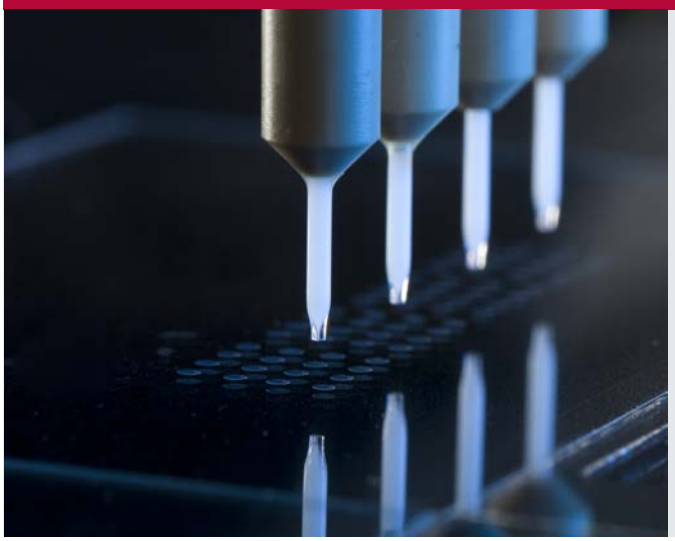
microdrop
TECHNOLOGIES

Microdispensing in Life Science Applications



- High Throughput Screening & ADME/Tox
- Biochip Production (Micro Arrays)
- Biosensors & POC Medical Devices Manufacturing
- Tissue Engineering & Cell Dispensing
- Coating of Implants
- LOC Integration & Packaging
- Systems-in-Package & Systems-in-Foil
- Material Research

Microdispensing

Liquid handling or microdispensing of small liquid amounts has become an important process in several different disciplines as high throughput screening and ADME/Tox, production of biochips and biosensors for Point-of-Care (POC) testing, tissue engineering, medical implants, Lab-on-a-Chip (LOC) systems. microdrop Technolgies provides a number of products for this purpose.

Autodrop Platform

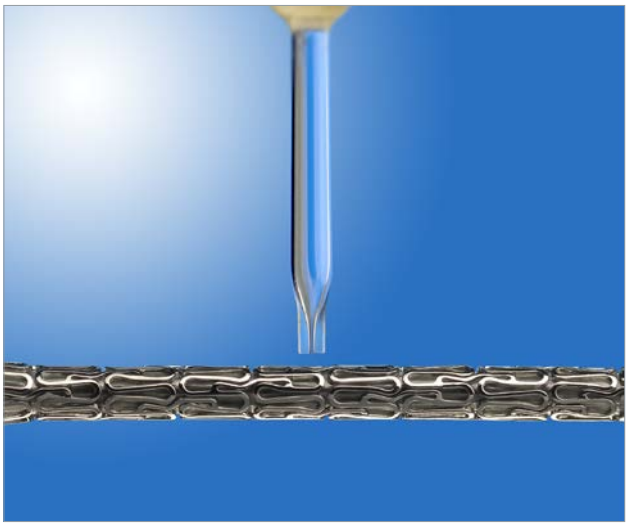
The Autodrop platform consists of a number of modules that can be combined in different ways to get an optimal set up. This allows automated use of the microdrop technology for liquid handling, coating of medical implants, production of sensors or test strips and other processes. The platform is designed for integration into flowboxes or glovebox environments. Due to different optional peripheral components not only flat structures but also 3D-structures like stents can be coated.

Autodrop Pipettes

Aspiration of liquid and deposition at small amounts is possible by using various Autodrop Pipettes. The Drop on Demand pipettes are used in applications like high throughput screening or biochip production where different liquid samples need to be handled. The design of the pipettes guarantees the operation with very small dead volumes of approx. 12µl with different storage volume starting by 25µl ranging to 37µl or even 1ml. The pipettes made of glass allow automated cleaning avoiding cross contamination.

Microdrop Dispenser Heads

For coating of implants or similar applications the microdrop Dispenser Heads are the right choice. These head types are designed for materials in a wide viscosity range. Aqueous solutions (e. g. proteins, DNA, cells) as well as polymers dissolved in different solvents (e. g. THF, Toluene, Xylol etc.) can be handled by these inkjet based dispenser heads.



coating of stents

Nanojet Piezo Valve

Dispensing of volumes from nl- to µl-range at viscosities of 1 to 2000 m Pas are covered by the Nanojet Piezovalve. This makes the device very useful for production of glucose tests strips or other purposes.

Microdrop Services

In addition to the comprehensive product range microdrop Technologies provides several services as lab tests, customized development and small series production. The competences of the microdrop team provide an effective solution in a short time frame.

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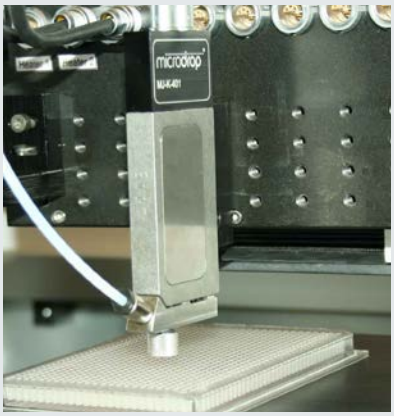
AUTODROP PLATFORM IN GLOVEBOX ENVIRONMENT

Abrasion-proof axis:

- xyz: 200 x 200 x 80mm³
- Accuracy (x- and y-axis alone):
  Repetition: +/- 10µm
  absolut: +/- 25µm

Controlled environment:

- closed cycle gas purification
- <1 ppm residual oxygen and moisture
- internal HEPA filter with 99,95% efficiency



PIEZOVALVE MJ-K-401

Volume range:

- 0.008 to 10 µl

Viscosity range:

- 1 to 2000 mPas

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Advancing the Art of Microdispensing

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