

BioSpot[®] Systems

Spotting of lateral flow assays and diagnostic substrates

The BioSpot[®] systems are precise nano pipetting and spotting workstations for small scale laboratory and medium scale production of diagnostic substrates. They allow for the contact-free dosage of liquid droplets in the range from a few nanoliters up to some microliter. Key element of the system is the PipeJet[™] dispensing technology enabling media independent, non-contact pipetting and dispensing with highest precision. The PipeJet[™] modules can be configured to work as dispensers fed from a bottle or tube. Alternatively they can be connected to the syringe pump to enable aspiration and dispensing. Re-configuring the system is done within a few minutes! Extending the system up to 8 individual dispensers is possible.

The x-y-z motion control of the BioSpot[®] system features an active area of 160 x 130 mm (BioSpot[®] 160) or 600 x 260 mm (BioSpot[®] 600). The tray is equipped by default with a card holder for lateral flow-assay production. Customization of the working area is possible to hold substrates like microtiter plates, glass slides, tissue samples etc. Next to the experimental area there is some space accessible by the y-stage only which can be used according to the application requirements for additional substrates, cleaning baths or tubes and reservoirs to aspirate from.

The easy to use software provided with the BioSpot[®] enables arbitrary pipetting and dispensing sequences. Drawing of lines and printing of dots, arrays and even low resolution graphics is facilitated by the new bitmap import feature. Control buttons can be used to execute and abort the programmed batch sequences directly from the work space. All BioSpot[®] systems are open for customization of any kind: A camera for online optical quality control or stroboscopic imaging can be integrated as well as other dispensing devices, whether they are from BioFluidix or third party vendors.

BioSpot[®] - Specifications

Dosage range:	5 nl - 100 nl 5 nl - 10 µl > 1 µl	single droplet volume multiple droplets syringe based pipetting
Dispenser:	Up to 8 individual PipeJet P9, P4.5, or custom made dispensers (4.5 or 9 mm pitch)	
Aspiration:	Single channel syringe pump or peristaltic pump	
Probe supplying:	Tube or PipeJet-Tip [™]	
Mech. repeatability:	+/- 50 µm	
Tray size: (holds membranes, slides or well plates)	BioSpot [®] 160: 165 x 130 (mm) BioSpot [®] 600: 600 x 280 (mm)	
Working area :	BioSpot [®] 160: x 160, y 130, z 40 (mm) BioSpot [®] 600: x 600, y 260, z 40 (mm)	
Tested media:	Aqueous solutions, solvents, DMSO, beads, cells, PEG, THF, Acetonitril, Ethanol, Oils, ...	
Electrical connections	90 - 250 V @ 50 / 60 Hz, USB 2.0	



Applications

- Fabrication of lateral flow assays
- Spotting into microfluidic chips
- Pipetting of microwell plates

Materials

- All liquid contaminated materials:
- are low cost disposables
 - can be sterilized
 - are USP class VI compliant

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