

## TROUBLESHOOTING ROTATING MACHINERY

*"Diagnosing, Analyzing, and Resolving Failures in Critical Rotating Equipment"*

### Schedule

Date	Venue	Fees (Face-to-Face)
16 - 20 Aug 2026	Manama, Bahrain	USD 3,495 per delegate
06 - 10 Sep 2026	Kuwait	USD 3,495 per delegate
06 - 10 Dec 2026	Doha, Qatar	USD 3,495 per delegate

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

### Introduction

Rotating machinery such as pumps, compressors, turbines, motors, and gearboxes are the backbone of industrial operations. Failures in these assets often lead to unplanned downtime, production losses, safety risks, and high maintenance costs. Effective troubleshooting requires not only technical knowledge but also a structured and systematic diagnostic approach.

This intensive 5-day training provides participants with practical and advanced skills to troubleshoot rotating machinery problems effectively. The program focuses on failure symptoms, root causes, diagnostic tools, and corrective actions, enabling participants to identify issues quickly, prevent recurrence, and improve equipment reliability and performance.

### Objectives

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

- Understand operating principles of rotating machinery
- Identify common failure modes and symptoms
- Apply systematic troubleshooting methodologies
- Diagnose mechanical, electrical, and lubrication-related issues
- Interpret vibration, temperature, and condition monitoring data
- Implement corrective and preventive actions
- Improve equipment reliability and availability

## Why Attend

- Reduce unplanned downtime and equipment failures
- Strengthen troubleshooting and diagnostic skills
- Improve maintenance efficiency and response time
- Learn practical techniques used by reliability experts
- Enhance safety and operational stability
- Increase confidence in handling complex machinery issues

## Target Audience

This program is designed for:

- Maintenance and reliability engineers
- Mechanical and rotating equipment engineers
- Maintenance supervisors and technicians
- Condition monitoring specialists
- Operations and plant engineers
- Asset and engineering managers

## Individual Benefits

Key competencies that will be developed include:

- Advanced troubleshooting and analytical skills
- Ability to diagnose complex machinery problems
- Improved understanding of failure mechanisms
- Enhanced decision-making and problem-solving confidence
- Stronger collaboration with operations and maintenance teams

## Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Reduced equipment downtime and failure recurrence
- Improved rotating equipment reliability and lifespan
- Lower maintenance and repair costs
- Enhanced safety and operational continuity
- Stronger maintenance and reliability culture

## Instructional Methodology

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

- Strategy Briefings - Rotating machinery principles and troubleshooting frameworks
- Case Studies - Real-world machinery failures and diagnostics
- Workshops - Step-by-step troubleshooting exercises
- Peer Exchange - Group discussions on operational challenges
- Tools - Diagnostic checklists, failure analysis templates, and best-practice guides

## MAWA EVENTS

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## Course Outline

### Detailed 5-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 Rotating Machinery & Failure Symptoms

##### Module 1: Overview of Rotating Machinery (07:30 – 09:30)

- Pumps, compressors, turbines, motors, and gearboxes
- Operating principles and performance parameters

##### Module 2: Failure Symptoms & Early Warning Signs (09:45 – 11:15)

- Noise, vibration, heat, and leakage
- Understanding symptom vs. root cause

##### Module 3: Troubleshooting Methodology (11:30 – 01:00)

- Structured troubleshooting steps
- Data collection and failure history analysis

#### Day 2: Mechanical Failures & Diagnostics

##### Module 1: Bearings, Seals & Couplings (07:30 – 09:30)

- Failure modes and causes
- Installation and alignment issues

##### Module 2: Shaft, Alignment & Balance Problems (09:45 – 11:15)

- Misalignment, imbalance, and looseness
- Practical diagnostic indicators

##### Module 3: Gearboxes & Mechanical Transmission (11:30 – 01:00)

- Gear wear, tooth damage, and lubrication issues

#### Day 3: Lubrication & Condition Monitoring

##### Module 1: Lubrication Failures & Contamination (07:30 – 09:30)

- Lubricant selection and application
- Common lubrication mistakes

##### Module 2: Vibration & Oil Analysis Basics (09:45 – 11:15)

- Interpreting vibration and oil data
- Using trends for diagnostics

##### Module 3: Thermal & Visual Inspection Techniques (11:30 – 01:00)

- Thermography and visual inspection
- Practical condition indicators

#### Day 4: Electrical & Operational Causes

##### Module 1: Motor & Electrical-Related Failures (07:30 – 09:30)

- Electrical imbalance and insulation issues
- Interaction between electrical and mechanical faults

##### Module 2: Operational & Process-Induced Problems (09:45 – 11:15)

- Cavitation, surge, overload, and improper operation

Module 3: Root Cause Identification (11:30 – 01:00)

- Linking symptoms to true root causes
- Preventing recurrence

Day 5: Corrective Actions & Reliability Improvement

Module 1: Developing Effective Corrective Actions (07:30 – 09:30)

- Strong vs. weak fixes
- Risk-based action planning

Module 2: Preventive Strategies & Best Practices (09:45 – 11:15)

- Maintenance optimization
- Reliability-centered maintenance concepts

Module 3: Troubleshooting Case Workshop (11:30 – 01:00)

- Group-based failure investigation
- Lessons learned and action planning

**Certification**

Participants will receive a Certificate of Completion in Troubleshooting Rotating Machinery, validating their advanced ability to diagnose, analyze, and resolve rotating equipment failures while improving reliability, safety, and operational 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.

<p><b>In-House / Customized Training</b></p> <p>Interested in running this course for your team?</p> <p>Please contact us:</p>	<p>TEL:</p> <p><b>+601116373203</b></p>	<p>EMAIL:</p> <p><b>info@mawaevents.net</b></p>
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