

MAINTENANCE AND ENGINEERING | COURSE BROCHURE

Boilers, Steam Systems and Heat Exchangers

5 days | Classroom training | English

SMART HORIZON

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Course content

Why attend

Boilers, steam systems and heat exchangers are central to many industrial processes. This course covers boiler types and operation, combustion and efficiency, water treatment, steam distribution and traps, condensate recovery, heat exchanger types, fouling and maintenance, and safety.

Steam system losses and failures are costly and dangerous. This course helps you operate and maintain these systems safely and efficiently.

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

The course uses technical presentations, efficiency calculations, case studies and maintenance planning.

Course objectives

By the end of this course, participants will be able to:
• Explain boiler types and operating principles
• Optimise combustion and boiler efficiency
• Apply water treatment requirements
• Maintain steam distribution systems and traps
• Operate and maintain heat exchangers
• Manage boiler and steam safety

Target audience

This course is suitable for:
• Utility and plant engineers
• Boiler operators
• Maintenance engineers
• Energy managers
• Process engineers



Course content

Target competencies

Participants will develop competencies in:

- Boiler operation
- Combustion efficiency
- Water treatment
- Steam system maintenance
- Heat exchanger maintenance
- Pressure system safety

Course outline

Day 1: Boiler Fundamentals

09:00–09:54	Boiler types
09:54–10:48	Components
10:48–11:00	Operation
11:00–11:30	**Coffee break**
11:30–12:12	Operation (continued)
12:12–13:06	Safety devices
13:06–14:00	Exercise: Boiler review

Day 2: Combustion and Efficiency

09:00–09:54	Combustion principles
09:54–10:48	Flue gas analysis
10:48–11:00	Efficiency calculations
11:00–11:30	**Coffee break**
11:30–12:12	Efficiency calculations (continued)
12:12–13:06	Burner tuning
13:06–14:00	Lab: Efficiency calculation



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Day 3: Water Treatment

09:00–09:54	Water quality
09:54–10:48	Scale and corrosion
10:48–11:00	Blowdown
11:00–11:30	**Coffee break**
11:30–12:12	Blowdown (continued)
12:12–13:06	Chemical treatment
13:06–14:00	Case study: Water treatment failure

Day 4: Steam Distribution

09:00–09:54	Steam traps
09:54–10:48	Insulation
10:48–11:00	Condensate recovery
11:00–11:30	**Coffee break**
11:30–12:12	Condensate recovery (continued)
12:12–13:06	Leak management
13:06–14:00	Exercise: Steam trap survey

Day 5: Heat Exchangers

09:00–09:54	Types
09:54–10:48	Fouling
10:48–11:00	Cleaning and inspection
11:00–11:30	**Coffee break**
11:30–12:12	Cleaning and inspection (continued)
12:12–13:06	Performance monitoring
13:06–14:00	Capstone: Steam system improvement plan

The timings provided are estimates and may vary depending on the number of participants and the discussions taking place during the



Course content

sessions. They are indicative only and do not constitute a binding commitment.

Dates, venues and fees

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

Venue	Start date	End date	Fee (EUR)
Singapore Confirmed dates	9 Nov 2026	13 Nov 2026	**€5,640.–**
Online Confirmed dates	9 Nov 2026	13 Nov 2026	**€1,250.–**
Rome Confirmed dates	16 Nov 2026	20 Nov 2026	**€4,900.–**
Online Confirmed dates	16 Nov 2026	20 Nov 2026	**€1,250.–**
London Confirmed dates	23 Nov 2026	27 Nov 2026	**€4,900.–**
Online Confirmed dates	23 Nov 2026	27 Nov 2026	**€1,250.–**
Dubai Confirmed dates	7 Dec 2026	11 Dec 2026	**€6,300.–**
Online Confirmed dates	7 Dec 2026	11 Dec 2026	**€1,250.–**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Frankfurt Confirmed dates	14 Dec 2026	18 Dec 2026	**€5,300.-**
Online Confirmed dates	14 Dec 2026	18 Dec 2026	**€1,250.-**
Kuala Lumpur Confirmed dates	11 Jan 2027	15 Jan 2027	**€2,900.-**
Online Confirmed dates	11 Jan 2027	15 Jan 2027	**€1,250.-**
Paris Confirmed dates	25 Jan 2027	29 Jan 2027	**€5,720.-**
Online Confirmed dates	25 Jan 2027	29 Jan 2027	**€1,250.-**
Istanbul Confirmed dates	8 Feb 2027	12 Feb 2027	**€5,300.-**
Online Confirmed dates	8 Feb 2027	12 Feb 2027	**€1,250.-**
Cape Town Confirmed dates	15 Feb 2027	19 Feb 2027	**€3,780.-**



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.-**
Amsterdam Confirmed dates	22 Feb 2027	26 Feb 2027	**€5,080.-**
Online Confirmed dates	22 Feb 2027	26 Feb 2027	**€1,250.-**
Singapore Confirmed dates	8 Mar 2027	12 Mar 2027	**€5,640.-**
Online Confirmed dates	8 Mar 2027	12 Mar 2027	**€1,250.-**
London Confirmed dates	22 Mar 2027	26 Mar 2027	**€4,900.-**
Online Confirmed dates	22 Mar 2027	26 Mar 2027	**€1,250.-**
Vienna Confirmed dates	5 Apr 2027	9 Apr 2027	**€5,880.-**
Online Confirmed dates	5 Apr 2027	9 Apr 2027	**€1,250.-**



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Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Dubai Confirmed dates	12 Apr 2027	16 Apr 2027	**€6,300.-**
Online Confirmed dates	12 Apr 2027	16 Apr 2027	**€1,250.-**
Frankfurt Confirmed dates	26 Apr 2027	30 Apr 2027	**€5,300.-**
Online Confirmed dates	26 Apr 2027	30 Apr 2027	**€1,250.-**
Kuala Lumpur Confirmed dates	10 May 2027	14 May 2027	**€2,900.-**
Online Confirmed dates	10 May 2027	14 May 2027	**€1,250.-**
Paris Confirmed dates	24 May 2027	28 May 2027	**€5,720.-**
Online Confirmed dates	24 May 2027	28 May 2027	**€1,250.-**
Cape Town Confirmed dates	7 Jun 2027	11 Jun 2027	**€3,780.-**



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Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Online Confirmed dates	7 Jun 2027	11 Jun 2027	**€1,250.-**
Istanbul Confirmed dates	14 Jun 2027	18 Jun 2027	**€5,300.-**
Online Confirmed dates	14 Jun 2027	18 Jun 2027	**€1,250.-**
Amsterdam Confirmed dates	21 Jun 2027	25 Jun 2027	**€5,080.-**
Online Confirmed dates	21 Jun 2027	25 Jun 2027	**€1,250.-**
Singapore Confirmed dates	12 Jul 2027	16 Jul 2027	**€5,640.-**
Online Confirmed dates	12 Jul 2027	16 Jul 2027	**€1,250.-**
London Confirmed dates	26 Jul 2027	30 Jul 2027	**€4,900.-**
Online Confirmed dates	26 Jul 2027	30 Jul 2027	**€1,250.-**



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Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Dubai Confirmed dates	9 Aug 2027	13 Aug 2027	**€6,300.-**
Online Confirmed dates	9 Aug 2027	13 Aug 2027	**€1,250.-**
Rome Confirmed dates	16 Aug 2027	20 Aug 2027	**€4,900.-**
Online Confirmed dates	16 Aug 2027	20 Aug 2027	**€1,250.-**
Frankfurt Confirmed dates	23 Aug 2027	27 Aug 2027	**€5,300.-**
Online Confirmed dates	23 Aug 2027	27 Aug 2027	**€1,250.-**
Kuala Lumpur Confirmed dates	13 Sept 2027	17 Sept 2027	**€2,900.-**
Online Confirmed dates	13 Sept 2027	17 Sept 2027	**€1,250.-**
Paris Confirmed dates	20 Sept 2027	24 Sept 2027	**€5,720.-**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Online Confirmed dates	20 Sept 2027	24 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.-**
Istanbul Confirmed dates	11 Oct 2027	15 Oct 2027	**€5,300.-**
Online Confirmed dates	11 Oct 2027	15 Oct 2027	**€1,250.-**
Amsterdam Confirmed dates	25 Oct 2027	29 Oct 2027	**€5,080.-**
Online Confirmed dates	25 Oct 2027	29 Oct 2027	**€1,250.-**
Singapore Confirmed dates	8 Nov 2027	12 Nov 2027	**€5,640.-**
Online Confirmed dates	8 Nov 2027	12 Nov 2027	**€1,250.-**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
London Confirmed dates	22 Nov 2027	26 Nov 2027	**€4,900.–**
Online Confirmed dates	22 Nov 2027	26 Nov 2027	**€1,250.–**
Dubai Confirmed dates	6 Dec 2027	10 Dec 2027	**€6,300.–**
Online Confirmed dates	6 Dec 2027	10 Dec 2027	**€1,250.–**
Frankfurt Confirmed dates	13 Dec 2027	17 Dec 2027	**€5,300.–**
Online Confirmed dates	13 Dec 2027	17 Dec 2027	**€1,250.–**



Course content

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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