

TRAINING TITLE

MECHANICAL SEALS AND BALANCING

Training Duration

5 day

Training Venue and Dates

Ref. No. ME165	Mechanical Seals and Balancing	5	23-27 June 2025	\$5,500	DUBAI, UAE
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In any of the 4 or 5-star hotels. The exact venue will be informed later.

Training Fees

- \$5,500 per participant for Public Training includes Materials/Handouts, tea/coffee breaks, refreshments & Lunch

Training Certificate

Define Management Consultants Certificate of course completion will be issued to all attendees.

TRAINING DESCRIPTION

This course provides a comprehensive understanding of mechanical seals, their design, operation, and maintenance. Participants will also learn about the importance of balancing in mechanical systems, particularly in rotating equipment. The course covers practical aspects of selecting, installing, maintaining, and troubleshooting mechanical seals and ensuring the proper balance of machinery for optimal performance and longevity.

TRAINING OBJECTIVES

By the end of the course, participants will be able to understand

- Understand the principles and functions of mechanical seals in rotating equipment.
- Learn the types, applications, and materials used in mechanical seals.
- Gain skills in the installation, maintenance, and troubleshooting of mechanical seals.
- Understand the importance of balancing in mechanical systems.
- Learn the methods and tools for balancing rotating equipment to minimize vibration and wear.

WHO SHOULD ATTEND?

- Mechanical engineers and technicians working with rotating equipment.
- Maintenance engineers and professionals involved in seal selection and maintenance.

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- Equipment operators and maintenance staff in industries like manufacturing, chemical, and energy.
- Anyone interested in learning about mechanical seals and balancing techniques.

TRAINING METHODOLOGY

A highly interactive combination of lectures and discussion sessions will be managed to maximize the amount and quality of information and knowledge transfer. The sessions will start by raising the most relevant questions and motivating everybody to find the right answers. You will also be encouraged to raise your own questions and to share in the development of the right answers using your own analysis and experiences. Tests of multiple-choice type will be made available on daily basis to examine the effectiveness of delivering the course.

Very useful Course Materials will be given.

- 30% Lectures
- 30% Workshops and work presentation
- 20% Group Work & Practical Exercises
- 20% Videos & General Discussions

COURSE PROGRAM

Day 1: Introduction to Mechanical Seals

- Overview of mechanical seals and their role in preventing leaks
- Components of mechanical seals: Primary seal, secondary seal, and seal face
- Common applications and industries using mechanical seals
- Basic seal performance characteristics and requirements

Day 2: Types of Mechanical Seals

- Overview of different types of mechanical seals: Single, double, and cartridge seals
- Seal materials: Elastomers, metals, ceramics, and composites
- Fluid compatibility and environmental considerations
- Selecting the right mechanical seal for various applications

Day 3: Installation and Maintenance of Mechanical Seals

- Proper installation procedures for mechanical seals
- Common mistakes in seal installation and how to avoid them
- Maintenance strategies to prolong seal life and efficiency

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- Troubleshooting mechanical seal failures: Causes and solutions

Day 4: Balancing of Rotating Equipment

- Importance of balancing in rotating machinery (pumps, motors, turbines)
- The impact of unbalanced systems on performance and longevity
- Types of imbalance: Static and dynamic
- Tools and techniques for balancing rotating equipment (balancing machines, vibration analysis)

Day 5: Practical Applications, Troubleshooting, and Case Studies

- Hands-on exercises in installing and maintaining mechanical seals
- Practical balancing techniques for different types of equipment
- Best practices for maintaining and optimizing mechanical seals and balanced systems

NOTE:

Pre-& Post Tests will be conducted.

Case Studies, Group Exercises, Group Discussions, Last Day reviews, and assessments will be carried out.

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