



Mechanical Engineering

Compressors Operation, Maintenance & Troubleshooting

Course Introduction

Compressors are a major capital cost item, a key reliability problem and consume huge amounts of energy. For most companies the costs of owning and running compressors are much higher than they should be.

A shortage in general knowledge of how to apply, specify, install and operate compressors is the major reason for these high costs. This training course is designed to address this problem.

Our Total compressor course is an in depth look at common compressors applications, including selection, operation, troubleshooting, and maintenance. Individuals in the compressors and piping system industries will find this to be a valuable course for learning the importance of proper compressors operation and typical behavior in application.

Target Audience

This course is designed for Plant Operation and Maintenance Engineers and Highly Qualified Operators and Technicians, whose working related to operate and maintain of Compressors

Learning Objectives

Upon completion of this course, participants will have gained a thorough understanding of the various centrifugal and reciprocating compressors configurations available to virtually every industrial user, including mechanical design features, sizing and application criteria, maintainability, reliability and troubleshooting issues. Participants will learn simple techniques and short-cut methods of machinery selection, which can take the place of tedious hand calculations and will serve as rapid means to determine sensitivity or influence of parameter changes on equipment performance.

Participants will be able to determine the most appropriate and efficient matching of compressor. Participants will also acquire knowledge of operating and maintenance issues by getting to know mechanical design, machinery components, as well as proven approaches to monitoring, troubleshooting and maintenance of compressor installations.

Course Outline

• 01 DAY ONE

Module (01) compressors introduction

- 1.1 compressors function and application
- 1.2 compressors classification
- 1.3 positive displacement compressors
- 1.4 dynamic compressors
- 1.5 compressors selection chart

Module (02) centrifugal compressor classification

- 2.1 centrifugal compressor selection charts
- 2.2 compressor main components and function
- 2.3 centrifugal compressor classifications
- 2.4 types of impellers
- 2.5 centrifugal compressor arrangements
- 2.6 compressor construction components

• 02 DAY TWO

Module (03) centrifugal compressor operation and performance

- 3.1 compressor chart
- 3.2 surge phenomena introduction
- 3.3 Compressor Protection & Anti-Surge Control
- 3.4 balancing drum function
- 3.5 startup procedure and shut down

Module (04) compressor auxiliary

- 4.1 compressor bearings

- 4.2 lubrication circuit
- 4.3 dry gas seal fundamentals
- 4.4 seal gas filtration.
- 4.5 protection systems

• 03 DAY THREE

Module (05) positive displacement compressors

- 5.1 operation fundamentals
- 5.2 reciprocating compressor
- 5.3 lobe compressor
- 5.4 sliding vane compressor
- 5.5 screw compressor

Module (06) dry gas seal

- 6.1 sealing technology introduction
- 6.2 shaft seal classification
- 6.3 shaft mounted and cartridge seal types
- 6.4 seal arrangement
- 6.5 seal flushing plans

• 04 DAY FOUR

Module (07) Compressor Operation

- 5.1 Pre- Start up Checks
- 5.2 Start up Procedures
- 5.3 Normal Operation Conditions
- 5.4 Shutdown Procedures

• 05 DAY FIVE

Module (08) Compressor Troubleshooting

- 6.1 Centrifugal Compressors Troubleshooting
- 6.2 Reciprocating Compressors Troubleshooting
- 6.3 Rotary Compressors Troubleshooting
- 6.4 Auxiliary System Troubleshooting

Confirmed Sessions

FROM	TO	DURATION	FEES	LOCATION
June 23, 2025	June 27, 2025	5 days	5950.00 \$	Switzerland - Zurich
Sept. 29, 2025	Oct. 3, 2025	5 days	4250.00 \$	UAE - Dubai
Dec. 22, 2025	Dec. 26, 2025	5 days	4250.00 \$	UAE - Abu Dhabi