



**cellix**

# **Cellix Catalogue**

**Cutting Edge Microfluidics**

**Drug Screening Instrumentation**

**Continuous Flow Cell-Based Assays**

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# Microfluidic Pumps

## Kima™ Pump

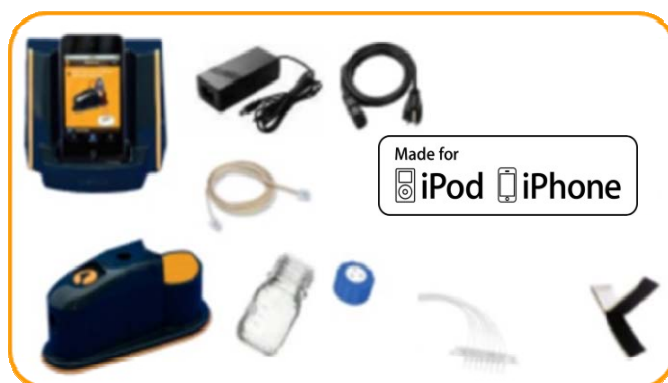
Microfluidic pump for continuous cell culture under shear flow mimicking physiological flow in the human vasculature. Compatible with Vena8 biochip range enabling 8 assays (cultures) in parallel. Kima pump sits inside standard CO2 incubator maintaining sterility with wireless control unit (iPod Touch) sitting outside the incubator. The iPod Touch and controller can control up to 4 Kima pumps. Additional Kima pump modules (Code=KIMA-PUMP-1.1) can be purchased separately.

**Kima Pump 1.0 (Code=KIMA-PUMP-1.0) includes iPod Touch and controller and tubing accessories.**



The Kima Pump (Code=KIMA-PUMP-1.0) contains:

- Kima Pump
- iPod Touch with controller
- Power supply & cables
- 100mL Bottle with GL45 cap
- Tubing kit
- Velcro strips

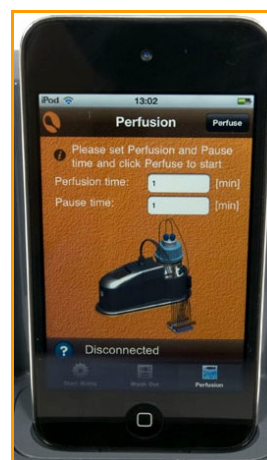


**Kima Pump with iPod Touch and controller and tubing connections**

Product	Product Code	List Price 2013
Kima Pump 1.0	KIMA-PUMP-1.0	POA
Kima Pump 1.1	KIMA-PUMP-1.1	POA



**Kima Pump with iPod Touch and controller and connected via tubing to Vena8 biochip**



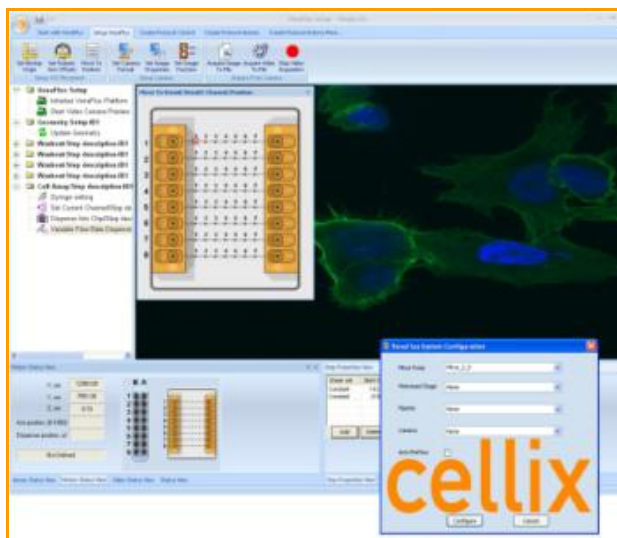
**iPod Touch illustrating perfusion setting**

## Mirus™ Evo

Microfluidic syringe pump for cell analysis under shear flow mimicking physiological flow in the human vasculature. It includes **MultiFlow8™** and **VenaFlux Assay™** software control for higher throughput enabling **8 assays in parallel** in the Vena8 range of biochips. Mirus™ Evo now replaces Mirus™ Nanopump 2.0.



Mirus Evo and MultiFlow8



VenaFlux Assay™ Software 2.0

Product	Product Code	List Price 2013
Mirus™ Evo Nanopump	MIRUS-PUMP-EVO	POA



Mirus Evo and MultiFlow8 connected to Vena8 biochip



Mirus Evo and MultiFlow8 connected to Vena8 biochip on inverted microscope

## Discontinued Pumps and Pump Accessories

### Mirus™ Nanopump 2.0

Microfluidic syringe pump for cell analysis under shear flow mimicking physiological flow in the human vasculature. It includes MultiFlow8™ for higher throughput enabling **8 assays in parallel** in the Vena8 range of biochips.



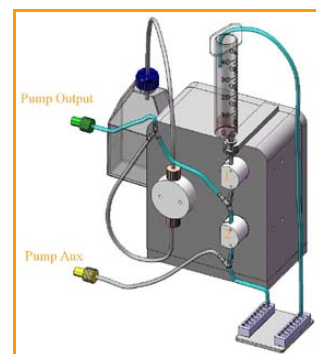
Mirus Nanopump 2.0

Product	Product Code	List Price 2013
Mirus™ Nanopump 2.0	MIRUS-PUMP-2.0	POA

### Activ-Reflow™

Upgrades to the Mirus™ Nanopump such as **Activ-Reflow™** for **sample recirculation** broadens applications for users such as analysis of **thrombi formation** with small sample volumes or **biofilm culture** over extended periods of time (e.g. weeks).

Product	Product Code	List Price 2013
Activ-Reflow™ ver. 1.0	ACTIV-REFLOW-1.0	POA



Activ-Reflow™

# Biochips

## VenaT4™ Biochips

Each biochip contains 4 capillaries in parallel with a membrane of pore size 2 – 10 µm diameter separating them from a microwell underneath. Chemoattractants can be placed inside the well for subsequent study of cell migration through the membrane under shear flow. Each pack contains 10 biochips = 40 assays. Pore size choices: 2 µm; 5 µm; 8 µm or 10 µm. **Compatible with Mirus Evo Nanopump.**

Product	Product Code	List Price 2013
VenaT4 Biochip (Pack 10)	VT4-400-100-2-1P10	POA
VenaT4 Biochip (Pack 10); Qty=10	VT4-400-100-2-1P10	POA <b>20% discount</b>



## Vena8Fluoro+™ Biochips

Each biochip contains 8 capillaries in parallel which can be coated with different adhesion molecules for cell receptor-ligand (i.e. cell-matrix interactions) studies under shear flow. Each 10 pack contains 80 assays. Each 5 pack contains 40 assays. **These biochips are compatible with confocal microscopy. Compatible with Mirus Evo Nanopump, Kima pump.**



Product	Product Code	List Price 2013
Vena8 Fluoro+ Biochip (Pack 10)	V8CF-400-100-02P10	POA
Vena8 Fluoro+ Biochip (Pack 5)	V8CF-400-100-02P5	POA
Vena8 Fluoro+ Biochip (Pack 10); Qty=10	V8CF-400-100-02P10	POA <b>20% discount</b>

## Vena8 Endothelial+™ Biochips

Each biochip contains 8 capillaries in parallel which can be seeded with endothelial cells for culture of 8 monolayers in parallel and subsequent study of cell-cell interaction studies under shear flow. Each 10 pack contains 80 assays. Each 5 pack contains 40 assays. **Compatible with Mirus Evo Nanopump, Kima pump.**

Product	Product Code	List Price 2013
Vena8 Endothelial+ Biochip (Pack 10)	V8EP-800-120-02P10	POA
Vena8 Endothelial+ Biochip (Pack 5)	V8EP-800-120-02P5	POA
Vena8 Endothelial+ Biochip (Pack 10); Qty=10	V8EP-800-120-02P10	POA <b>20% discount</b>



## VenaDeltaY1™ Biochips

Each biochip contains 4 Y-shaped capillaries in parallel which can be coated with different adhesion molecules for cell receptor-ligand (i.e. cell-matrix interactions) studies under shear flow with dual-injection (chemotaxis experiments) or for investigation of thrombi formation at the Y-channel branch. Each pack contains 10 biochips = 40 assays. There are two different sizes of microchannels available. Dimensions of microchannels: 400 (W) x 100 (D) or 800 (W) x 120 (D). **Compatible with Mirus Evo Nanopump, Kima pump.**

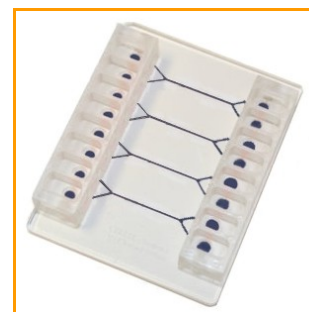


Product	Product Code	List Price 2013
VenaDeltaY1 Biochip (Pack 10)	VDY1-400-100-1-1P10	POA
VenaDeltaY1 Biochip (Pack 10); Qty=10	VDY1-400-100-1-1P10	POA 20% discount
VenaDeltaY1 Biochip (Pack 10)	VDY1-800-120-1-1P10	POA
VenaDeltaY1 Biochip (Pack 10); Qty=10	VDY1-800-120-1-1P10	POA 20% discount

## VenaDeltaY2™ Biochips

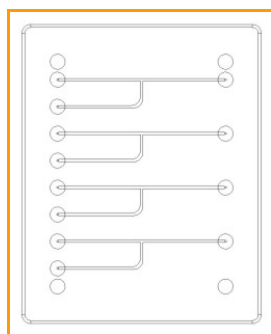
Each biochip contains 4 Y-shaped capillaries at both ends in parallel which can be coated with different adhesion molecules for cell receptor-ligand (i.e. cell-matrix interactions) studies under shear flow with dual-injection (chemotaxis experiments) or for investigation of thrombi formation at the Y-channel branch. Each pack contains 10 biochips = 40 assays. Dimensions of microchannels: 600 (W) x 100 (D). **Compatible with Mirus Evo Nanopump, Kima pump.**

Product	Product Code	List Price 2013
VenaDeltaY2 Biochip (Pack 10)	VDY2-600-100-2-1P10	POA
VenaDeltaY2 Biochip (Pack 10); Qty=10	VDY2-600-100-2-1P10	POA 20% discount



## VenaDeltaT™ Biochips

Each biochip contains 4 T-junction shaped capillaries in parallel which can be coated with different adhesion molecules for cell receptor-ligand (i.e. cell-matrix interactions) studies under shear flow with dual-injection (chemotaxis experiments) or for investigation of thrombi formation at the T-channel branch. Each pack contains 10 biochips = 40 assays. Dimensions of microchannels: 400 (W) x 100 (D). **Compatible with Mirus Evo Nanopump, Kima pump.**



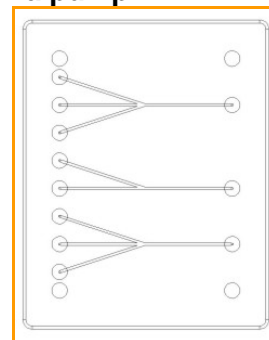
Product	Product Code	List Price 2013
VenaDeltaT Biochip (Pack 10)	VDT-400-100-1-1P10	POA
VenaDeltaT Biochip (Pack 10); Qty=10	VDT-400-100-1-1P10	POA 20% discount



## VenaDeltaW™ Biochips

Each biochip contains 2 W-junction shaped capillaries with one Y-junction shaped capillary in the centre which can be coated with different adhesion molecules for cell receptor-ligand (i.e. cell-matrix interactions) studies under shear flow with dual-injection (chemotaxis experiments) or for investigation of thrombi formation at the W or Y-channel branch. Each pack contains 10 biochips = 30 assays. Dimensions of microchannels: 400 (W) x 100 (D). **Compatible with Mirus Evo Nanopump, Kima pump.**

Product	Product Code	List Price 2013
VenaDeltaW Biochip (Pack 10)	VDW-400-100-1-1P10	POA
VenaDeltaW Biochip (Pack 10); <b>Qty=10</b>	VDW-400-100-1-1P10	POA <b>20% discount</b>



## Custom Biochips

Cellix provide variations on the above footprint. Prices vary. Please contact us directly for more information.

## Discontinued Biochips\*

### Vena8™ Biochips

Each biochip contains 8 capillaries in parallel which can be coated with different adhesion molecules for cell receptor-ligand (i.e. cell-matrix interactions) studies under shear flow. Each 10 pack contains 80 assays. Each 5 pack contains 40 assays.

Product	Product Code	List Price 2013
Vena8 Biochip (Pack 10)	V8-400-100-02P10	POA
Vena8 Biochip (Pack 5)	V8-400-100-02P5	POA
Vena8 Biochip (Pack 10); <b>Qty=10</b>	V8-400-100-02P10	POA <b>20% discount</b>



### VenaEC™ Biochip

Each biochip is supplied with 4 substrates facilitating 8 experiments. Each substrate is tissue-culture treated for growing endothelial cells and when assembled contains two capillaries for cell-cell interaction studies under shear flow. Each 10 pack is supplied with 40 substrates contains 80 assays. Each 5 pack is supplied with 20 substrates contains 40 assays.



VenaEC™ Biochip



VenaEC™  
Substrates

Product	Product Code	List Price 2013
VenaEC Biochip (Pack 10)	VEC-600-120-02P10	POA
VenaEC Biochip (Pack 5)	VEC-600-120-02P5	POA
VenaEC Biochip (Pack 10); <b>Qty=10</b>	VEC-600-120-02P10	POA <b>20% discount</b>

\* Note: We will still provide these biochips to existing customers where required.

# Microfluidic Kits

## Kima™ Kit

The Kima Kit contains everything a researcher needs to get started:

- Kima Pump
- iPod Touch with controller
- Power supply & cables
- 100mL Bottle with GL45 cap
- Tubing kit
- Velcro strips
- 1 x pack of Vena8 Endothelial+ biochips (contains 10 biochips)



Product	Product Code	List Price 2013
Kima Kit	KIMA-KIT-1.0	POA

Additional Kima pump modules (excluding iPod Touch and controller; Code=KIMA-PUMP-1.1) or biochip packs can be ordered using the following codes:

Product	Product Code	List Price 2013
Vena8 Endothelial+ Biochip (Pack 10)	V8EP-800-120-02P10	POA
Vena8 Endothelial+ Biochip (Pack 5)	V8EP-800-120-02P5	POA
Vena8 Endothelial+ Biochip (Pack 10); <b>Qty=10</b>	V8EP-800-120-02P10	POA <b>20% discount</b>
Kima Pump 1.1	KIMA-PUMP-1.1	POA

# Pump and Biochip Accessories

**Biochip-Connect:** pre-assembled single inlet/outlet cables for biochips

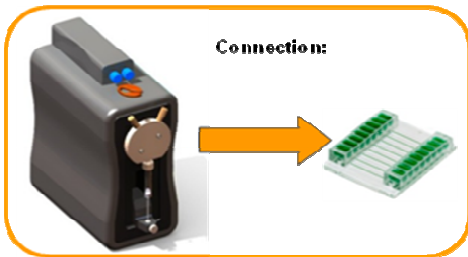
## Biochip-Connect: Single Inlet Cable

The inlet cable is 10cm long. Pack of disposable **pre-assembled single inlet cables** to connect from **Kima pump** or **Mirus Evo Nanopump** to the **inlet of the biochip**.

Product	Product Code	List Price 2013
Biochip-Connect Biochip Single Inlet Cable, Pack 10	BIOCHIP-CONNECT-B1IC-PACK10	POA



**Biochip-Connect Single Inlet Cable**



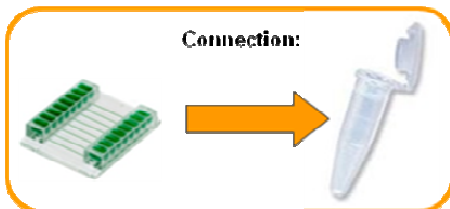
## Biochip-Connect: Single Outlet Cable

The outlet cable is 10cm long. Pack of disposable **pre-assembled single outlet cables** to connect from **outlet of the biochip** to an **eppendorf** for waste or sample collection.

Product	Product Code	List Price 2013
Biochip-Connect Biochip Single Outlet Cable, Pack 10	BIOCHIP-CONNECT-B1OC-PACK10	POA



**Biochip-Connect Single Outlet Cable**

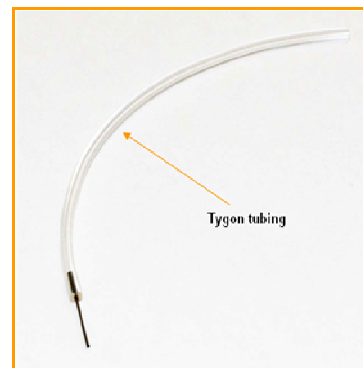


## Biochip-Connect-Manual: Components for manual assembly of single inlet/outlet cables for biochips

### Tubing

Roll of Tygon Tubing for manual assembly of Biochip-Connect single inlet and outlet cables. Supplied as a roll of 100ft.

Product	Product Code	List Price 2013
Tygon Tubing for Biochip-Connect single cables	TUBING-TYGON-BIC-B1OC-ROLL100FT	POA

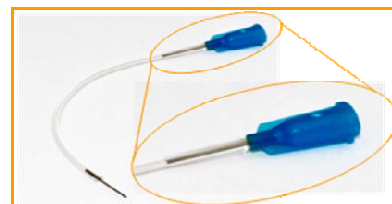


**Biochip-Connect Outlet Cable showing Tygon tubing**

### Inlet Connectors

Connectors with stainless steel pins for manual assembly of Biochip-Connect inlet cables. Supplied as pack of 100.

Product	Product Code	List Price 2013
Connectors for single inlet cables of biochips	CONNECTORS-B1IC-PACK100	POA



**Biochip-Connect Inlet Cable with close-up of connector**

### Outlet Pins

Stainless steel pins for manual assembly of Biochip-Connect inlet and outlet cables. Supplied as pack of 200.

Product	Product Code	List Price 2013
Pins for single inlet and outlet cables of biochips	SS-P-B1IC-B1OC-PACK200	POA



**Biochip-Connect Outlet Cable with close-up of stainless steel pin**

## Kima-Connect: Tubing set for Kima pump

### Kima-Connect-Tubing-Set

Complete set of tubings for Kima pump. Contains 2 pump priming cables; 1 pump inlet cable; 1 pump outlet cable and 1 biochip outlet cable.

Product	Product Code	List Price 2013
Kima-Connect Tubing Set	KIMA-CONNECT-SET1	POA



Connection



Connect to inlet & outlet of pump and prime with solution using syringe

**Kima1-Connect Pump Priming Cable (2 supplied per set)**



**Kima-Connect-Set**



Connection



**Kima2-Connect Pump Inlet Cable**



Connection



**Kima3-Connect Pump Outlet Cable**



Connection

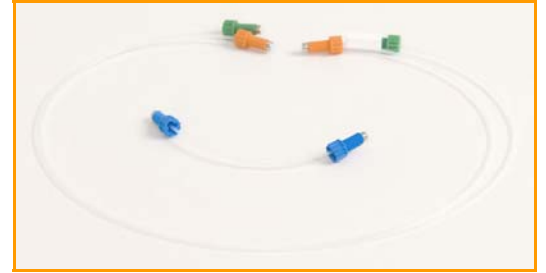


**Kima4-Connect Biochip Outlet Cable**

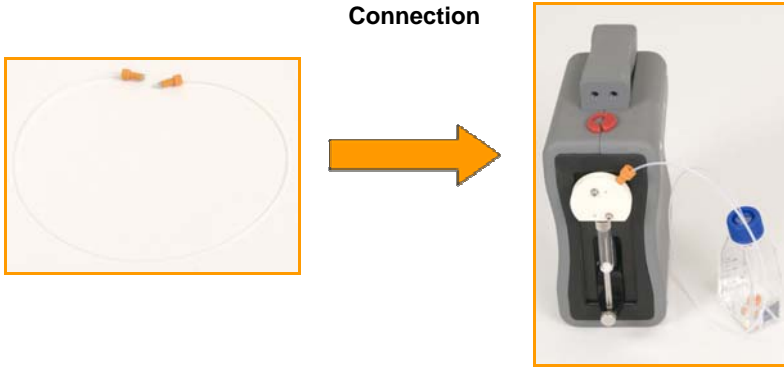
# Mirus-Connect: Tubing set for Mirus pumps

Complete set of tubings for Mirus Evo Nanopump and Mirus 2.0 Nanopump. Contains 1 pump inlet cable, 1 pump outlet cable and 1 pump-to-MultiFlow8 cable.

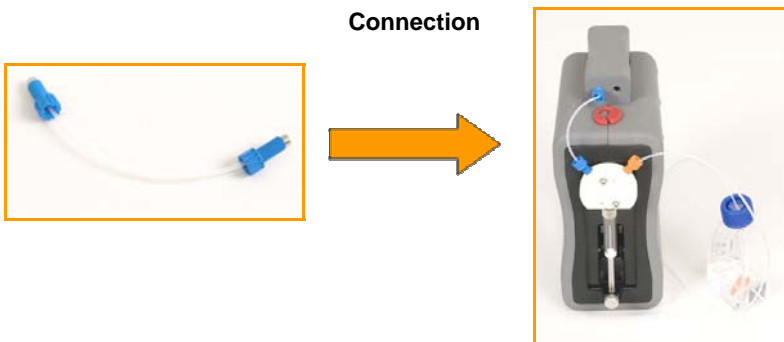
Product	Product Code	List Price 2013
Mirus-Evo-Connect Tubing Set	MIRUS-EVO-CONNECT-SET1	POA
Mirus-2.0-Connect Tubing Set	MIRUS-2.0-CONNECT-SET	POA



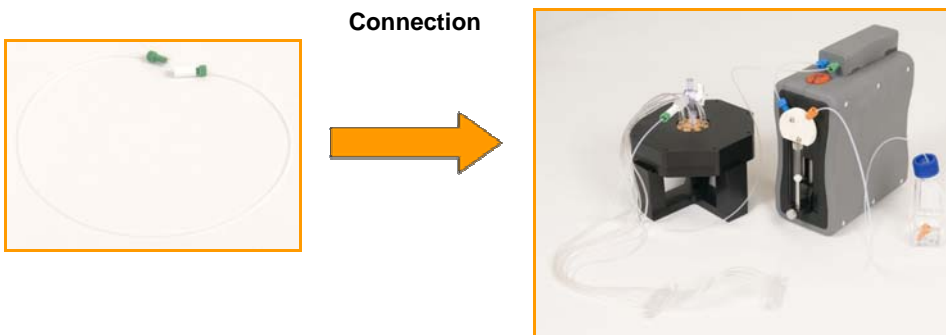
Mirus-Evo-Connect-Set1



Mirus1-Connect-Evo Pump Inlet Cable

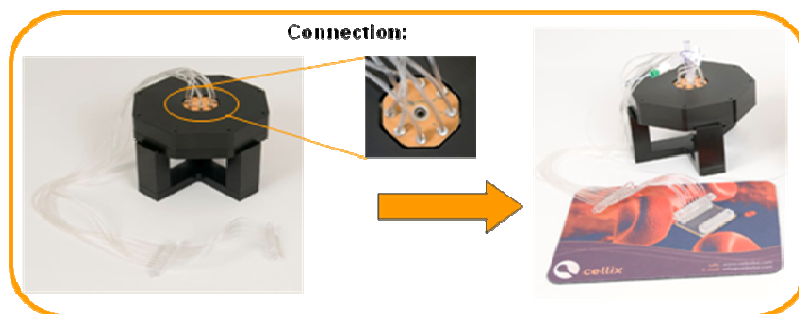


Mirus2-Connect-Evo Pump Outlet Cable



Mirus3-Connect-Evo Pump MultiFlow8 Cable

## MultiFlow8-Connect: Connections from MultiFlow8 to Vena8 biochips



### MF8-Connect-Biochip1: MultiFlow8 to biochip inlet

This cable contains 8 assembled tubes to connect from the MultiFlow8 of the Mirus Evo Nanopump to the inlet of the biochip. No nozzles included; these are already on the MultiFlow8. This will only need to be replaced after wear and tear which is typically every 6 months depending on system usage and maintenance.



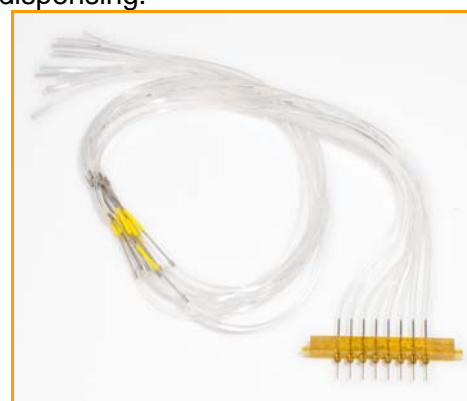
MF8-Connect-Biochip1 Inlet Cable

Product	Product Code	List Price 2013
MF8-Connect-Biochip1 Inlet Cable	MF8-CONNECT-BIC1	POA

### MF8-Connect-Biochip2: MultiFlow8 to biochip inlet

Includes 8 assembled tubes to connect from the MultiFlow8 of the Mirus Evo Nanopump to the inlet of the biochip. Can also include pins for simultaneous, accurate 8-way dispensing.

Product	Product Code	List Price 2013
MF8-Connect-Biochip2 Inlet Cable with resistance tubes	MF8-CONNECT-BIC2-RT	POA



MF8-Connect-Biochip2 Inlet Cable

### MF8-Connect-Biochip3: MultiFlow8 to biochip inlet

The cable is connected from the MultiFlow8 of the Mirus Evo Nanopump to the inlet of the biochip, using large bore tubing for thrombosis experiments. Larger tubes facilitate higher shear flow studies.



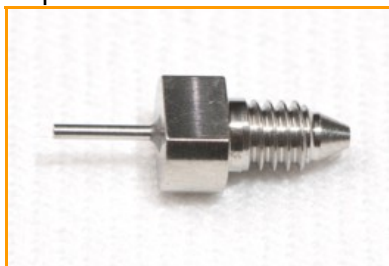
MF8-Connect-Biochip3 Inlet Cable

Product	Product Code	List Price 2013
MF8-Connect-Biochip3 Inlet Cable for thrombosis experiments	MF8-CONNECT-BIC3-THROMBOSIS	POA

## Mirus Evo and Mirus Nanopump 2.0 Replacement Parts

### Multiflow8 Nozzles

Replacement nozzles for Multiflow8 manifold. Standard and thrombosis nozzles available.



Multiflow8 Nozzle, standard



Multiflow8 Nozzle, thrombosis

Product	Product Code	List Price 2013
MultiFlow8 Nozzles, standard, Pack8	MF8N1-PACK8	POA
MultiFlow8 Nozzles for Thrombosis experiments, Pack8	MF8N2-THROMBOSIS-PACK8	POA

### Syringes

Replacement syringes for Mirus Evo and Mirus Nanopump 2.0.

Product	Product Code	List Price 2013
Mirus Nanopump Syringe 100uL	MIRUS-PUMP-SYRINGE-100UL	POA
Mirus Nanopump Syringe 250uL	MIRUS-PUMP-SYRINGE-250UL	POA
Mirus Nanopump Syringe 500uL	MIRUS-PUMP-SYRINGE-500UL	POA
Mirus Nanopump Syringe 1mL	MIRUS-PUMP-SYRINGE-1ML	POA
Mirus Nanopump Syringe 5mL	MIRUS-PUMP-SYRINGE-5ML	POA



Replacement Syringe 1mL for Mirus Evo of Mirus Nanopump 2.0



## Kima Pump Replacement Parts

### Kima Pump Cell Culture Bottle

Product	Product Code	List Price 2013
Kima Pump Cell Culture Bottle	KIMA-PUMP-CCBOTTLE	POA



Kima Pump Cell Culture Bottle

## Miscellaneous Accessories

### Humidified Box

Humidified chamber to store biochips; prevents evaporation of adhesion molecules.



Humidified chamber

Product	Product Code	List Price 2013
Humidified Box	HUMID-BOX	POA

### Eppendorf Holder

Eppendorf holder for two 10ml tubes. Fits onto standard frame.

Product	Product Code	List Price 2013
Eppendorf Holder	FRAME-TUBE	POA



Eppendorf holder

## Biochip Frames for Inverted Microscopes

### Biochip Frame K Vena8™

Biochip frame for Vena8™ biochip range only – 160 x 110mm. Includes frame base, top cover and Eppendorf holder. Compatible with manual stage for Nikon microscopes (flat stage with circular section) where frame sits on top of stage but is not clamped. Also compatible with motorised stage (Prior, Marzhauser, Ludl).



Product	Product Code	List Price 2013
Biochip Frame K Vena8™	FRAME-K-V8	POA

### Biochip Frame P Vena8™

Biochip frame for Vena8™ biochip range only – 90 x 130mm. Includes frame base, top cover and Eppendorf holder. Compatible with manual stage for Olympus microscopes (not a flat stage and has 2 guides which move) where frame sits on top of stage and connects to two guides.

Product	Product Code	List Price 2013
Biochip Frame P Vena8™	FRAME-P-V8	POA



### Biochip Frame M Vena8™

Biochip frame for Vena8™ biochip range only – 165 x 100mm. Includes frame base, top cover and Eppendorf holder. Compatible with manual stage for Zeiss Axiovert microscopes (not a flat stage and has 2 guides which move) where frame sits on top of stage and connects to two guides.



Product	Product Code	List Price 2013
Biochip Frame M Vena8™	FRAME-M-V8	POA

## Micro-environmental Chamber

Biochip holder providing temperature.

Product	Product Code	List Price 2013
Micro-environmental Chamber	FRAME-MEC-V8	POA



## VenaFlux™ Frame

VenaFlux™ biochip frame for Vena8™ biochips range only.

Includes frame base, top cover and Eppendorf strip holder. For use with robotic pipette system only.



Product	Product Code	List Price 2013
VenaFlux™ Frame	FRAME-VENAFLUX	POA

## Biochip Custom Frames

Custom frames available for other microscope stages.

The tables above list stage adapters known to be compatible with most common microscope stages. However, since each microscope can support many stages, you should compare the adapter dimensions to the stage cut-out before ordering.

## Discontinued Frames

### VenaEC™ Insert Frame

VenaEC™ Insert for standard frame. Includes stainless steel insert and top cover.

Product	Product Code	List Price 2013
Biochip Frame Insert VenaEC™	FRAME-PRIOR-VEC	POA



### Biochip Frame Prior Vena8™/VenaEC™

Standard biochip frame for Vena8™ range of biochips and VenaEC™ biochips. Includes frame base, top cover for Vena8™, top cover for VenaEC™ and Eppendorf holder.



Vena8™ Biochip Frame



VenaEC™ Biochip Frame

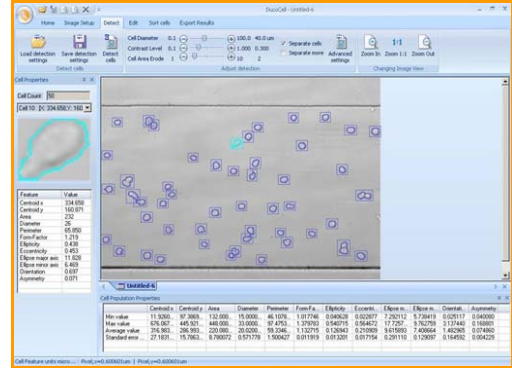
Product	Product Code	List Price 2013
Biochip Frame Prior Vena8™/VenaEC™	FRAME-PRIOR-V8-VEC	POA

# Software

## DucoCell™ Cell Analysis Software

Cell Image Analysis Software for cell counting, morphology etc.  
 DUCOCELL-2.0 has replaced DUCOCELL-1.1.  
 DUCOCELL-1.1 has been kept for reference purposes only.

Product	Product Code	List Price 2013
DucoCell Software V1.1	DUCOCELL-1.1	POA
DucoCell Software V2.0	DUCOCELL-2.0	POA



DucoCell™ Cell Analysis Software

## Image Pro Analyser Cell Analysis Software

Cell Image Analysis Software for morphology analysis; analysis of movies (\*.avi etc.) for cell flow, rolling (i.e. speed) and migrating cells; analysis of time-lapse movies.  
 Supplied in partnership with Media Cybernetics.



Image-Pro Plus Analysis Software

Product	Product Code	List Price 2013
Image Pro Analyser	IMAGE-PRO-ANALYSER	POA

## VenaFlux Assay™ Software Integration

The integration of VenaFluxAssay™ software to work with cameras, stages and microscopy components from different manufacturers.

Product	Product Code	List Price 2013
VenaFlux Assay™ Software Integration	VENAFLUXASSAY-INTEGR	POA



VenaFlux™ Software Integration

# VenaFlux Automated Platforms: Example Configurations

The **VenaFlux™ Platform** is the first semi-automated microfluidic platform capable of executing cell rolling, binding/adhesion and migration studies under shear flow mimicking *in vivo* flow rates. For higher throughput requirements of cell-based assays under shear flow, the VenaFlux™ Platform will meet your needs.



**VenaFlux Platform**

## VenaFlux Platform Configuration 1

**Code = VENAFLUX-CONFIG1**

**Please contact for customised quotation.**

- Flow Apparatus: Mirus Evo Nanopump and Kima pump
- Microscopy Workstation: Zeiss Axio Vert A1 Microscope and QImaging QIClick or Rolera Bolt Digital Camera
- Temperature Control option = Microenvironmental chamber which heats biochip only.
- Cell Analysis Software = Image-Pro Analyzer
- PC with software pre-installed and tested.
- Includes VenaFluxAssay integration software for Mirus Evo and Digital camera

## VenaFlux Platform Configuration 2

**Code = VENAFLUX-CONFIG2**

**Please contact for customised quotation.**

- Flow Apparatus: Mirus Nanopump and Kima pump
- Microscopy Workstation: Zeiss Axio Vert A1 Microscope, Digital Camera (choose from options listed below)
- Temperature Control option = Microenvironmental chamber which heats biochip only.
- Cell Analysis Software = Image-Pro Analyzer
- PC with software pre-installed and tested.
- Includes VenaFluxAssay integration software for Mirus Evo and Digital camera

### **Options:**

Digital Camera choices = Hamamatsu Flash 2.8 **OR** QImaging EXI Blue **OR** Hamamatsu ORCA R2

**Application Recommendations:** Recommended for leukocyte assays and thrombosis assays as this option includes a higher quality digital camera for platelet studies.

## VenaFlux Platform Configuration 3

**Code = VENAFLUX-CONFIG3**

**Please contact for customised quotation.**

- Flow Apparatus: Mirus Nanopump and Kima pump
- Microscopy Workstation: Zeiss Axio Observer Microscope, Digital Camera (choose from options listed below); Motorized Stage
- Temperature Control option = Perspex microscope cage incubator (encases microscope) with **OR** without black-out panels for fluorescence microscopy.
- Cell Analysis Software = Image-Pro Analyzer
- PC with software pre-installed and tested.
- Includes VenaFluxAssay integration software for Mirus Evo, Digital camera and Motorized Stage.

### **Options:**

Digital Camera choices = Hamamatsu Flash 2.8 **OR** QImaging EXI Blue **OR** Hamamatsu ORCA R2

**Application Recommendations:** Recommended for leukocyte assays and thrombosis assays as this option includes a higher quality digital camera for platelet studies.

## VenaFlux Platform Configuration 4

**Code = VENAFLUX-CONFIG4**

**Please contact for customised quotation.**

- Flow Apparatus: Mirus Nanopump and Kima pump
- Microscopy Workstation: Zeiss Axio Observer Microscope, Digital Camera (choose from options listed below); Motorized Stage; Robotic Arm
- Temperature Control option = Perspex microscope cage incubator (encases microscope) with **OR** without black-out panels for fluorescence microscopy.
- Cell Analysis Software = Image-Pro Analyzer
- PC with software pre-installed and tested.
- Includes VenaFluxAssay integration software for Mirus Evo, Digital camera, Motorized Stage and Robotic arm.

### **Options:**

Digital Camera choices = Please contact Cellix for more information.

**Application Recommendations:** Screening labs

# VenaFlux Platform Upgrade Options

## Digital Camera Options

### QImaging QIClick camera



QImaging QIClick camera

- **Imaging array:** 1392 x 1040 (1.4 Megapixel), monochrome 12 bit
- **Binning:** 2x2, 4x4, 8x8
- **Frame rate:** 10fps full resolution at 12 bits; 30fps at 512x512 with 2x2 binning; 110fps with 8x8 binning and ROI; 165fps with binning and ROI functions
- **Quantum efficiency**, at 500nm: ~55- 60%
- **Readout noise**, electrons rms: 8
- **Cooling:** No
- **Applications:** Brightfield, Phase-Contrast, Darkfield & Fluorescence Microscopy including Green Fluorescent Protein (GFP) applications; Live-Cell Imaging; Motility and Motion Analysis; FISH.

Product	Product Code	List Price 2013
QImaging QIClick camera	QIMAGING-QICLICK	POA

### QImaging Rolera XR cameras non cooled and cooled

- **Imaging array:** 696 x 520, monochrome 12 bit
- **Binning:** 2x2, 4x4, 8x8
- **Frame rate:** 20fps at full resolution at 12 bits; 40fps at 346 x 270; 120fps with 2x2 binning and ROI; 165fps with binning and ROI functions
- **Quantum efficiency**, at 500nm: 60-65% (non-cooled); 70% (cooled).
- **Readout noise**, electrons rms: 8
- **Cooling:** Available
- **Applications:** Low level brightfield and fluorescence; high speed imaging; Live-Cell Imaging.



QImaging Rolera XR cameras

Product	Product Code	List Price 2013
QImaging Rolera XR camera non cooled	QIMAGING-ROLERA-XR-FM12	POA
QImaging Rolera XR camera cooled	QIMAGING-ROLERA-XR-FM12C	POA

### QImaging Rolera EM-C<sup>2</sup> camera cooled



QImaging Rolera EM-C<sup>2</sup> camera

- **Imaging array:** 1004x1002 (1.0 Megapixel), monochrome 14 bit
- **Binning:** 1x1, 2x2, 4x4, 8x8
- **Frame rate:** 34.2fps at full resolution at 14 bits; 165.8fps with 8x8 binning; greater than 200fps with binning and ROI functions
- **Quantum efficiency**, at 500nm: ~50%
- **Readout noise**, electrons rms: 20
- **Cooling:** Yes, -50 deg C
- **Applications:** Spinning Disc Confocal Microscopy; Live-Cell Imaging; Fluorescent Protein Imaging; High-Resolution Colour Imaging with RGB Module; Fluorescence Recovery After Photo-Bleaching (FRAP)

Product	Product Code	List Price 2013
QImaging Rolera EM-C <sup>2</sup> cooled	QIMAGING-ROLERA-EMC2C	POA



### QImaging Rolera Bolt camera

- **Imaging array:** 1280x1024 (1.3 Megapixel), monochrome 12 bit
- **Binning:** 1x1, 2x2, 4x4, 8x8
- **Frame rate:** 30fps at full resolution at 12 bits; 60fps with 500x500 ROI
- **Quantum efficiency,** at 500nm: ~65%
- **Readout noise,** electrons rms: 3
- **Cooling:** No
- **Applications:** Brightfield, Phase-Contrast, Darkfield & Fluorescence Microscopy; Live-Cell Imaging.



QImaging Rolera Bolt camera

Product	Product Code	List Price 2013
QImaging Rolera Bolt	QIMAGING-BOLT	POA

### QImaging Retiga 2000R Fast 1394 Mono cameras non cooled and cooled



QImaging Retiga 2000R Fast 1394 Mono cameras

- **Imaging array:** 1600 x 1200 (2 Megapixel), monochrome 12 bit
- **Binning:** 1x1, 2x2, 4x4, 8x8
- **Frame rate:** 10fps full resolution at 12 bits; 20fps at 800x600; 40fps at 400x300; 190fps maximum with binning and ROI functions
- **Quantum efficiency,** at 500nm: 50-55%
- **Readout noise,** electrons rms: 16
- **Cooling:** Available
- **Applications:** Brightfield, Phase-Contrast, Darkfield & Fluorescence Microscopy including Green Fluorescent Protein (GFP) applications; Live-Cell Imaging; Motility and Motion Analysis; FISH.

Product	Product Code	List Price 2013
QImaging Retiga 2000R Mono non cooled	QIMAGING-RETIGA-2000R-NC	POA
QImaging Retiga 2000R Mono cooled	QIMAGING-RETIGA-2000R-C	POA

### QImaging Exi Blue camera cooled

- **Imaging array:** 1392x1040, monochrome 14 bit
- **Binning:** 1x1, 2x2, 4x4, 8x8
- **Frame rate:** 15fps at full resolution at 14 bits; 30fps at 696x520
- **Quantum efficiency,** at 500nm: 60%
- **Readout noise,** electrons rms: 5.5
- **Cooling:** Yes, 0 deg C
- **Applications:** Brightfield, Phase-Contrast, Darkfield & Fluorescence Microscopy including Green Fluorescent Protein (GFP) applications; Live-Cell Imaging; Time-Lapse fluorescence imaging; Immunofluorescence imaging; Motility and Motion Analysis; High speed imaging.



QImaging Exi Blue camera

Product	Product Code	List Price 2013
QImaging Exi Blue cooled	QIMAGING-EXI-BLUEC	POA

## Hamamatsu ImagEM Enhanced camera



Hamamatsu ImagEM camera

- **Imaging array:** 512x512, 16 bit
- **Binning:** 1x1, 2x2, 4x4
- **Frame rate:** 31.9fps at full resolution; up to 405fps at 512x16
- **Quantum efficiency,** at 500nm: 90%
- **Readout noise,** electrons rms: 17
- **Cooling:** Yes, up to -80 deg C with water; up to -65 deg C with air.
- **Applications:** Real-time Spinning Disc Confocal Microscopy; Live-Cell Imaging with low excitation fluorescence.

Product	Product Code	List Price 2013
Hamamatsu ImagEM camera	HAMAMATSU-ImagEM	POA

## Hamamatsu ORCA-R2 camera

- **Imaging array:** 1344 x 1024 (1.3 Megapixel), monochrome 12 bit
- **Binning:** 1x1, 2x2, 4x4, 8x8
- **Frame rate:** 16fps at full resolution; 28fps at 672x512; 45.7fps at 327x256; 115.1fps with 8x8 binning and ROI functions.
- **Quantum efficiency,** at 500nm: 70%
- **Readout noise,** electrons rms: 6
- **Cooling:** Yes, up to -40 deg C with water; up to -35 deg C with air.
- **Applications:** Low level brightfield & Fluorescence Microscopy including Green Fluorescent Protein (GFP) applications; Live-Cell Imaging; Time-Lapse fluorescence imaging; High speed imaging.



Hamamatsu ORCA-R2 camera

Product	Product Code	List Price 2013
Hamamatsu ORCA-R2 camera	HAMAMATSU-ORCA-R2	POA

## Hamamatsu ORCA Flash 2.8 camera



Hamamatsu ORCA Flash 2.8 camera

- **Imaging array:** 1920x1440 (2.8Megapixel), 12 bit monochrome
- **Binning:** 1x1, 2x2, 4x4, 8x8
- **Frame rate:** 45fps at full resolution at 12 bits; 60fps at 1920x1080; 104.6fps at 1920x600; 236.8fps at 1920x240; 540fps at 1920x80; 1273.6fps at 1920x8
- **Quantum efficiency,** at 500nm: 68%
- **Readout noise,** electrons rms: 3
- **Cooling:** Yes, +5C, air cooling
- **Applications:** Low level brightfield & Fluorescence Microscopy including Green Fluorescent Protein (GFP) applications; Live-Cell Imaging; Time-Lapse fluorescence imaging; Immunofluorescence imaging; High speed imaging. Includes DALSA PC controller, power supply and cable

Product	Product Code	List Price 2013
Hamamatsu ORCA-FLASH 2.8 camera	HAMAMATSU-ORCA-FLASH-2.8	POA

## Hamamatsu ORCA Flash 4.0 camera

- **Imaging array:** 2048x2048 (4.0Megapixel), 16 bit
- **Binning:** 2x2, 4x4
- **Frame rate:** 100fps at full resolution at 16 bits; 200fps at 2048x1024; 400fps at 2048x512; 800fps at 2048x256; 3200fps at 2048x64; 25,600fps at 2048x8
- **Quantum efficiency,** at 600nm: 70%
- **Readout noise,** electrons rms: 1.3
- **Cooling:** Yes, +5C, air cooling
- **Applications:** Low level Brightfield, Real-time Confocal and Fluorescence Microscopy including Green Fluorescent Protein (GFP) applications; Live-Cell Imaging; Time-Lapse fluorescence imaging; High speed imaging.



Hamamatsu ORCA Flash 4.0 camera

Product	Product Code	List Price 2013
Hamamatsu ORCA-FLASH 4.0 camera	HAMAMATSU-ORCA-FLASH-4.0	POA

## Temperature Control Options

### Micro-environmental Chamber

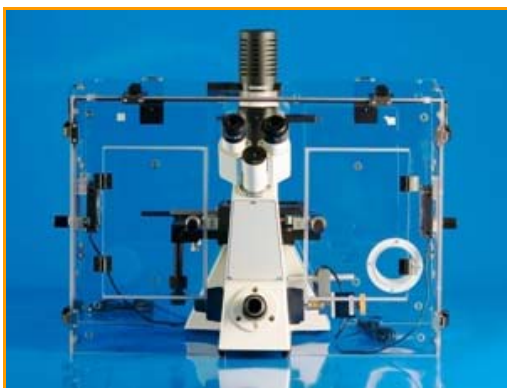
Biochip holder providing controlled temperature conditions.



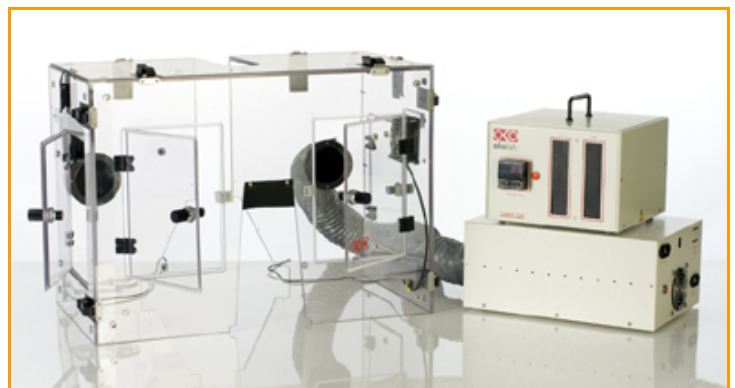
Product	Product Code	List Price 2013
Micro-environmental Chamber	FRAME-MEC-V8	POA

### Microscope Cage Incubator

Microscope Cage Incubator from Oko-lab, with temperature controller maintaining temperature at 37°C. Compatible with different microscopes, please enquire.



Microscope Cage Incubator on Microscope



Microscope Cage Incubator with Temperature Controller

Product	Product Code	List Price 2013
Microscope Cage Incubator with Temperature Controller	INCUBATOR-OKO	POA

### Microscope Cage Incubator with Obscuring Panels

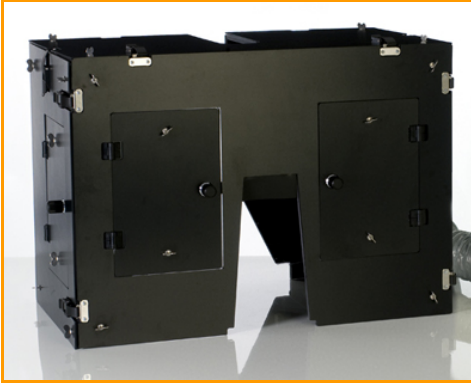
Perspex box surrounding microscope maintaining temperature at 37°C with black-out panels for use with fluorescence microscopy. Compatible with different microscopes, please enquire.



Microscope Cage Incubator with Obscuring Panels and Temperature Controller

Product	Product Code	List Price 2013
Microscope Cage Incubator with Obscuring panels	INCUBATOR-OKO-FL	POA

## Obscuring Panels



Obscuring Panels

Black-out panels for the Microscope cage incubator (perspex box surrounding microscope maintaining temperature at 37°C). For use with fluorescence microscopy. Compatible with different microscopes, please enquire.

Product	Product Code	List Price 2013
Obscuring panels	OBSPANELS-OKO	POA

## 2 Gas Line Control Unit

Control for CO<sub>2</sub> and humidity levels within the Microscope Cage Incubator (perspex box surrounding microscope maintaining temperature at 37°C).

Product	Product Code	List Price 2013
2 Gas Line Control Unit	HUMID-OKO	POA



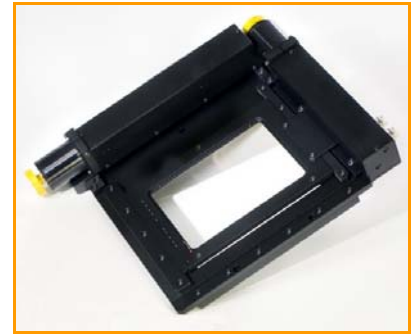
2 Gas Line Control Unit

## Automation: Microscope Motorized Stage, Z-drive and Robotic Arm

### Motorized Stage for microscope

- XY Travel: 4" x 3" (114 x 76mm)
- Repeatability: < 1um
- Resolution: 0.01um
- Sample holder: customised interface for Vena8 biochip
- Includes PC controller, joystick and cables.

Product	Product Code	List Price 2013
Motorized Stage	STAGE_120_100_1MM	POA



Motorized Stage

### Focus Drive Add-on for Motorized Stage

For supplementary automation of the **Z-axis**, the focus drive is installed by removing the fine focus knob from the microscope and fixing the MA 42, in conjunction with a special coupling, directly to the shaft of the fine focus. This method prevents any slippage, or loss of steps. **Requires motorized stage.**

Product	Product Code	List Price 2013
Focus Drive for microscope	FOCUS_DRIVE_STAGE	POA



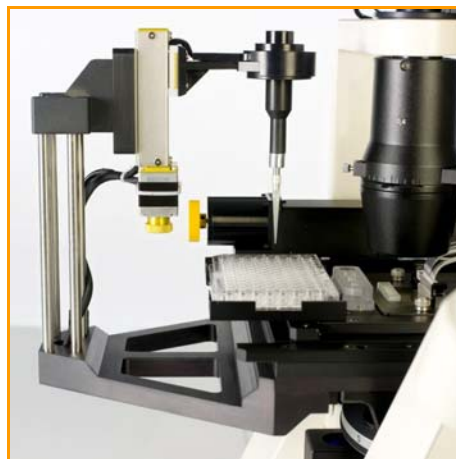
Focus Drive for microscope

### VenaFlux™ Dispenser Arm Assembly / Robotic sample handler

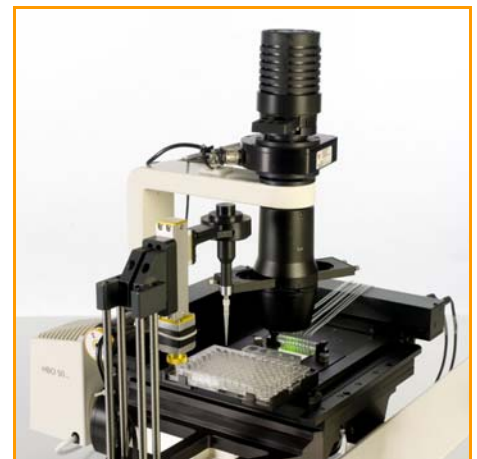
Robotic arm for automatic sample handling – works with microscope's motorized stage. Integrates with 96 well plate formats. **Requires motorized stage.**



VenaFlux Dispenser Arm Assembly



VenaFlux Dispenser Arm integrates with 96-well plates



VenaFlux Dispenser Arm as part of VenaFlux platform.

Product	Product Code	List Price 2013
VenaFlux Dispenser Arm Assembly / Robotic sample handler	VENAFLUX_ROBOT	POA

# Service Items

Product	Product code	Product Description	List Price 2013
Training	TRAINING-DAY	Service – Training; daily rate	POA
Service Contract	CONTRACT-SERVICE	Service	POA
Equipment Rental/Leasing	EQUIPT-LEASE	Equipment rental and leasing	POA
Delivery Charge	DELIVERY_CHARGE	Delivery Charge	POA



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