



MAINTENANCE AND ENGINEERING | ME-022

Desalination Technologies

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Course content

Why Attend

Desalination is a critical water source in arid regions and is expanding worldwide. Reverse osmosis and thermal technologies require careful design, operation and maintenance to control cost and reliability.

This Aractech course covers desalination technologies, reverse osmosis principles and design, pre-treatment, membrane performance and fouling, thermal processes, energy recovery, post-treatment, brine management, operation and maintenance and cost. Participants analyse plant performance data.

Course Methodology

- Technical lectures
- Performance data analysis
- Case studies
- Design exercises
- Group discussions

Course Objectives

- Compare desalination technologies
- Explain reverse osmosis principles and system design
- Design and operate pre-treatment
- Monitor membrane performance and manage fouling
- Apply energy recovery and cost reduction
- Manage brine and environmental impacts

Target Audience

- Desalination plant operators and engineers
- Water utility engineers

Course content

- Process engineers
- Maintenance managers

Course outline

Detailed course outline

Day-by-day outline for Desalination Technologies.

Day 1 - Desalination Overview

- 09:00-09:45 | Water scarcity
- 09:45-10:30 | Technologies
- 10:30-11:00 | Market trends
- 11:00-11:30 | Coffee break
- 11:30-11:45 | Market trends (continued)
- 11:45-12:30 | Costs
- 12:30-14:00 | Exercise: Technology comparison

Day 2 - Reverse Osmosis

- 09:00-09:39 | RO principles
- 09:39-10:18 | Membranes
- 10:18-11:00 | System design
- 11:00-11:30 | Coffee break
- 11:30-12:05 | System design (continued)
- 12:05-12:43 | Recovery and rejection
- 12:43-14:00 | Lab: RO calculations

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Day 3 - Pre-treatment and Fouling

- 09:00-09:45 | Intake systems
- 09:45-10:30 | Pre-treatment
- 10:30-11:00 | Fouling and scaling
- 11:00-11:30 | Coffee break
- 11:30-11:45 | Fouling and scaling (continued)
- 11:45-12:30 | Cleaning
- 12:30-14:00 | Case study: Membrane fouling

Day 4 - Thermal Processes and Energy

- 09:00-09:45 | MSF and MED
- 09:45-10:30 | Energy recovery
- 10:30-11:00 | Renewable integration
- 11:00-11:30 | Coffee break
- 11:30-11:45 | Renewable integration (continued)
- 11:45-12:30 | Post-treatment
- 12:30-14:00 | Exercise: Energy analysis

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Day 5 - Operations and Environment

- 09:00-09:54 | Operation and maintenance
- 09:54-10:48 | Performance monitoring
- 10:48-11:00 | Brine management
- 11:00-11:30 | Coffee break
- 11:30-12:12 | Brine management (continued)
- 12:12-13:06 | Environmental impacts
- 13:06-14:00 | Capstone: Plant performance review

Seminar dates

Available seminar dates

Live dates and pricing for Desalination Technologies generated from the course details page.

Date	Location	Format	Fee
2 - 6 November 2026	Vienna	Classroom	€3,225
9 - 13 November 2026	Barcelona	Classroom	€2,815
14 - 18 December 2026	Paris	Classroom	€3,825
21 - 25 December 2026	Barcelona	Classroom	€2,815
18 - 22 January 2027	London	Classroom	€2,315
15 - 19 February 2027	Frankfurt	Classroom	€1,875
15 - 19 March 2027	Geneva	Classroom	€4,315
19 - 23 April 2027	Istanbul	Classroom	€1,978
17 - 21 May 2027	Vienna	Classroom	€3,225
21 - 25 June 2027	Barcelona	Classroom	€2,815

Seminar dates

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Date	Location	Format	Fee
19 - 23 July 2027	Cape Town	Classroom	€1,625
16 - 20 August 2027	Geneva	Classroom	€4,315
20 - 24 September 2027	Rome	Classroom	€3,460
18 - 22 October 2027	Cape Town	Classroom	€1,625
15 - 19 November 2027	Dubai	Classroom	€1,845
20 - 24 December 2027	London	Classroom	€2,315
2 - 6 November 2026	Online / Live	Online / Live	€1,815
9 - 13 November 2026	Online / Live	Online / Live	€1,815
14 - 18 December 2026	Online / Live	Online / Live	€1,815
21 - 25 December 2026	Online / Live	Online / Live	€1,815

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18 - 22 January 2027	Online / Live	Online / Live	€1,815
15 - 19 February 2027	Online / Live	Online / Live	€1,815
15 - 19 March 2027	Online / Live	Online / Live	€1,815
19 - 23 April 2027	Online / Live	Online / Live	€1,815
17 - 21 May 2027	Online / Live	Online / Live	€1,815
21 - 25 June 2027	Online / Live	Online / Live	€1,815
19 - 23 July 2027	Online / Live	Online / Live	€1,815
16 - 20 August 2027	Online / Live	Online / Live	€1,815
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