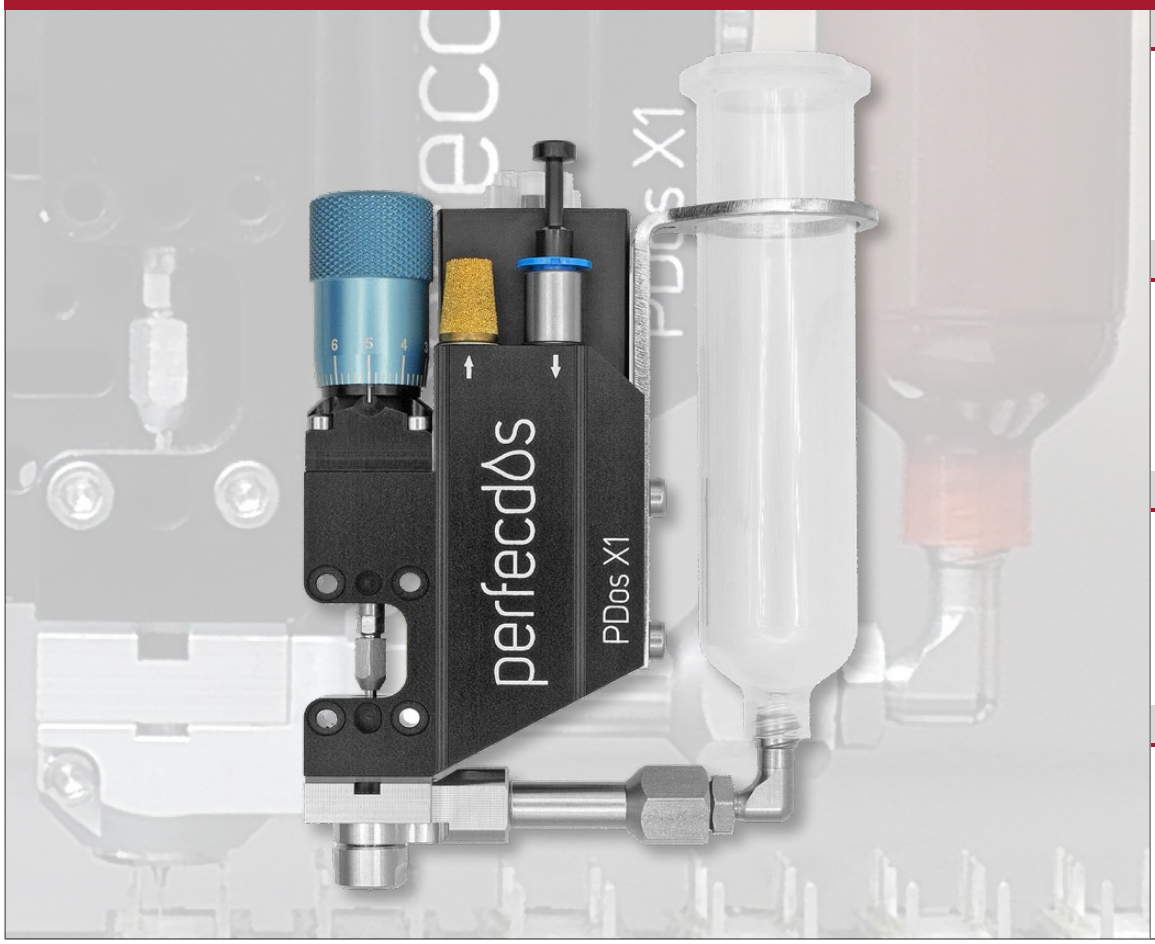
Micro dispensing jet valve PDos X1



TR300

MRC500

OEM

Standalone

The Perfecdos PDos X1 is an electro-pneumatically driven, high-performance microdipsensing jet valve designed for contactless applications. It achieves precise, smaller dispensing volumes while handling higher fluid viscosities, ensuring process stability and repeatability. Its seamless integration into our platforms results in a high-end dispensing solution.

Advantages

- Innovative, patented actuator technology ensuring finest, high-precision dispensing results down to 200-250 µm in diameter
- Accurate and repeatable dispensing results enabled by precise scale adjustment of all parameters
- Enhanced process control through optimized accessibility and a direct view of the nozzle
- No downtimes issues thanks to proven normally closed (NC) principle
- Fast and easy maintenance enabled by a contactless process and a minimal component design

Features

- Electro-pneumatically driven micro dispensing jet valve with nozzle and tappet
- Integrated pneumatic connections enabling a compact and robust design
- Adjusting screw with calibrated scale mounted on the head
- Fluid path completely separate from the actuator
- Large viscosity range 0.5 to 500,000 mPas
- Dispensing frequency up to 300Hz in continuous operation

Options

- Fluid nozzle-heater
- Wide range of nozzles and tappets
- Metal-free dispensing fluid path
- Feeding out of cartridges or tubes

Within mta robot platforms:

- TR300, MRC500, OEM300 or 500
- Monitoring camera
- Robot recentering camera
- Vision for quality inspection
- Part presence sensor
- Part height measuring sensor
- Level detection- tank or cartridge
- Vacuum and solvent cleaning units

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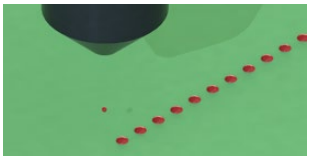
Working principle

The tappet of the precision dispensing jet valve is pneumatically driven and propels droplet of fluids. The fluid is dispensed onto the part in a contactless manner, as the connection between the droplet and the needle is interrupted during the jetting process. This ensures accurate control of droplet sizes and placement.

Typical dispensing applications

- Dot and line jetting
- Lacquer masking and coating
- Conformal coating
- Greasing and lubrication



Typical dispensing materials

- Sealants e.g. silicone, MS-polymer, polyurethane, methylmethacrylat
- Adhesives e.g. anaerobic glue, epoxy resin, Cyanoacrylate, UV-Acrylat
- Solvent-based medium e.g. primers, lacquers
- Grease and oil
- Electrically conductive adhesive (silver conductive adhesive)
- Metal filled pastes e.g. silver paste

N.B. The compatibility of the material is validated in our test laboratory.

PDos X1 technical specifications

Type of drive	electropneumatic
Type of operation	normally closed (NC)
Operating voltage	24 VDC
Pulse length	from 1.9 ms
Dispensing frequency	up to 300 Hz continuous
Working pressure	4- 8 bar (55- 115 PSI)
Dispensing volume	from 1 nL (droplet-Ø: from 0.25 mm)
Viscosity	0.5- 500,000 mPas
Dispensing accuracy	> 98%
Lifetime	> 100 Mio. cycles
Material pressure	maximum 100 bar (1450 PSI)
Material connection	G1/8 internal thread
Heater temperature	up to 100°C (212 Fahrenheit)
Dimensions (W x L x H)	20 x 53 x 126 mm (0.79 x 2.09 x 4.96 inch)
Weight	330 g (0.728 lb)

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