **Day 3 – Achieving Pump Reliability**

- Sealing Systems and Mechanical Seals
- Bearings: Failure Modes and Lubrication
- Couplings, Alignment, and Balancing

### **Day 4 – Valves Technology**

- Types of Valves and Flow Characteristics
- Valve Sizing and Sealing Performance
- Leakage Classifications and Valve Stem Seals

### **Day 5 – Valves Troubleshooting & Maintenance**

- Water Hammer and Flow Choking
- Troubleshooting Control & Isolation Valves
- Developing a Preventive Maintenance Plan

Enroll now to master practical pump and valve technology and enhance your industrial operations.