

MAINTENANCE AND ENGINEERING | COURSE BROCHURE

Chillers and Cooling Towers Maintenance

5 days | Classroom training | English

SMART HORIZON

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Course content

Why attend

Chillers and cooling towers provide essential cooling for buildings, data centres and processes and consume large amounts of energy. This course covers refrigeration cycles, chiller types, cooling tower operation, water treatment and Legionella control, preventive maintenance, performance monitoring, troubleshooting and energy optimisation.

Well-maintained cooling systems use less energy and fail less often. You will learn practical maintenance and optimisation techniques.

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

Technical sessions, performance calculations, troubleshooting cases and maintenance plan development.

Course objectives

By the end of this course, participants will be able to:
• Explain refrigeration cycles and chiller types
• Understand cooling tower operation
• Manage water treatment and Legionella risk
• Plan preventive maintenance
• Monitor performance and diagnose faults
• Optimise energy use

Target audience

This course is suitable for:
• HVAC technicians and engineers
• Facility managers
• Maintenance supervisors
• Data centre engineers
• Energy managers



Course content

Target competencies

Participants will develop competencies in:

- Refrigeration knowledge
- Water treatment
- Preventive maintenance
- Diagnostics
- Energy optimisation

Course outline

Day 1: Chillers

09:00–10:08	Refrigeration cycle
10:08–11:00	Chiller types
11:00–11:30	**Coffee break**
11:30–11:45	Chiller types (continued)
11:45–12:53	Components
12:53–14:00	Exercise

Day 2: Cooling Towers

09:00–10:08	Operation
10:08–11:00	Water quality
11:00–11:30	**Coffee break**
11:30–11:45	Water quality (continued)
11:45–12:53	Legionella control
12:53–14:00	Workshop

Day 3: Maintenance

09:00–10:08	Preventive tasks
10:08–11:00	Refrigerant management
11:00–11:30	**Coffee break**



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11:30–11:45	Refrigerant management (continued)
11:45–12:53	Safety
12:53–14:00	Exercise

Day 4: Performance

09:00–10:08	Efficiency measures
10:08–11:00	Fault diagnosis
11:00–11:30	**Coffee break**
11:30–11:45	Fault diagnosis (continued)
11:45–12:53	Case study
12:53–14:00	Exercise

Day 5: Optimisation

09:00–10:08	Control strategies
10:08–11:00	Energy savings
11:00–11:30	**Coffee break**
11:30–11:45	Energy savings (continued)
11:45–12:53	Maintenance 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)
Cape Town Confirmed dates	9 Nov 2026	13 Nov 2026	**€3,780.–**
Online Confirmed dates	9 Nov 2026	13 Nov 2026	**€1,250.–**
Barcelona Confirmed dates	30 Nov 2026	4 Dec 2026	**€5,680.–**
Online Confirmed dates	30 Nov 2026	4 Dec 2026	**€1,250.–**
Rome Confirmed dates	4 Jan 2027	8 Jan 2027	**€4,900.–**
Online Confirmed dates	4 Jan 2027	8 Jan 2027	**€1,250.–**
Dubai Confirmed dates	25 Jan 2027	29 Jan 2027	**€6,300.–**
Online Confirmed dates	25 Jan 2027	29 Jan 2027	**€1,250.–**
Rome Confirmed dates	8 Feb 2027	12 Feb 2027	**€4,900.–**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Online Confirmed dates	8 Feb 2027	12 Feb 2027	**€1,250.–**
Cape Town Confirmed dates	1 Mar 2027	5 Mar 2027	**€3,780.–**
Online Confirmed dates	1 Mar 2027	5 Mar 2027	**€1,250.–**
Dubai Confirmed dates	22 Mar 2027	26 Mar 2027	**€6,300.–**
Online Confirmed dates	22 Mar 2027	26 Mar 2027	**€1,250.–**
Rome Confirmed dates	12 Apr 2027	16 Apr 2027	**€4,900.–**
Online Confirmed dates	12 Apr 2027	16 Apr 2027	**€1,250.–**
Frankfurt 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)
London Confirmed dates	17 May 2027	21 May 2027	**€4,900.-**
Online Confirmed dates	17 May 2027	21 May 2027	**€1,250.-**
Cape Town Confirmed dates	7 Jun 2027	11 Jun 2027	**€3,780.-**
Online Confirmed dates	7 Jun 2027	11 Jun 2027	**€1,250.-**
Istanbul Confirmed dates	28 Jun 2027	2 Jul 2027	**€5,300.-**
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.-**
Kuala Lumpur Confirmed dates	9 Aug 2027	13 Aug 2027	**€2,900.-**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Online Confirmed dates	9 Aug 2027	13 Aug 2027	**€1,250.-**
Amsterdam Confirmed dates	23 Aug 2027	27 Aug 2027	**€5,080.-**
Online Confirmed dates	23 Aug 2027	27 Aug 2027	**€1,250.-**
Vienna Confirmed dates	13 Sept 2027	17 Sept 2027	**€5,880.-**
Online Confirmed dates	13 Sept 2027	17 Sept 2027	**€1,250.-**
Barcelona Confirmed dates	4 Oct 2027	8 Oct 2027	**€5,680.-**
Online Confirmed dates	4 Oct 2027	8 Oct 2027	**€1,250.-**
London Confirmed dates	25 Oct 2027	29 Oct 2027	**€4,900.-**
Online Confirmed dates	25 Oct 2027	29 Oct 2027	**€1,250.-**



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Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Dubai Confirmed dates	15 Nov 2027	19 Nov 2027	**€6,300.-**
Online Confirmed dates	15 Nov 2027	19 Nov 2027	**€1,250.-**
Paris Confirmed dates	29 Nov 2027	3 Dec 2027	**€5,720.-**
Online Confirmed dates	29 Nov 2027	3 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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View the latest course details online