

# Laboratory of Pneumatic Drives

## Principal goals and activities

- Providing of expert education in the accredited courses, lifelong education and special training for companies and institutions.
- Design and optimization of pneumatic drive systems, synthesis of pneumatic circuits.
- Research and development of new types of robotic effectors (gripping elements and technology heads, actuators).
- Research and development of specific heads for extra heavy duty and special operating conditions (high temperature, high dust formation, high moisture, vacuum, etc.).

## Specific instruments and outcomes

- FESTO DIDACTIC training sets.
- Equipment for design and testing of vacuum circuits, vacuum gripping heads and dynamic properties of servo-pneumatic systems.
- Software applications that simulate the operation of pneumatic circuits.
- PLC controls.

## General focus of laboratory

The laboratory is a training site with capability for testing the behaviour of pneumatic drives and control systems. It offers students practical verification of the design and connection of pneumatic and electro-pneumatic circuits, design of control circuits, programming PLC devices, as well as testing the parameters of designed equipment. The laboratory operates comprehensive equipment for design and testing of vacuum circuits, vacuum gripping heads and dynamic properties of servo-pneumatic systems. It also uses software applications that simulate the operation of pneumatic circuits. The laboratory holds certified seminars that are part of the lifelong education program, in collaboration with FESTO company.

- Solution, design and dimensioning of pneumatic drive systems (circuits), dimensioning of electric servo drives.
- Basic PLC programming.

## Offer of technology and expertise

- Certified seminars that are a part of the lifelong education program, in collaboration with FESTO company.
- Design of special-purpose pneumatic drive systems (circuits).
- Research and development of new types of robot effectors (gripping and technology heads, actuators).

