



MAINTENANCE AND ENGINEERING | ME-023

Piping Systems Design and Inspection

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Course content

Why Attend

Piping systems carry process fluids, utilities and hazardous materials throughout industrial facilities. Correct design, materials, supports and inspection are essential to prevent leaks and failures.

This Aractech course covers piping codes and standards, materials and components, pressure design, flexibility and stress basics, supports, valves and fittings, fabrication and testing, inspection, damage mechanisms and integrity management. Participants review piping designs and inspection plans.

Course Methodology

- Technical lectures
- Design review exercises
- Case studies
- Inspection planning
- Group discussions

Course Objectives

- Explain piping codes and standards
- Select materials and components
- Understand pressure design and flexibility
- Design supports and layouts
- Plan fabrication, testing and inspection
- Manage piping integrity in operation

Target Audience

- Piping and mechanical engineers
- Inspection engineers

Course content

- Maintenance engineers
- Project engineers

Course outline

Detailed course outline

Day-by-day outline for Piping Systems Design and Inspection.

Day 1 - Piping Fundamentals

- 09:00-09:45 | Piping systems
- 09:45-10:30 | Codes and standards
- 10:30-11:00 | Materials
- 11:00-11:30 | Coffee break
- 11:30-11:45 | Materials (continued)
- 11:45-12:30 | Components
- 12:30-14:00 | Exercise: Line list review

Day 2 - Design

- 09:00-10:07 | Pressure design
- 10:07-10:41 | Wall thickness
- 10:41-11:00 | Flexibility
- 11:00-11:30 | Coffee break
- 11:30-11:45 | Flexibility (continued)
- 11:45-12:19 | Supports
- 12:19-12:53 | Layout
- 12:53-14:00 | Lab: Wall thickness calculation

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Day 3 - Fabrication and Testing

- 09:00-09:45 | Welding
- 09:45-10:30 | Fabrication
- 10:30-11:00 | Pressure testing
- 11:00-11:30 | Coffee break
- 11:30-11:45 | Pressure testing (continued)
- 11:45-12:30 | Documentation
- 12:30-14:00 | Workshop: Test plan

Day 4 - Damage and Inspection

- 09:00-09:45 | Damage mechanisms
- 09:45-10:30 | Inspection methods
- 10:30-11:00 | Risk-based inspection
- 11:00-11:30 | Coffee break
- 11:30-11:45 | Risk-based inspection (continued)
- 11:45-12:30 | Corrosion under insulation
- 12:30-14:00 | Case study: Piping failure

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Day 5 - Integrity Management

- 09:00-09:54 | Fitness for service
- 09:54-10:48 | Repairs
- 10:48-11:00 | Records
- 11:00-11:30 | Coffee break
- 11:30-12:12 | Records (continued)
- 12:12-13:06 | Programmes
- 13:06-14:00 | Capstone: Piping inspection plan

Seminar dates

Available seminar dates

Live dates and pricing for Piping Systems Design and Inspection generated from the course details page.

Date	Location	Format	Fee
9 - 13 November 2026	Amsterdam	Classroom	€2,830
14 - 18 December 2026	London	Classroom	€2,315
18 - 22 January 2027	Frankfurt	Classroom	€1,875
15 - 19 February 2027	Barcelona	Classroom	€2,815
15 - 19 March 2027	Munich	Classroom	€3,225
19 - 23 April 2027	Rome	Classroom	€3,460
17 - 21 May 2027	Munich	Classroom	€3,225
21 - 25 June 2027	Amsterdam	Classroom	€2,830
19 - 23 July 2027	London	Classroom	€2,315
16 - 20 August 2027	Frankfurt	Classroom	€1,875

Seminar dates

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Date	Location	Format	Fee
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18 - 22 October 2027	Munich	Classroom	€3,225
15 - 19 November 2027	Rome	Classroom	€3,460
20 - 24 December 2027	Munich	Classroom	€3,225
9 - 13 November 2026	Online / Live	Online / Live	€1,815
14 - 18 December 2026	Online / Live	Online / Live	€1,815
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

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Date	Location	Format	Fee
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
20 - 24 September 2027	Online / Live	Online / Live	€1,815
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