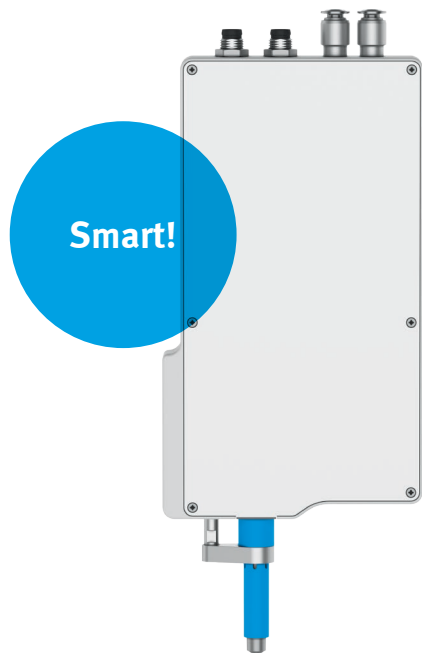


Pipette head DHOP

FESTO



Intelligent pipetting

Highlights

- Pressure/vacuum controlled pipetting system
- Large volume range
- Integrated controller
- Easy to integrate
- Intuitive to operate
- De-centralised pressure/vacuum supply available
- Wide spectrum of disposable tips

The smart pipette head automatically sets the specified target volume within the specified range, independent of the liquid. Lots of integrated functions optimise process reliability and simplify operation. The precision adjustment of the setup with disposable tips DHAP ensures the best pipetting results. The pressure and vacuum generator PGVA-2 provides an independent, de-centralised compressed air supply.

Smart design

The pipette head is a real plug-and-work solution. Many useful functions are integrated into the product – in the 18 mm grid that precisely fits microwell plates. Closed-loop pipetting with proportional control with piezo technology guarantee high precision and reproducibility. The smart pipette is supplied with a separate pressure and vacuum. It has a communication interface for Ethernet with ModbusTCP protocol and a 24 V connection.

Integrated functions

Picking, sensing and ejecting – the complete handling process for the disposable tips is already integrated in the system. Additional functions such as feedback of the pipetted volume are also included. The internal controller adjusts the target volume and returns the achieved value to the user. Thanks to the pressure-based liquid level detection the surface of the liquid is detected before aspiration and also foam on the surface is ignored. Target applications for the smart pipette head are pre-analytical sample preparation for filling wells or vessels in microwell plates or low-contamination handling of different liquids, such as sensitive patient samples.

Pipette head DHOP

Decentralised compressed air supply PGVA-2

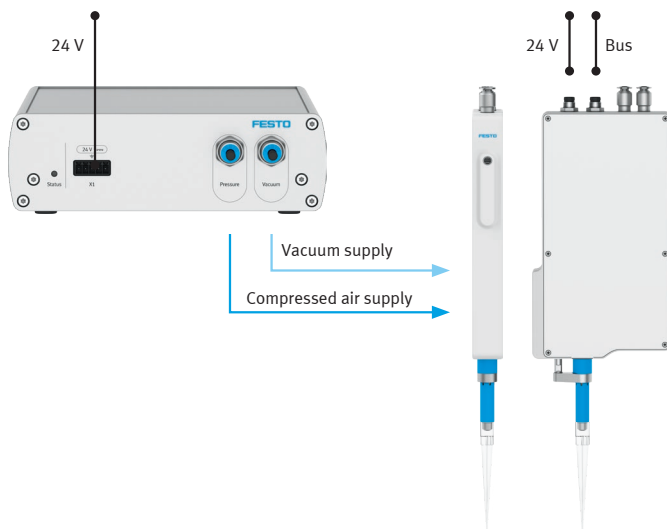
Pressure-controlled pipetting requires less compressed air. The pressure and vacuum generator PGVA-2 is a compact solution for laboratories without a central compressed air supply. A 24 V power supply is sufficient for directly supplying the pipette with pressure and vacuum. Alternatively, the pipette can also be operated independently with an existing pressure/vacuum supply.

- Compact mobile pressure/vacuum supply
- Supply of a constant pressure and vacuum level
- Ideal for use with laboratory devices

System architecture

Pressure and vacuum generator PGVA-2

Pipette head DHOP and disposable tip DHAP



Disposable tip DHAP

Disposable tips prevent contamination when handling different liquids since a new tip is used for every pipetting process. The size of the tip determines the maximum pipetting volume. We recommend selecting the size of the pipette tip to match the target volume in order to achieve maximum precision. The design with filter prevents evaporated liquid from entering the pipette head. Sterilised tips for prevention of contamination are available. Only slight force is required to attach the disposable tip. A sensor detects that the tip is securely attached and monitors it during the process. At the end of the pipetting process, the disposable tip is automatically ejected and discarded in a waste container.

- Volumes of 20, 300 and 1000 µl
- Low picking forces of less than 10 N
- Versions with filter and sterilised
- One package contains decks with 96 tips each

Features of the pipette head DHOP

The pipette operates pressure-driven. The liquid is aspirated into the disposable tip using vacuum and is dispensed using pressure. The integrated closed-loop controller enables the liquid to be handled reliably.

- One product for the complete volume range
- Integrated closed-loop control for maximum precision
- Volume demand is independent of the viscosity of the liquid
- Increased process reliability by calculating the pipetting volume
- Intelligent functions such as liquid level detection and multiple dispensing
- Complete handling process for the disposable tips, from detecting it is securely attached to the automatic ejection
- Easy to commission with integrated WebGUI
- With 18 mm grid for microwell plates
- Easy to integrate with extended accessories

Technical data*

Pipetting volume		1 ... 1000 µl
Viscosity range		0.1 ... 40 mPas
Pipette tip	Volume	20, 300, 1000 µl
	Key features	Filter; sterilised
Ease of cleaning		Hygienic design, closed surfaces
Operating voltage		24 V DC (+/-10%)
Power connection		Power supply M8 with 3 pins; communication M8 with 4 pins
Air supply		Pressure 0.08 MPa; vacuum -0.06 MPa
Air connection		Pressure tubing diameter 4 mm; vacuum tubing diameter 4 mm
Communication		Ethernet/Modbus and RS232 (can be operated manually via web interface)
Dimensions		18 x 211.5 x 87.5 mm

* Technical data still being validated