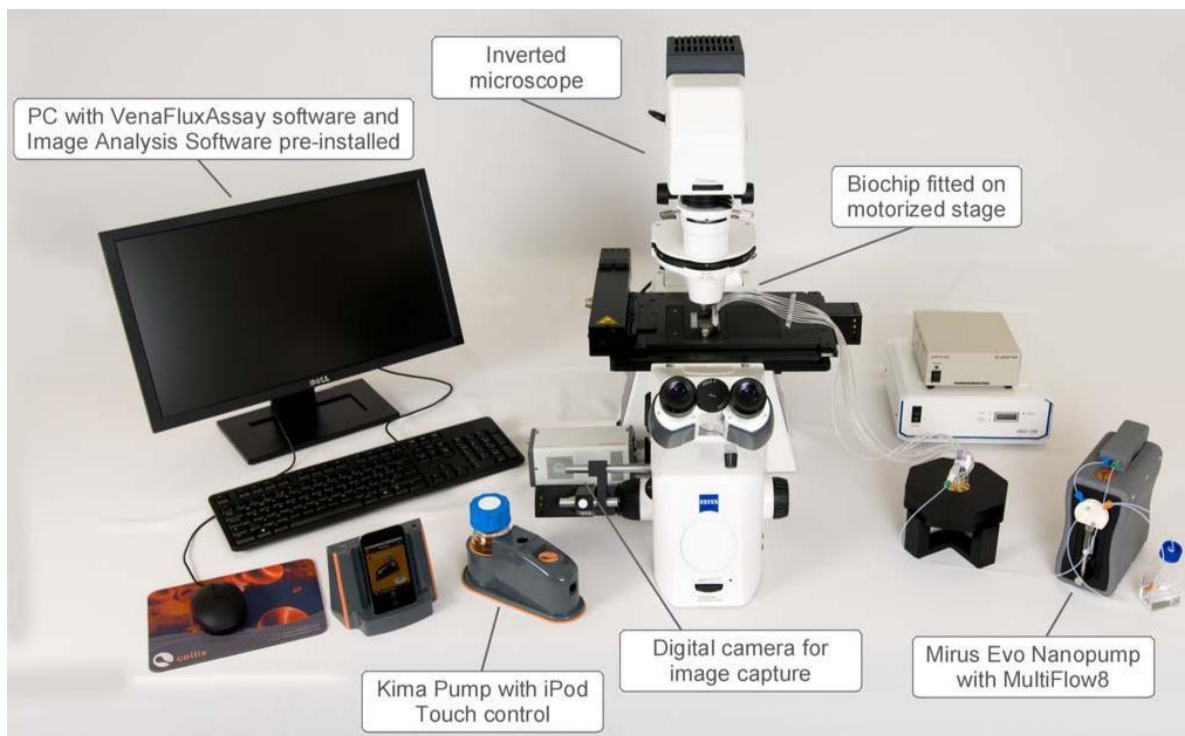




Technical Note

VenaFlux™ Platform



Performance and Technical Specifications:

Mirus Evo™ nanopump specifications (controlled by VenaFluxAssay™ software)	
Shear stress range for cell suspension	0.05–10 dyne/cm ² ; steps of 0.05 dyne/cm ² (100 μL syringe)
Shear stress range for whole blood*	2.25–450 dyne/cm ² (1 mL syringe)
Volumetric flow rates	100 nL/minute–20 μL/minute (100 μL syringe)
Sample volume aspiration accuracy	±1%
Shear stress accuracy	±0.5%
Sample volume aspiration precision	<1% CV
Shear stress precision	<0.5% CV
Software control	Integrated VenaFluxAssay software facilitates pumping of cell suspensions through biochips
Dimensions	84 mm (W) x 180 mm (D) x 192.5 mm (H)
Weight	~2 kg
Power requirements	110 / 220 V – 50 / 60 Hz – 60 W

*Considering human whole blood with a viscosity of 4.5 cP.

VenaFluxAssay specifications	
Interface	Office 2007 GUI interface
Execution of pre-set protocols?	Yes
Simultaneous control of pumping?	Yes
Scanning and image acquisitions?	Yes
Sample transfer and protocol flow?	Yes
Intuitive stepwise protocol interface?	Yes
Steps hierarchy and status control?	Yes
Pre-set and user-designed protocols?	Yes

Kima pump specifications*	
Dead volume	<300 µL
Working pressure	30 psi–2 bars maximum
Flow direction: dispense only	Two modes: wash and perfusion (controlled only by Kima controller via iPod touch / iPhone)
Dimensions	190 mm (L) x 85 mm (W) x 90 mm (H)
Weight	Module: <800 g (bottle and tubing not included); controller & iPod touch: <550 g
Conditions of use	Temperature: 10°C–60°C
	Humidity: <98% RH
	Altitude: <2000 m
Power requirements	Input: 100–240V AC / 47–63 Hz; output: 12V DC, 3.33 A max

***NOTE:** The Kima pump is not suitable for shear stressed based assays because the pump delivers liquid in pulses (not continuous flow).

Microscopy workstation	
Microscope	Cellix provides different levels of microscopes depending on the user's requirements:
	Basic: For a basic model, we include the Axiovert A1 from Carl Zeiss in the overall platform
	Advanced: For more advanced models, we include the AxioObserver from Carl Zeiss
	Integration: It is also possible for us to integrate our platform around your existing microscope
	USB port, Windows 7 and above operating system versions
Digital camera	Cellix provides different cameras depending on the user's requirements
	For the basic VenaFlux™ platform, we normally recommend: QImaging Retiga R1 or QImaging Retiga R3
	For more advanced platforms, we recommend: QImaging Retiga R6; these are suitable for leukocyte assays and thrombosis assays
Biochip frame holder	Biochip holder for microscope (for use without motorized stage) or VenaFlux biochip holder (for use with motorized stage)
Motorised stage with Z-focus*	Travel 12 0mm x 100 mm, repeatability <1 µm, precision ±3 µm, maximum travel speed 180 mm/s

*Compatible with Zeiss AxioObserver Z1 microscope.

Temperature control	
Microenvironmental chamber	Biochip holder providing temperature control

Cell analysis software	
Image Pro Premier	Cell image analysis software for morphology and analysis of rolling cells (i.e. speed), thrombi, etc.

PC control	
Dell PC	Intel core i5 processor, 8GB RAM, 500 GB storage. Windows 10 and above operating systems