

# BioFlux™ 1000Z

Automated imaging for live cell analysis under shear flow

## A complete solution for high-content screening under shear flow:

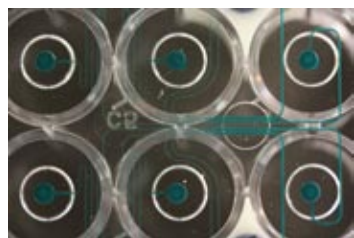
**Higher biological relevance:**  
BioFlux 1000Z provides controllable shear flow for high-content imaging experiments. Bridges the gap between in vitro and in vivo screening and research.

**Fully-integrated microscopy:**  
BioFlux 1000Z comes complete with all the components necessary for high resolution microscopy imaging in brightfield, phase, fluorescence, and DIC. Built around the industry-leading ZEISS Axio Observer microscope platform. Offers powerful features for imaging, 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 experiments.



## The BioFlux 1000Z provides a high-content imaging 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.

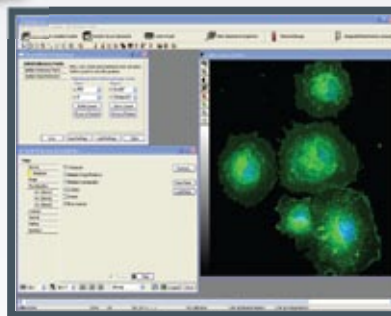
### BioFlux 1000Z System Overview:

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/cm<sup>2</sup>) 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 sCMOS camera provides high resolution, low noise data acquisition.



## Product Specifications

### BioFlux Controller:

Shear flow range: 0.1–200dyne/cm<sup>2</sup>  
 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 AxioObserverZ1  
 Illumination: 12V 100W  
 Objectives: 5X–100X  
 Focusing: automated Z-drive focus, software-based autofocus

### sCMOS Camera (standard):

Imaging array: 2048x2048, 6.5µm pixels, 12-bit digitization @ 20MHz  
 Quantum efficiency: 82%  
 Speed: 30 frames/s

### 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, 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 10  
 Memory: 32GB, 1TB HD, 256GB SSD



**FLUXION**

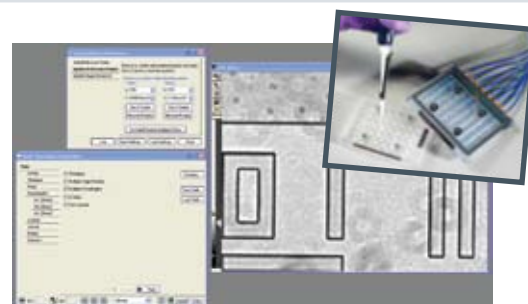
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## An automated workflow designed for throughput and convenience

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.

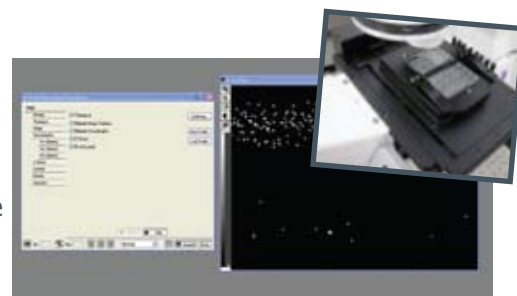
### Setup

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



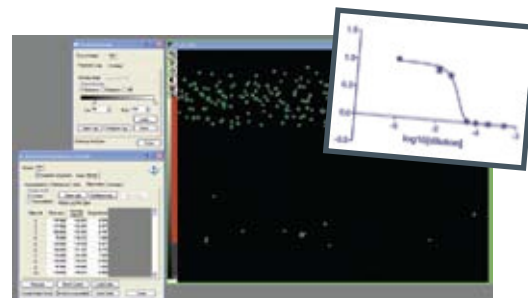
### Run

- 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 counting ....and more



### Typical Applications:

- Leukocyte adhesion assays
- 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:

To request a quote or to place an order:  
[sales@fluxionbio.com](mailto:sales@fluxionbio.com)  
 (866) 266-8380 Toll Free  
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