

MAINTENANCE AND ENGINEERING | COURSE BROCHURE

Mechanical Seals and Rotating Equipment Reliability

5 days | Classroom training | English

SMART HORIZON

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Course content

Why attend

Mechanical seal failures are a leading cause of pump downtime and leaks. This course covers mechanical seal types and arrangements, seal support systems and flush plans, installation, operating conditions, failure analysis and how to improve the reliability of pumps and rotating equipment.

Seal problems are often symptoms of wider reliability issues. You will learn to select, install and troubleshoot seals correctly.

Professional Problems This Course Is Designed to Solve

• Difficulty translating subject knowledge into practical workplace decisions.
• Inconsistent approaches to the activities covered in the course outline.
• Lack of a structured plan for applying and reviewing new skills.

Course methodology

Seal arrangement exercises, failure analysis case studies, installation demonstrations and reliability planning.

Course objectives

By the end of this course, participants will be able to:
• Explain mechanical seal types and components
• Select seal arrangements for duties
• Understand seal support systems and flush plans
• Install seals correctly
• Analyse seal failures
• Improve rotating equipment reliability

Target audience

This course is suitable for:
• Rotating equipment engineers
• Maintenance technicians
• Reliability engineers
• Process engineers
• Maintenance supervisors



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Target competencies

Participants will develop competencies in:

- Seal selection
- Support system design
- Installation
- Failure analysis
- Reliability improvement

Course outline

Day 1: Seal Fundamentals

09:00–10:08	Seal types
10:08–11:00	Components
11:00–11:30	**Coffee break**
11:30–11:45	Components (continued)
11:45–12:53	Leakage mechanisms
12:53–14:00	Exercise

Day 2: Selection

09:00–10:08	Arrangements
10:08–11:00	Materials
11:00–11:30	**Coffee break**
11:30–11:45	Materials (continued)
11:45–12:53	Operating conditions
12:53–14:00	Workshop

Day 3: Support Systems

09:00–10:08	Flush plans
10:08–11:00	Barrier fluids
11:00–11:30	**Coffee break**



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11:30–11:45	Barrier fluids (continued)
11:45–12:53	Monitoring
12:53–14:00	Exercise

Day 4: Installation and Failures

09:00–10:08	Installation practice
10:08–11:00	Failure modes
11:00–11:30	**Coffee break**
11:30–11:45	Failure modes (continued)
11:45–12:53	Analysis
12:53–14:00	Case study

Day 5: Reliability

09:00–10:08	Pump reliability
10:08–11:00	Operating practices
11:00–11:30	**Coffee break**
11:30–11:45	Operating practices (continued)
11:45–12:53	Improvement plan
12:53–14:00	Action plan

The timings provided are estimates and may vary depending on the number of participants and the discussions taking place during the sessions. They are indicative only and do not constitute a binding commitment.



Course content

Dates, venues and fees

Current published course plans. Fees are per participant in EUR, excluding unconfirmed taxes.

Venue	Start date	End date	Fee (EUR)
Dubai Confirmed dates	16 Nov 2026	20 Nov 2026	**€6,300.–**
Online Confirmed dates	16 Nov 2026	20 Nov 2026	**€1,250.–**
Amsterdam Confirmed dates	30 Nov 2026	4 Dec 2026	**€5,080.–**
Online Confirmed dates	30 Nov 2026	4 Dec 2026	**€1,250.–**
Vienna Confirmed dates	4 Jan 2027	8 Jan 2027	**€5,880.–**
Online Confirmed dates	4 Jan 2027	8 Jan 2027	**€1,250.–**
Rome Confirmed dates	25 Jan 2027	29 Jan 2027	**€4,900.–**
Online Confirmed dates	25 Jan 2027	29 Jan 2027	**€1,250.–**
Dubai Confirmed dates	15 Feb 2027	19 Feb 2027	**€6,300.–**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Online Confirmed dates	15 Feb 2027	19 Feb 2027	**€1,250.–**
Paris Confirmed dates	8 Mar 2027	12 Mar 2027	**€5,720.–**
Online Confirmed dates	8 Mar 2027	12 Mar 2027	**€1,250.–**
Rome Confirmed dates	22 Mar 2027	26 Mar 2027	**€4,900.–**
Online Confirmed dates	22 Mar 2027	26 Mar 2027	**€1,250.–**
Cape Town Confirmed dates	12 Apr 2027	16 Apr 2027	**€3,780.–**
Online Confirmed dates	12 Apr 2027	16 Apr 2027	**€1,250.–**
Istanbul Confirmed dates	3 May 2027	7 May 2027	**€5,300.–**
Online Confirmed dates	3 May 2027	7 May 2027	**€1,250.–**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Dubai Confirmed dates	24 May 2027	28 May 2027	**€6,300.-**
Online Confirmed dates	24 May 2027	28 May 2027	**€1,250.-**
Barcelona Confirmed dates	14 Jun 2027	18 Jun 2027	**€5,680.-**
Online Confirmed dates	14 Jun 2027	18 Jun 2027	**€1,250.-**
London Confirmed dates	28 Jun 2027	2 Jul 2027	**€4,900.-**
Online Confirmed dates	28 Jun 2027	2 Jul 2027	**€1,250.-**
Vienna Confirmed dates	19 Jul 2027	23 Jul 2027	**€5,880.-**
Online Confirmed dates	19 Jul 2027	23 Jul 2027	**€1,250.-**
Barcelona Confirmed dates	9 Aug 2027	13 Aug 2027	**€5,680.-**



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Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Online Confirmed dates	9 Aug 2027	13 Aug 2027	**€1,250.-**
Frankfurt Confirmed dates	30 Aug 2027	3 Sept 2027	**€5,300.-**
Online Confirmed dates	30 Aug 2027	3 Sept 2027	**€1,250.-**
Kuala Lumpur Confirmed dates	20 Sept 2027	24 Sept 2027	**€2,900.-**
Online Confirmed dates	20 Sept 2027	24 Sept 2027	**€1,250.-**
Rome Confirmed dates	4 Oct 2027	8 Oct 2027	**€4,900.-**
Online Confirmed dates	4 Oct 2027	8 Oct 2027	**€1,250.-**
Cape Town Confirmed dates	25 Oct 2027	29 Oct 2027	**€3,780.-**
Online Confirmed dates	25 Oct 2027	29 Oct 2027	**€1,250.-**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
London Confirmed dates	15 Nov 2027	19 Nov 2027	**€4,900.-**
Online Confirmed dates	15 Nov 2027	19 Nov 2027	**€1,250.-**
Cape Town Confirmed dates	6 Dec 2027	10 Dec 2027	**€3,780.-**
Online Confirmed dates	6 Dec 2027	10 Dec 2027	**€1,250.-**

Plan your next step

Dates, availability, exact venue, taxes, inclusions and payment terms require written confirmation. This brochure is not a quotation, registration, booking confirmation or visa invitation. Participants receive a Smart Horizon certificate of attendance; programmes are not externally accredited and do not award a professional qualification or designation. Confirm arrangements before booking travel.

For group or in-house training, contact our learning team to discuss your objectives and delivery arrangements.

Contact Smart Horizon

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