

BASIC HYDRAULIC TRAINING

“Gain foundational knowledge and practical skills to understand and work with hydraulic systems in the building, plant, and machinery sectors.”

Schedule

Date	Venue	Fees (Face-to-Face)
24 - 25 Jun 2026	Manama, Bahrain	USD 1995 per delegate
13 - 14 Jul 2026	Doha, Qatar	USD 1995 per delegate

► **Available delivery methods:** Face-to-Face & Online Training

Introduction

Hydraulic systems play a critical role in the operation and performance of various machinery and equipment across industries. This 2-day training course provides participants with the essential knowledge to understand, maintain, and troubleshoot hydraulic systems in building, plant, and machinery operations. The training covers fundamental hydraulic principles, components, and their applications to ensure effective system functionality and long-term reliability.

Objectives

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

- Understand the principles of hydraulic systems and their components
- Identify key hydraulic components, such as pumps, valves, actuators, and filters
- Troubleshoot and maintain basic hydraulic circuits
- Interpret hydraulic circuit diagrams and schematics
- Understand the importance of fluid properties and system maintenance
- Apply safe working practices when operating or repairing hydraulic systems

Why Attend

- Build a strong foundation in hydraulic systems, essential for a range of industries
- Enhance your ability to troubleshoot and maintain hydraulic circuits effectively
- Gain practical knowledge for the safe operation and maintenance of hydraulic machinery
- Learn to interpret hydraulic schematics and diagrams with confidence
- Increase your understanding of hydraulic fluid properties and their impact on system performance
- Gain the knowledge to optimize hydraulic systems for improved performance and longevity

Target Audience

This program is designed for:

- Engineers, technicians, and operators working with hydraulic systems in building, plant, and machinery sectors
- Maintenance and reliability professionals looking to deepen their knowledge of hydraulics
- Safety professionals involved in hydraulic system operations
- Anyone interested in learning the basics of hydraulic systems and their maintenance

Individual Benefits

Key competencies that will be developed include:

- Understanding hydraulic system components and their function
- The ability to identify common issues and troubleshoot basic hydraulic systems
- Skill in reading and interpreting hydraulic schematics
- The knowledge to perform basic maintenance and ensure the system's longevity
- Enhanced confidence in the safe operation of hydraulic machinery and systems

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- A solid understanding of hydraulic principles and their applications
- The ability to perform effective troubleshooting and maintenance on hydraulic systems
- Knowledge of optimizing hydraulic systems for better operational performance
- Awareness of industry best practices and safety standards in hydraulic systems
- Improved efficiency and reduced downtime in hydraulic equipment operations

Instructional Methodology

The course uses a combination of theoretical and hands-on learning methods:

- Lectures - Overview of hydraulic system components, functions, and operations
- Case Studies - Real-world scenarios to demonstrate common hydraulic issues and troubleshooting techniques
- Workshops - Hands-on exercises to work with hydraulic systems, including basic maintenance tasks and troubleshooting
- Group Discussions - Opportunities to discuss challenges faced in hydraulic system operations and share best practices
- Simulation - Practical experience in diagnosing and repairing hydraulic system faults

Course Outline

Training Hours: 7:30 AM – 3:30 PM **Daily Format:** 2-3 Learning Modules | Coffee Breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

Day 1: Introduction to Hydraulic Systems and Components

- Module 1: Basic Principles of Hydraulics – 07:30–09:30
- Introduction to hydraulics and its applications in machinery and systems
- Key principles of hydraulic fluid and pressure
- Understanding Pascal's Law and its relevance to hydraulic systems
- Module 2: Components of Hydraulic Systems – 09:45–11:15
- Pumps, valves, actuators, and cylinders: Functions and types
- Fluid reservoirs, filters, and coolers
- Hydraulic system schematics and how to read them
- Module 3: Hydraulic Fluids and Maintenance – 11:30–01:00
- Properties of hydraulic fluids
- Importance of fluid selection and its impact on system performance
- Basic maintenance practices to extend the life of hydraulic systems
- Module 4: Workshop – Hydraulic System Components – 02:00–03:30
- Hands-on identification of components in hydraulic systems
- Practical exercise in fluid selection and system maintenance

Day 2: Troubleshooting and Safe Operation

- Module 1: Troubleshooting Hydraulic Systems – 07:30–09:30
- Common issues in hydraulic systems (e.g., leaks, overheating, performance loss)
- Basic troubleshooting techniques for hydraulic circuits
- Tools and methods for diagnosing faults in hydraulic systems
- Module 2: Interpreting Hydraulic Schematics – 09:45–11:15
- Introduction to hydraulic circuit diagrams
- Reading and understanding schematic symbols
- Practical exercises in interpreting hydraulic system diagrams
- Module 3: Safety and Best Practices – 11:30–01:00
- Safe handling of hydraulic systems and fluids
- Personal protective equipment (PPE) and safety standards for hydraulic operations
- Preventative measures for avoiding system failures and accidents
- Module 4: Workshop – Troubleshooting and Safe Operation – 02:00–03:30
- Hands-on troubleshooting exercises on hydraulic systems
- Safe operation practices in hydraulic maintenance and repairs

Certification

Participants will receive a Certificate of Completion in Basic Hydraulic Training, demonstrating their understanding of hydraulic system components, maintenance, and troubleshooting techniques.

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