

BioFlux™ 1000Z

Automated workstation for live cell analysis under shear flow

A complete solution for high content screening under shear flow:

Higher biological relevance:

BioFlux 1000Z provides controllable shear flow for high content screening experiments. Bridges the gap between *in vitro* and *in vivo* screening and research.

Fully-integrated microscopy:

BioFlux 1000Z comes complete with all the components necessary for high resolution microscopy imaging in brightfield, phase, PlasDIC, and fluorescence. Built around the industry-leading ZEISS AxioObserver microscope platform. Offers powerful features for high content screening, including autofocus, automated stage and shear flow control.

Convenience of single point control:

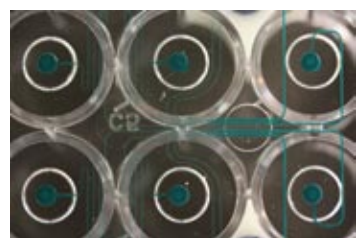
All hardware and analysis controls run through the BioFlux Montage Software. Makes it simple and easy to coordinate all of your screening experiments and analysis from a single user interface.

Increased throughput:

Runs up to 96 shear flow assays in parallel, making it simple to screen hundreds of data points per day. Automated stage and image acquisition provide rapid scanning of experimental channels.

Unattended operation:

Simple to use experiment scheduler allows unattended imaging and overnight assays for kinetic and time-lapse high content screens.



The BioFlux 1000Z provides a high content screening platform for running physiologically-relevant shear flow assays. The fully-integrated and automated system delivers high resolution microscopy data with the ultimate in throughput, convenience and flexibility.

The BioFlux 1000Z System incorporates Fluxion's proprietary Well Plate Microfluidic™ technology with an automated microscopy system to enable high throughput shear flow assays. It offers the biological relevance of a laminar flow cell with the throughput and convenience of standard microplates. The fully-integrated system comes complete with all the tools necessary to generate your data quickly and reliably.

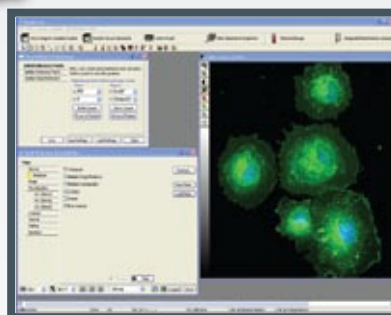
BioFlux 1000Z System Overview:

BioFlux 1000Z is a fully-integrated high content screening platform for bridging the gap between *in vitro* and *in vivo* experiments. It integrates a high performance microscopy workstation with the BioFlux electropneumatic pumping system for controlling shear flow. BioFlux Montage software offers single point control for designing experiments, acquiring images, and analyzing data.



BioFlux Controller delivers programmable shear flow to BioFlux plates. Covers a wide shear range (0.1-200 dyne/cm²) to address many physiological applications.

BioFlux Montage Software delivers single point control for all system components. Design experiments, acquire images, and analyze data all from one intuitive software package.



Customized automated stage

enables fast scanning of BioFlux Plates with industry-leading speed, precision and reliability. Stage positions for BioFlux plates come pre-configured for plug and play operation.

Automated microscopy station provides high performance imaging in brightfield, phase, DIC, and fluorescence. Cooled CCD camera provides high resolution, low noise data acquisition.



Product Specifications

BioFlux Controller:

Shear flow range: 0.1-200 dyne/cm²
Temperature Control: ambient to 50°C
Dimensions: 12" (W) X 13" (L) X 9" (H)
 30cm (W) X 33cm" (L) X 22cm (H)

Inverted Microscope:

Microscope: ZEISS AxioObserver Z1
Illumination: 12V 100W
Objectives: ZEISS 5X-40X, others available
Focusing: automated Z-drive focus, software-based autofocus, Definite Focus hardware autofocus (optional)

CCD Camera:

Imaging array: 1392 x 1040, 6.45µm pixels, 12-bit digitization @ 20MHz
Quantum efficiency: 60%
Cooling: 0°C

Automated Stage:

XY Travel: 130 x 100mm
Repeatability: < 1µm
Resolution: 0.05µm
Sample holder: customized interface for BioFlux plates

Automated Fluorescence:

Lamp: 120W metal halide
Filters: 6-position motorized filter turret
Automated integrated shutter

BioFlux Montage Software:

Drivers: BioFlux controller, CCD camera, stage, focus, filter turret changers
Modules: BioFlux control, multi- dimensional acquisition, autofocus, analysis

Desktop Computer:

Processor: Intel Core i7 2.8GHz
Operating system: Windows 7
Memory: 4GB, 1TB HD



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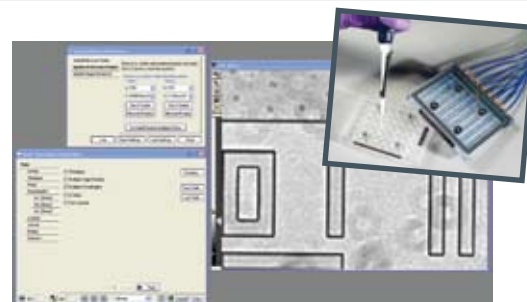
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An automated workflow designed for throughput and convenience

BioFlux 1000Z offers a simplified approach to running shear flow assays. The intuitive and easy to use software package provides complete control over shear flow, image acquisition and data analysis.

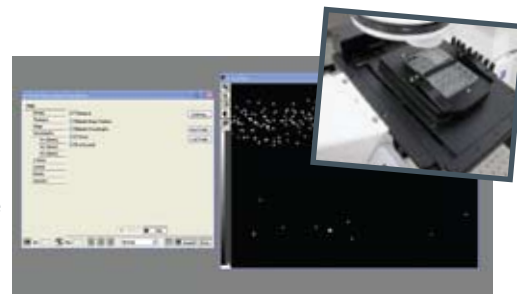
Setup

Load cells/reagents in to BioFlux plate
 Set calibration points
 Select acquisition parameters



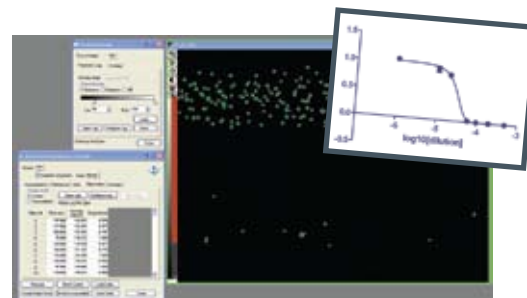
Run

Select flow protocol
 Acquire images using:
 Time lapse or endpoint
 Brightfield, phase, DIC, or fluorescence



Analyze

Autoselect and count cells
 Full morphology profile
 Numerous analysis modules available
 Live/dead
 Cell tracking
 Nuclei countingand more



Typical Applications:

- Leukocyte adhesion compound screening
- Platelet adhesion assays
- Anti-microbial compound screening
- Stem cell assays for kinetics and differentiation
- Pharmacology / dose response assays
- Life cycle analysis (mitosis, apoptosis, etc.)

Ordering Information:

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