

## Festo Develops a New Flexible Pipetting Solution

This new solution is capable of pipette dispenses from 20 microliters up to 20 milliliters.

**Festo is now showing customers and prospects several new life science automation innovations including the company's wide-range flexible pipetting. Each of the new and customizable solutions combines Festo components into dynamic subsystems. Festo collaborates with OEMs and integrators to bring proven commercial technologies to labs around the globe.**

"LifeTech is the fastest growing segment within Festo," said Sam Stoney, LifeTech Industry Segment Manager. "We believe the reason for exceptional growth is that our product portfolio in high-speed sample and media handling is second to none, as is our Boston-based application engineering team. Festo supports its products globally and reduces risk through its robust and reliable supply chain."

The new wide-range pipetting system scales seamlessly from 20 µl up to 20 ml for bulk transfer. Users change pipetting volumes via a text-based HMI; in practice the system can be controlled by any automated system using standard Ethernet protocols. Featured components include the Festo [DHOE](#) open loop pipette head and the ultra-compact [PGVA](#) pipetting and dispensing controller.

The DHOE pipette head can transport extremely small volumes down to 1 µl with outstanding precision. Thanks to its chemical resistance, the DHOE accommodates a wide range of liquids of varying viscosities. The solution shows how a single versatile system can serve many functions – a plus for laboratory and screening device manufacturers that look to deliver greater flexibility to their customers.

The PGVA pipetting and dispensing controller is a compact solution for environments without a central compressed air supply. A single PGVA can supply air pressure to multiple pipette or dispensing heads. The PGVA allows the pressure supply (positive or vacuum) to be centralized within the machine. It operates silently with precision thanks to its industry leading piezoelectric-based valves.

In a second development, Festo is now showing a gantry robot featuring three axes of motion (X, Y, and Z) and eight independently controlled Z-axes. Multiple Z-axis increases the flexibility of the sample and media handling systems by fitting more workflow into less space. Customers can opt for the number of Z-axes optimum for their machine.

Featured components include the latest iteration of the Festo [EXCL](#) life-science optimized gantry robot, which customers receive as a kit that is easily assembled in hours. EXCL kits come complete with all key components, from power connector to energy chain, motors, and motion control. Festo assigns gantries unique part numbers for simplified reordering. The company developed an online configuration tool that makes specification fast and optimized to the needs of the application. Other featured Festo components include the [CMXL](#) motion controller, PGVA pipetting and dispensing controller, DHOE pipettor, and DHAP pipette tips.

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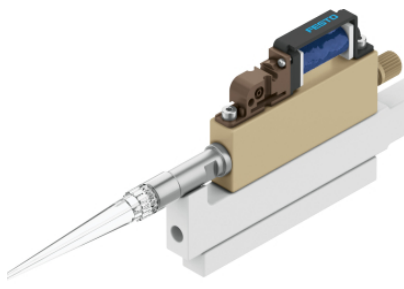
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Festo's liquid dosing system can aspirate liquid droplets from two bulk wells and dispense them into microwell plates. The system adjusts flexibly. Following filling, the liquids are aspirated away in a bulk transfer, and the pipette tip can be automatically replaced. Key Festo life-science components include the [EXCM-30](#) bench-top gantry robot, [ELGC](#) linear actuator, CMXL motion controller, PGVA pipetting and dispensing controller, DHOP smart pipettor, DHAP pipette tips, [VAEM](#) valve controller, and [VTOI](#) dispense/aspirate head.

Festo also has a liquid dispensing system for small volumes of liquid. Liquids are dispensed with the [VYKA](#) media separated valve. Using hit-and-hold current reduction circuits in a VAEM valve controller, valve opening time is quickly and precisely controlled, which reduces heat transfer to the media. Other featured Festo components include the VTOF dispensing head for the VYKA valve, VYKB media separated valve, [VAVN](#) dispense needles, and PGVA pipetting and dispensing controller.

For more information on Festo Life-Science solutions – dispensing liquids, controlling gases, and handling samples – email [life.sciences.nam@festo.com](mailto:life.sciences.nam@festo.com) and visit [Festo Laboratory Automation](#). Visit [www.festo.us](http://www.festo.us) for the full range of products.

#### Press Images



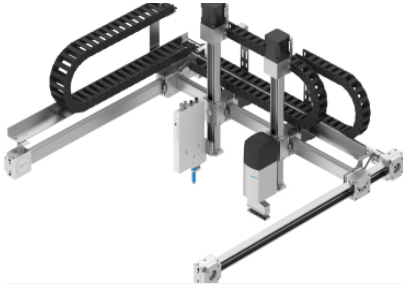
##### **Festo DHOE**

The Festo DHOE pipetting head scales seamlessly from 20 µl up to 20 ml for bulk transfer and the utmost in flexibility



##### **Festo PGVA**

The Festo PGVA pipetting and dispensing controller allows the pressure supply to be centralized within the machine. A single PGVA can supply air pressure to multiple pipette heads.



### **Festo EXCL**

This configuration of the EXCL gantry accommodates two independent Z-axes. On the left: a pipette system aspirates and dispenses; on the right: the EHMD rotary gripper for decapping and gripping.

### **About Festo US**

Festo is a leading manufacturer of pneumatic and electromechanical systems, components, and controls for process and industrial automation. For 100 years with more than 50 in the U.S., Festo Corporation has continuously elevated the state of manufacturing with innovations and optimized motion control solutions that deliver higher performing, more profitable automated manufacturing and processing equipment. Through advanced technical and industrial education, Festo Didactic Learning Systems and its partners prepare workers for current and future manufacturing technologies.