Level 1: Fundamentals
Fluid Power—Pneumatics

FESTO

Level 1

This pneumatic training course covers the use of compressed air for pneumatic control and as a signaling medium. A complete overview is given, covering compressors, storage, dryers and distribution as well as the design, construction and operation of a range of actuators, valves and ancillary equipment. The relevant ISO symbols are introduced and included in the circuit diagrams. This course ensures a sound competence the safe operation and maintenance of one of the most common automation elements in industry.

Course Topics

- Structure, function and application of single-acting and double-acting cylinders
- Calculating basic parameters
- Direct and indirect actuation
- Application and function of 3/2 and 5/2-way valves
- Methods of actuation of directional control valves
- Analyzing circuits
- Options for pressure measurement
- Pressure-dependent control systems
- Distinguishing flow control
- Logic operations: explaining and implementing AND/OR/NOT operations
- Function and application of limit switches
- Time delay valves
- Realizing oscillating movement
- Economic considerations of using pneumatic components

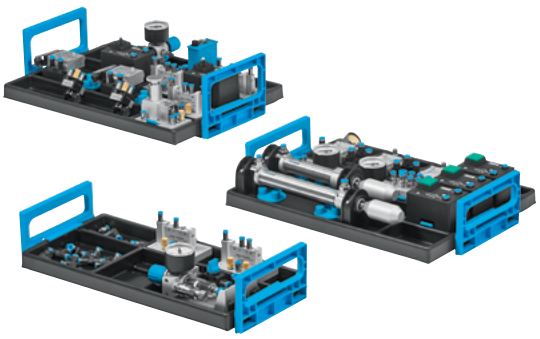
Core Competencies

- Interpret and draw pneumatic symbols
- Construct and troubleshoot pneumatic circuits
- Determine root cause of component failure
- Make speed adjustments to actuators
- Explain the force/pressure/area relationship
- Describe the different states an actuator can assume and the importance of each
- Identify/explain function of pneumatic components

Equipment

Basic Pneumatics Training Package

- Industrial-grade components pre-labeled with appropriate circuit symbols, providing learning reinforcement
- Repositionable components build a foundation of knowledge one device at a time, making it easier to teach circuit assembly
- Teachers can create their own circuits to reproduce specific pneumatic applications
- Pneumatic trainer engineered for extreme ease of use and durability
- Exceeds industrial safety standards
- Faulty component package for real-world trouble-shooting



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