MAWA EVENTS

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

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COMPRESSORS & PUMPS - SELECTION, APPLICATIONS, OPERATION, TROUBLESHOOTING & MAINTENANCE

"Enhance Equipment Reliability and Operational Efficiency in Rotating Machinery Systems"

Schedule

Date	Venue	Fees (Face-to-Face)
14 – 15 Oct 2026	Doha – Qatar	USD 1995 per delegate

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

Introduction

Compressors and pumps are essential components in industrial systems, responsible for transporting fluids and gases under pressure. Their reliability and efficiency directly impact plant safety, production continuity, and energy consumption. Improper selection, operation, or maintenance often leads to costly failures and unplanned downtime.

This intensive 2-day course provides maintenance and operations professionals with practical knowledge on compressor and pump types, selection criteria, operating principles, troubleshooting methods, and preventive maintenance strategies to ensure optimal performance and equipment longevity.

Objectives

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

- Differentiate between various types of compressors and pumps and their applications
- Select appropriate machinery based on process requirements and performance curves
- Understand key operational parameters and efficiency indicators
- Identify causes of failures and apply systematic troubleshooting techniques
- Implement maintenance strategies to extend service life and reduce downtime

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Why Attend

- Minimize equipment failures by improving operational and maintenance practices
- Learn selection criteria based on performance, fluid properties, and system design
- Improve troubleshooting capabilities for quicker root cause identification
- Ensure energy-efficient operation of rotating equipment
- Gain practical tools and checklists to enhance maintenance planning

Target Audience

This program is designed for:

- Mechanical, maintenance, and reliability engineers
- Operations and plant supervisors
- Industrial technicians and machinery specialists
- Project and commissioning engineers
- Anyone involved in the selection, operation, or upkeep of pumps and compressors

Individual Benefits

Key competencies that will be developed include:

- Equipment selection based on process needs and system compatibility
- Understanding of operating parameters and performance diagnostics
- Troubleshooting of mechanical and process-related issues
- Implementation of condition-based and preventive maintenance techniques
- Familiarity with vibration, alignment, and sealing system considerations

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Reduced unplanned downtime and maintenance costs
- Improved equipment reliability and operational safety
- Enhanced maintenance scheduling and spare parts planning
- Optimized energy consumption and system performance
- Strengthened in-house technical capacity for machinery troubleshooting

Instructional Methodology

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

- Strategy Briefings – Types, configurations, performance metrics, and specifications
- Case Studies – Common pump and compressor failures and lessons learned
- Workshops – Troubleshooting flow disruptions, cavitation, and seal failures
- Peer Exchange – Real-world challenges and plant-specific practices
- Tools – Maintenance checklists, failure analysis templates, and sizing calculators

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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 and Selection Principles

- Module 1: Types and Operating Principles (07:30 – 09:30) • Overview of positive displacement and dynamic compressors/pumps • Flow, pressure, and power relationships
- Module 2: Equipment Selection and Application Criteria (09:45 – 11:15) • Matching system requirements with machinery capabilities
- Module 3: Workshop – Interpreting Performance Curves (11:30 – 01:00) • Read and apply pump and compressor characteristic curves
- Module 4: Installation and Startup Best Practices (02:00 – 03:30) • Alignment, piping layout, NPSH considerations

Day 2: Troubleshooting and Maintenance Strategies

- Module 1: Common Failures and Root Causes (07:30 – 09:30) • Cavitation, leakage, vibration, overheating, seal failures
- Module 2: Troubleshooting Techniques and Diagnostics (09:45 – 11:15) • Systematic approach to identify and resolve performance issues
- Module 3: Workshop – Troubleshooting Case Study (11:30 – 01:00) • Analyze and solve a real-world pump/compressor problem
- Module 4: Maintenance and Reliability Practices (02:00 – 03:30) • Condition monitoring, lubrication, seal maintenance, failure prevention

Certification

Participants will receive a Certificate of Completion in Compressors & Pumps – Selection, Applications, Operation, Troubleshooting & Maintenance, validating their ability to operate, maintain, and troubleshoot rotating equipment effectively to improve reliability and performance.

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:	TEL: **+601116373203**	EMAIL: **info@mawaevents.net**