Customer Service

The BioSpot technology requires minimum maintenance and in case of a service requirement BioFluidix offers worldwide customer support and spare part delivery.

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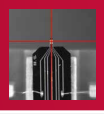
BioSpot Customization

The BioSpot workstation is the most versatile nanoliter dispensing system of its kind. Already in the basic configuration almost every dispensing process can be realized with any type of substrate.
Designed as a modular multi-purpose system the BioSpot can be tailored individually to every customer's needs.
Therefore, BioFluidix has developed a wide range of customization options and is continuously developing new features as well as features on-demand to make the BioSpot experience as comfortable and as individual as possible for every user.



Optical Droplet Sensor

BioFluidix provides high end optical droplet sensors to be used with PipeJet dispensers as well as with other non-contact technologies to realize online quality control.

Stroboscopic Camera

The BioSpot can be upgraded with a high resolution stroboscopic camera system to observe the droplet generation processes and to optimize the dispensing parameters.

Substrate Camera

The TopView camera system is a useful add-on for printing with fiducially alignment and to take images of printing results for quality control.

BioFluidix GmbH

Georges-Koehler-Allee 103
79110 Freiburg
Germany

Tel. +49 761 458938 - 0
Fax +49 761 458938 - 99
www.biofluidix.com

BioSpot®

Workstation

- Nanoliter liquid handling with maximum precision and flexibility
- Handling of precious samples at lowest volume
- Customized non-contact printing

BioFluidiX

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BioFluidiX

BioSpot workstation

The BioSpot workstation is a cost-efficient flexible tool for all low volume liquid handling tasks in the small research laboratory.
The proprietary Pipe-Jet non-contact dispensing technology enables precise non-contact liquid handling in the nanoliter to microliter range compatible with all kinds of substrates. The BioSpot offers a flexible stand-alone solution for automation of all kinds of miniaturized liquid handling tasks like pipetting, spotting, printing, coating and many others.
Applications like lateral flow assays fabrication, preparation of microfluidic chips, spotting onto biosensors or coating of medical devices benefit strongly from the unique performance and customizability of this product.
Its small size, the intuitive operation and the attractive price make it ideally suited for decentralized laboratories, saving time and effort for laboratory staff and scientists.

User-friendly and flexible

The easy-to-use BioSpot control software can be run on any Windows® PC to generate arbitrary pipetting and dispensing sequences. Drawing of lines and printing of dots, arrays and even low resolution graphics is enabled by the bitmap import feature. All BioSpot workstations are open for customization of any kind: Camera for online optical quality control, fiducially alignment or stroboscopic imaging can be integrated as well as up to 8 independent dispensing channels.
The work area and the sample holders are designed individually according to the requirements of the customer to accommodate micro well plates, slides, microchips, membranes or any other parts to be printed on.

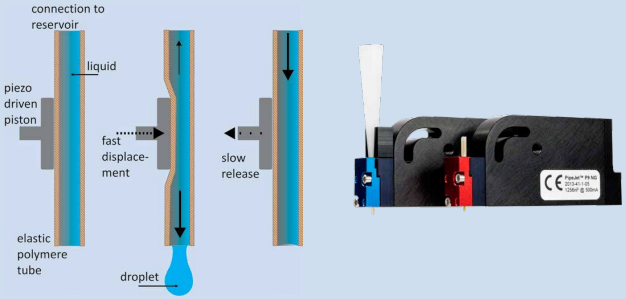
BioSpot Software

The unique BioSpot Software is a flexible tool which enables our customers to realize almost every application that requires the precise, fast and reproducible spotting of small liquid aliquots. The Software can control up to 8 individual PipeJet dispensing modules, the automation system as well as any additional features like camera systems, droplet sensors, pressure sensors, valves or syring pumps. With a simple command line programming language, extended batches can be created to realize true walk away automation. The software comes pre-installed on an PC integrated inside the BioSpot running a Windows® operation system, such that no external computer is required. This prevents hardware / software compatibility issues and saves valuable space on the desktop.

Specifications

Single droplet volume	5 nl - 60 nl
Position accuracy	< 50 µm
Max. number of channels	8 PipeJet modules
Substrates	customer specific
Axis speed	100 mm / s
Dimensions and weight (W x H x D)	55 x 54 x 63 cm , 35 kg

PipeJet™ working principle



PipeJet™ technology

The PipeJet technology enables the dosage of small amounts of liquids as free flying droplets in the range from a few nanoliter up to some microliter. Key element of the technology is an elastic micro pipe with an inner diameter of a few hundred microns that is squeezed by a piezo stack actuator. By this displacement the liquid is driven out through the end of the pipe as a free jet. Different pipe diameters can be used with the PipeJet, the larger the pipe the larger the dosage volume. Dispensing pipes are available in different configurations for various applications and volume ranges.

PipeJet™ pipes

A unique benefit of the PipeJet technology compared to other non-contact dispensers such as dispensing valves or inkjet devices is the separation of the actuator from the disposable fluid path.
This enables a simple and cost efficient exchange of all liquid-contaminated parts for whatever reason:
Though PipeJet-pipes are easy to exchange, low-cost and disposable, they are still durable and can be operated for billions of dispensing cycles.

BioSpot Benefits

Applications

Life Science

- lateral flow assays
- microarrays
- micro well plates
- assay miniaturization
- microfluidic chips

Industry

- coating of medical products
- adhesive dispensing
- pharma production
- materials research
- semiconductors
- flux dispensing

PipeJet™ tested liquids

- buffers & detergents
- DMSO & other solvents
- ethanol & methanol
- beads & living cells
- oils & adhesives
- strong bases & acids
- UV curable ink
- photoresist

Precision & accuracy

The PipeJet technology features excellent accuracy and reproducibility of less than 3 % CV for typical liquids at dosage volumes of 50 nl. Combined with the precise BioSpot positioning stages, spots can be printed with a reproducibility of 50 µm.

Robust performance

Due to the simple concept and the rugged materials the PipeJet dispensers are robust against clogging and all kinds of aggressive liquids.

Low dead volumes

Only a few microliters of liquid are required to operate a PipeJet dispenser. No precious liquid is wasted in supply tubing or by cleaning procedures

Customizable

The BioSpot workstations are fully customizable in terms of dispenser configuration, hardware and software.

Flexible and extendable

The flexible software supports all functions of the BioSpot®. Control is not limited to defined functions or substrates (e.g. well plates). The BioSpot can be tailored to each customer's needs and extended with additional dispensers, cameras or sensors.

Certified materials

All parts being in contact with the liquids are chemically inert and made from USP class VI certified materials. PipeJet-pipes can be washed, plasma-treated and sterilized.