MAWA EVENTS

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

Phone: +601116373203 | **Email:** info@mawaevents.net

FANS & BLOWERS - PERFORMANCE, MEASUREMENTS, MAINTENANCE & TROUBLESHOOTING

""Maximizing Air Movement Efficiency and Equipment Reliability""

Schedule

Date	Venue	Fees (Face-to-Face)
03 – 05 Feb 2026	Kuwait	USD 2,495 per delegate
03 – 05 Mar 2026	Doha, Qatar	USD 2,495 per delegate
02 – 04 Jun 2026	Manama, Bahrain	USD 2,495 per delegate
14 – 16 Oct 2026	Dubai, UAE	USD 2,495 per delegate

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

Introduction

Fans and blowers are essential in industrial systems where air flow, ventilation, cooling, and dust control are critical. Despite their apparent simplicity, improper selection, inefficient operation, or poor maintenance of these machines can lead to significant energy losses and costly downtime.

This three-day technical training provides a comprehensive understanding of the performance, measurement, maintenance, and troubleshooting of industrial fans and blowers. Participants will develop hands-on knowledge to boost energy efficiency, enhance equipment reliability, and reduce operational costs.

Objectives

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

- Understand different types and applications of fans and blowers
- Measure and evaluate performance parameters effectively
- Perform routine and preventive maintenance tasks
- Detect, diagnose, and resolve common operational issues
- Optimize system efficiency through data-driven adjustments

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Why Attend

- Learn to evaluate fan and blower performance using industry standards
- Improve system reliability and prevent unexpected failures
- Master practical techniques for preventive and predictive maintenance
- Reduce energy consumption through performance optimization
- Strengthen your understanding of diagnostics and root cause analysis

Target Audience

This program is designed for:

- Maintenance and mechanical engineers working with HVAC or industrial ventilation systems
- Plant and facility engineers responsible for rotating machinery
- Technicians and supervisors involved in installation and upkeep of fans/blowers
- Energy auditors and reliability engineers
- Equipment operators and project managers in manufacturing and process industries

Individual Benefits

Key competencies that will be developed include:

- Fan and blower operation and selection knowledge
- Performance measurement and interpretation
- Maintenance planning and implementation
- Problem identification and troubleshooting
- Energy and cost optimization skills

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved system performance and reliability
- Reduced downtime through early detection and maintenance
- Lowered energy consumption and operational cost
- Enhanced asset lifecycle through proper maintenance
- Better compliance with safety and equipment standards

Instructional Methodology

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

- Strategy Briefings – Key concepts in fan/blower selection, system design, and maintenance
- Case Studies – Real industry cases of fan failures, inefficiencies, and corrections
- Workshops – Hands-on fault diagnosis, system balancing, and efficiency analysis
- Peer Exchange – Sharing of experiences and practical solutions among participants
- Tools – Maintenance templates, inspection checklists, and troubleshooting guides

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Course Outline

Detailed 3-Day Course Outline

Training Hours: 07:30 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 Fans and Blowers

- Module 1: Principles of Operation and Classification (07:30 – 09:30) • Differences between fans, blowers, and compressors • Classification: centrifugal vs axial types • Typical applications across industries
- Module 2: System Components and Design Factors (09:45 – 11:15) • Impellers, housings, drives, dampers, and inlet guide vanes • Static pressure, velocity pressure, total pressure • System resistance and system curves
- Module 3: Selection and Sizing Considerations (11:30 – 01:00) • Fan laws and performance curves • Determining flow rate, pressure, and efficiency • Matching fan/blower to the application
- Module 4: Installation and Safety Practices (02:00 – 03:30) • Mounting, alignment, and ducting considerations • Start-up procedures and system commissioning • Personal and equipment safety requirements

Day 2: Performance Analysis and Maintenance Strategies

- Module 1: Performance Measurement and Diagnostics (07:30 – 09:30) • Measuring airflow, pressure, power, and efficiency • Tools: anemometers, manometers, tachometers, vibration sensors • Performance benchmarking and diagnostics
- Module 2: Preventive and Predictive Maintenance (09:45 – 11:15) • Lubrication schedules and bearing inspections • Filter and damper maintenance • Thermography, vibration monitoring, and wear detection
- Module 3: Energy Efficiency Optimization (11:30 – 01:00) • Identifying energy losses in fan systems • Variable frequency drives (VFDs) and flow control • Retrofitting for efficiency improvement
- Module 4: Documentation and Recordkeeping (02:00 – 03:30) • Maintenance logs and checklists • Inspection reporting templates • Integrating fan maintenance into CMMS systems

Day 3: Troubleshooting and Reliability Planning

- Module 1: Common Operational Issues and Root Causes (07:30 – 09:30) • Noise, vibration, overheating, and imbalance • Duct obstructions, leakage, and worn components • Diagnosing electrical and mechanical faults
- Module 2: Troubleshooting Techniques (09:45 – 11:15) • Step-by-step troubleshooting process • Fault tree analysis and isolation tests • Using historical data for faster resolution
- Module 3: Reliability and Lifecycle Planning (11:30 – 01:00) • Designing for maintainability and long-term performance • Planning spare parts and critical inventories • Reliability-centered maintenance approach
- Module 4: Course Wrap-Up and Q&A (02:00 – 03:30) • Review of key learning outcomes • Final quiz or troubleshooting case challenge • Action planning and certificate distribution

Certification

Participants will receive a Certificate of Completion in Fans & Blowers – Performance, Measurements, Maintenance & Troubleshooting, confirming their expertise in operating, diagnosing, and maintaining fan and blower systems for industrial efficiency and reliability.

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.

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