

Level 1: Fundamentals

Fluid Power—Hydraulics

Estimated Duration: 16 hours

Level 1

This hydraulic training course is designed to familiarize students with the construction and operation of hydraulic components. Investigating the construction and operation of a range of hydraulic equipment, this hydraulic training course covers the fundamental principles of hydraulics as well as the individual components. Valves controlling pressure, flow rate, sequence and direction of flow are included and practical exercises are used to demonstrate their operation, based on standard symbol circuits. Maintenance and a systematic approach to fault finding are also covered.

Course Topics

- Equipment and circuit diagram symbols, reading and interpreting basic hydraulic circuit diagrams
- Physical principles of hydraulics
- Structure and mode of operation of basic components
- Measure volumetric flow and pressure
- Technology and characteristic data of valves and drive elements
- Intensive training for industrial practice: setting up systems in accordance with circuit diagrams, commissioning systems
- Fundamentals of proportional hydraulics

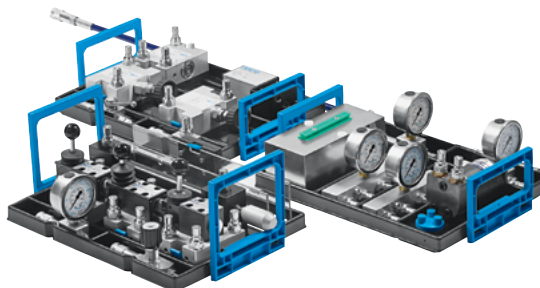
Core Competencies

- Design, assemble, test, and troubleshoot basic hydraulic circuits
- Identify and describe the construction, design features, and operation of hydraulic components
- Interpret technical specifications and data relating to hydraulic components and systems
- Identify and explain graphical symbols for hydraulic components
- Describe fundamentals of oil flow

Equipment

Basic Hydraulics Training Package

- Hydraulic trainer engineered for extreme ease of use and durability
- Exceeds industrial safety standards
- Many work surface options, including an “A” frame top to allow experiments on both sides of a bench
- Lockable storage available
- Industrial-grade components pre-labeled with appropriate circuit symbol, providing learning reinforcement
- Teachers can create their own circuits to reproduce specific hydraulic applications
- Faulty component package for real-world troubleshooting



The same bench system is used for Pneumatics and Hydraulics.
Further use of the bench is realized in Level 2 certifications

