

CENTRIFUGAL, RECIPROCATING & SCREW COMPRESSORS

"Mastering Compressor Technology for Optimal Performance and Maintenance"

Schedule

Date	Venue	Fees (Face-to-Face)
09 - 10 Sep 2026	Doha, Qatar	USD 1995 per delegate

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

Introduction

Compressors are vital components in numerous industrial applications, serving as the backbone of processes that require air or gas compression. This training course focuses on the operation, maintenance, and troubleshooting of centrifugal, reciprocating, and screw compressors. Participants will gain in-depth knowledge of each compressor type's working principles and techniques to enhance performance and extend lifespan.

By the end of the course, delegates will be equipped with practical skills to select, operate, and maintain compressors effectively, minimizing downtime and ensuring optimal efficiency in their operations.

Objectives

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

- Understand the operating principles and design differences between centrifugal, reciprocating, and screw compressors.
- Implement best practices for the maintenance and troubleshooting of different types of compressors.
- Perform diagnostic checks and troubleshoot common compressor issues.
- Apply preventive measures to reduce wear and tear and improve compressor efficiency.
- Select the most suitable compressor for specific industrial applications and understand their performance metrics.

Why Attend

- Gain expertise in the operation and maintenance of the three most common types of compressors.
- Learn troubleshooting techniques to identify and fix compressor-related issues quickly.
- Understand key performance indicators and optimization techniques for compressor efficiency.
- Enhance your ability to make informed decisions when selecting compressors for specific applications.
- Improve your team's ability to maintain compressors and reduce unplanned downtime.

Target Audience

This program is designed for:

- Engineers, technicians, and maintenance personnel working with compressors in industrial settings.
- Plant and facilities managers overseeing compressor operations and performance.
- Individuals responsible for selecting, operating, or maintaining centrifugal, reciprocating, or screw compressors.
- Professionals involved in process optimization and machinery efficiency improvement.

Individual Benefits

Key competencies that will be developed include:

- Advanced understanding of compressor technologies and their applications in various industries.
- Practical skills in troubleshooting, diagnosing, and repairing compressor issues.
- Knowledge of how to optimize compressor performance and reduce energy consumption.
- Enhanced ability to prevent common mechanical issues, extending the lifespan of compressors.
- Capability to analyze compressor performance data and make operational improvements.

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Increased compressor uptime and reduced maintenance costs through effective preventive strategies.
- Enhanced operational efficiency by optimizing compressor performance.
- Reduced energy consumption and operational costs related to compressor inefficiency.
- Improved knowledge sharing and better decision-making regarding compressor selection and maintenance.
- Strengthened workforce competence in handling and maintaining complex compressor systems.

Instructional Methodology

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

- Strategy Briefings - Detailed exploration of compressor types, their working principles, and operational characteristics.
- Case Studies - Analysis of real-world scenarios to highlight common compressor issues and solutions.
- Workshops - Hands-on practice in troubleshooting and maintaining compressors, using real compressor models and tools.
- Peer Exchange - Discussions and knowledge-sharing sessions on best practices and challenges in compressor management.
- Tools - Introduction to diagnostic tools, maintenance checklists, and software for compressor performance monitoring.

Course Outline

Detailed 2-Day Course Outline

Training Hours: 9:00 AM – 4:00 PM Daily Format: 3–4 Learning Modules | Coffee Breaks: 10:30 & 12:30 | Lunch Buffet: 01:00 – 02:00

Day 1: Introduction to Compressor Types and Technologies

- Module 1: Overview of Compressor Technologies (Centrifugal, Reciprocating, Screw)
- Module 2: Design and Operating Principles of Centrifugal Compressors
- Module 3: Design and Operating Principles of Reciprocating Compressors
- Module 4: Design and Operating Principles of Screw Compressors

Day 2: Maintenance, Troubleshooting, and Optimization of Compressors

- Module 1: Preventive Maintenance for Centrifugal, Reciprocating, and Screw Compressors
- Module 2: Troubleshooting Common Compressor Failures
- Module 3: Optimizing Compressor Performance and Energy Efficiency
- Module 4: Practical Workshop: Diagnosing and Fixing Compressor Issues

Certification

Participants will receive a Certificate of Completion in Compressor Operation and Maintenance, demonstrating their ability to operate, troubleshoot, and maintain centrifugal, reciprocating, and screw compressors effectively to ensure optimal performance and reduce downtime.

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- **Global Expertise:** More than 17 years of experience in professional training and consulting.
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