

The Festo Group

Components and automation solutions for laboratory automation and medical technology

Festo is both a global player and an independent family-owned company based in Esslingen am Neckar, Germany. The company has become one of the global market leaders in its sector over the past 60 years thanks to its innovations and problem-solving competency, as well as a unique range of technical education. Festo has been developing components and system solutions for equipment manufacturers who specialise in the automation of laboratory processes and the manufacture of medical devices since 2004.

Due to its annual double-digit growth rate, the LifeTech business area has been a separate division of Festo since 2015 and is being continuously expanded. In addition to standard components, the LifeTech division develops separate components with new technologies that are designed specifically for the Life Science market. In the development of customised automation solutions for its customers, Festo's approach involves the joint development of engineering concepts together with the customer, beginning already with the very first planning phase. Since the United States is at the forefront of the global life science market, it's there that most industry-relevant innovations and new technologies emerge. In order to participate in these developments at an early stage, Festo set up a development centre in Boston.

Product range for laboratory automation

Festo develops intelligent, tested subsystems for the automation of liquid media and sample handling applications.

The focus is on:

- **Sample Handling:** Feeding and identification as well as opening and closing of test tubes
- **Liquid handling:** high-quality components and flexible subsystems for reliable and precise pipetting and dispensing.
- **In-vitro diagnostics:** compact components for the automation of point-of-care applications

One example is the compact **rotary gripper module EHMD**, which can grip and rotate sample vials, it is unique on the market so far. It opens and closes the smallest sample vials with a volume of up to 15 millilitres without any problems.

The **smart pipetting system with DHOP pipetting head** impresses with its intuitive operation and easy setting of the target volume - regardless of changing ambient conditions or changing liquids. The smart closed-loop pipette is supplied with pressure and vacuum by the **decentralised PGVA generator** and has a closed control loop in which precise piezo technology takes over proportional control. Many functions are already integrated, making the system a true plug-and-work solution for the customer, and ensuring reproducible results with high process reliability - in a volume range from 1 to 1000 µl. The smart pipetting system is combined with the **disposable pipette tips DHAP**, which Festo also offers.

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Another product highlight is the **VYKA, a media-separated solenoid valve** for precise dispensing of liquids or controlling liquid flows in manifold duct plates. The media separation ensures highest possible safety standards and chemical resistance. With a width of only 7 mm (NW 1.2 mm), VYKA controls very small, even aggressive liquid quantities (µl, ml) with high precision. The holding current reduction of the plug-in VAVE electronics prevents sensitive media from heating up. For higher flow rates, the variant **VYKB** is used. The pneumatic version, the **VZDB** valve, is used in environments where electrical signals should be avoided.

Also new is the **miniature valve VOVK**. Due to its small size of only 5.9 mm width and its extremely low energy consumption, it is ideally suited for operating many switching valves side by side in the smallest space. Possible applications include in-vitro diagnostics (IVD) for small point-of-care (POC) devices. The miniature valves activate the process that ensures that the liquid reagents react with each other, and the analysis process starts. Similarly, it can be used to control the flow of fluids in dialysis machines to actuate membrane switches that keep contaminated fluids separated from the system.

Festo LifeTech: www.festo.com/lifetech

Regular news on our LifeTech Blog: <https://www.festo.blog>

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Festo LifeTech

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DHOP pipetting head

The smart DHOP pipetting head impresses with its intuitive operation and easy setting of the target volume.