

Kima™ Pump With Apple Application for iPod Touch / iPhone

Kima™ Pump is a microfluidic pump **designed to aid cell culture** (e.g. endothelial cells) **under physiological conditions (shear flow)** in various biochips and flow chambers, including Cellix's Vena8 Endothelial+ biochips where it is possible to culture 8 cell monolayers simultaneously over 24 – 48 hours. The Kima™ pump is controlled by the **iKima™ Application** for use with the **iPod Touch** and **iPhone**. The Kima™ pump is placed inside a standard incubator while the iPod Touch or iPhone, as it's controller, sits in the Universal dock outside the incubator. The Kima™ pump connects easily to Cellix's Vena8 Endothelial+ biochip and other manufacturer's flow chambers via fully autoclaveable tubing and delivers pulses of fresh media to cells seeded inside the microchannels of the biochip. The iKima™ App is available for download from Apple's iTunes Store.



Kima Pump with iPod Touch and controller.
Kima Pump is connected via tubing to Vena8 Endothelial+ biochip.



Kima™ Controller: iKima App



**iKima App connects via Wi-Fi to
Kima™ Pump**



Controller Specifications via iPod Touch / iPhone

General specifications	<p>Controller with:</p> <ul style="list-style-type: none"> • 2 modes of pumping: wash and perfusion • 4 sockets which can control 4 Kima pumps independently • Universal dock station (power only) to use with iKima application (available for download on iTunes) • Wi-Fi communication • USB communication • Tactile power switch • LEDs for power / status information
Power Requirements	<p>Input: 100 – 240V AC / 47 - 63Hz</p> <p>Output: 12V DC – 3.33A max</p>
Dimensions	128mm x 81mm x 104mm (W x D x H)
Weight	< 550g (including power supply)
Conditions of use	<ul style="list-style-type: none"> • Temperature: 10°C - 40°C • Humidity: < 90% RH • Altitude: < 2000m

Pump Specifications

Volumetric Flow Rates	Perfusion mode: 15 - 35 mL/hr (*) +/- 10%
Shear Stress Range	Perfusion mode: ~2.5 to ~6.5 dyne/cm ² (**)
Dead Volume	< 300 µL
Working Pressure	30 psi – 2 bars maximum
Flow Direction	<ul style="list-style-type: none"> • Dispense only • <u>Two modes</u>: wash and perfusion (controlled only by Kima controller via iPod Touch / iPhone)
Additional features	<ul style="list-style-type: none"> • Plug and Play with Kima controller and iKima Application (available for iPod Touch / iPhone) • Featured with a standard 100mL bottle holder
Dimensions	190mm x 85mm x 90mm (L x W x H)
Weight	< 800g (bottle and tubing not included)
Conditions of use	<ul style="list-style-type: none"> • Temperature: 10°C to 60°C • Humidity: < 98% RH • Altitude: < 2000m

(*): calibrated test made with a specific flow resistance of 150µm inner diameter by 5cm length

(**): shear stress is for information only; based on the connection to 8 channels of a Vena8 Endothelial+ biochip (capillary of 800µm x 120µm)