

API STANDARDS FOR VALVES & EQUIPMENT

“Ensuring Compliance, Safety, and Performance in Valve Selection and Specification”

Schedule

Date	Venue	Fees (Face-to-Face)
24 - 26 Feb 2026	Manama, Bahrain	USD 2495 per delegate

Introduction

Valves and associated equipment play a vital role in controlling the flow of fluids across oil & gas, petrochemical, power generation, and industrial systems. The American Petroleum Institute (API) standards serve as a global benchmark for ensuring reliability, safety, and regulatory compliance in valve manufacturing, inspection, testing, and operation.

This practical three-day training provides in-depth knowledge of the most widely used API standards for valves and related equipment. Participants will learn how to select, specify, inspect, and maintain valves in accordance with API guidelines, thereby ensuring optimal system performance and regulatory adherence in critical operations.

Objectives

By the end of this course, participants will be able to:

- Understand the scope and application of key API standards for valves and equipment
- Interpret specifications and documentation for API-compliant valve selection
- Apply API standards in valve inspection, pressure testing, and maintenance
- Identify design, material, and performance considerations in valve procurement
- Ensure compliance with international safety, quality, and integrity requirements

Why Attend

- Gain clarity on critical API valve standards including API 6D, 598, 607, and more
- Improve procurement decisions and technical evaluations
- Avoid common non-compliance and operational issues
- Build confidence in audits, inspections, and quality assurance processes
- Enhance communication between engineering, procurement, and maintenance teams

Target Audience

This program is designed for:

- Mechanical, piping, and process engineers
- Maintenance and reliability engineers
- Procurement and technical evaluation professionals
- Project and plant managers in oil, gas, and industrial facilities
- Quality assurance and inspection personnel working with valve systems

Individual Benefits

Key competencies that will be developed include:

- Familiarity with API valve classification and testing protocols
- Technical skills for interpreting valve datasheets and API symbols
- Risk awareness in valve specification and material selection
- Improved ability to manage vendor compliance and documentation
- Confidence in applying standards in field inspections and audits

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Reduced risk of valve failure through standardized selection and inspection
- Improved safety and regulatory compliance in valve-related systems
- Better vendor management through specification clarity and standardization
- Enhanced team alignment on quality, cost, and performance expectations
- Lower lifecycle costs through proper valve specification and maintenance planning

Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings - Comprehensive explanations of API valve standards and revisions
- Case Studies - Field examples of valve failure, testing, and specification errors
- Workshops - Exercises interpreting API specifications and creating valve datasheets
- Peer Exchange - Sharing industry experiences and vendor-related challenges
- Tools - Checklists for valve inspection, testing records, and compliance documentation

Course Outline

Detailed 3-Day Course Outline

Training Hours: 07:30 AM – 3:30 PM **Daily Format:** 3–4 Learning Modules | Coffee breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

Day 1: Overview of API Valve Standards and Applications

- Module 1: API Standards Landscape for Valves (07:30 – 09:30) • Introduction to API and its role in global industry standards • Overview of key valve-related standards: API 6D, 600, 602, 608, 609 • API 598 for valve inspection and testing
- Module 2: Valve Classification and Applications (09:45 – 11:15) • Types of valves: gate, globe, ball, check, butterfly • Application criteria by pressure class, media, and system type • API vs ASME vs ISO standards comparison
- Module 3: Specification and Datasheet Development (11:30 – 01:00) • Interpreting valve specs: pressure rating, end connections, MOC • Developing project-specific valve datasheets • Material compatibility and API 600 material classes
- Module 4: Case Review – Incorrect Valve Specification (02:00 – 03:30) • Real example of failure due to misapplication • Lessons learned and preventive actions

Day 2: Inspection, Testing, and Compliance

- Module 1: API 598 – Valve Inspection and Testing Requirements (07:30 – 09:30) • Visual, dimensional, shell, and seat leakage testing • Hydrostatic and pneumatic test requirements • Witnessing and documenting test results
- Module 2: Fire-Safe and Fugitive Emissions Testing (09:45 – 11:15) • API 607 and API 6FA standards for fire-safe valves • Emissions testing under API 622 and 624 • Sealing systems and environmental compliance
- Module 3: Third-Party Inspections and Audits (11:30 – 01:00) • Inspector qualifications and responsibilities • Review of MTRs, certificates, and inspection reports • Valve tagging and traceability
- Module 4: Workshop – Preparing a Valve Inspection Checklist (02:00 – 03:30) • Creating inspection protocols based on API standards • Group review and discussion

Day 3: Procurement, Installation, and Maintenance

- Module 1: Vendor Evaluation and Procurement Practices (07:30 – 09:30) • Qualifying suppliers based on API Q1/Q2 • Bid package review and technical evaluation • Managing deviations and clarifications
- Module 2: Installation and Startup Procedures (09:45 – 11:15) • Handling, storage, and pre-installation checks • Alignment, torque, and actuator installation • Avoiding startup damage and commissioning errors
- Module 3: Maintenance and Troubleshooting (11:30 – 01:00) • Typical valve failure modes and diagnostics • Inspection frequency and preventive maintenance • Repair vs replacement decision-making
- Module 4: Final Q&A and Course Review (02:00 – 03:30) • Recap of standards and application practices • Key takeaways for field implementation • Certification distribution and wrap-up

Certification

Participants will receive a Certificate of Completion in API Standards for Valves & Equipment, verifying their ability to apply API standards in valve selection, inspection, testing, and maintenance for safe and compliant operations.

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