



**cellix**

# **Kima Pump Quick Start Guide**

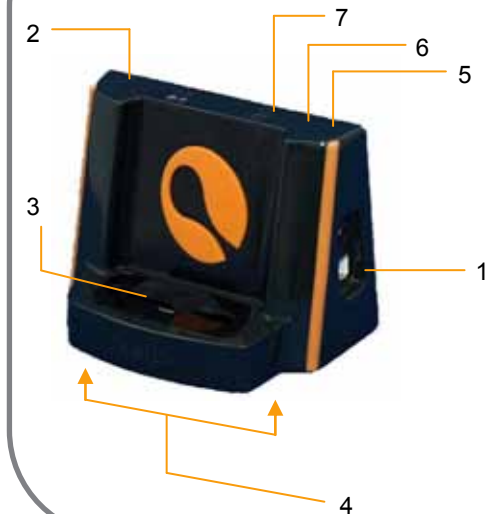
[www.cellixltd.com](http://www.cellixltd.com)

## Kima Pump Box Contents



1. Kima controller
2. Kima pump
3. iPod touch™
4. Power supply
5. Power cable
6. Kima cable
7. Bottle 100ml
8. GL45 cap
9. Tubing kit
10. Velcro Strips

### Kima controller



1. Power socket
2. USB connector
3. Universal Dock for iPod
4. Kima pump ports
5. Power switch
6. "Ready" indicator
7. Power indicator

## Kima Pump



1. Kima pump socket
2. Bottle holder
3. Pump

### Connecting Kima controller and Kima pump

- Fix the Kima controller to a wall/incubator using Velcro strips provided.
- Plug in the power cable (110V-230V) and connect the power supply to the power socket of the Kima controller.
- Plug the Kima pump to the Kima controller (Port 1) using the Kima cable. The Kima cable can be easily disconnected for ease of use.
- Press the power switch to turn On / Off the Kima controller (power indicator displays a red light when power is On).
- The “ready” indicator informs when the Kima controller is ready to be connected to your iPod Touch using either Wi-Fi network or Universal Dock for iPod.

**Connecting tubing:** Kima-Connect Tubing Set contains four different parts:

- Kima1-Connect: Pump Priming Cable (2 supplied per set)
- Kima2-Connect: Pump Inlet Cable
- Kima3-Connect: Pump Outlet Cable
- Kima4-Connect: Biochip Outlet Cable

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



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

**Kima2-Connect Pump Inlet Cable  
Connection**



Connects from bottle into pump.

**Kima3-Connect Pump Outlet Cable  
Connection**



Connect from pump to biochip inlet.

**Kima4-Connect Biochip Outlet Cable  
Connection**




Connects from biochip outlet to bottle

## iKima application

iKima application is available for download on iTunes and the Apple Store. The application provides full control of the pump using either the Universal Dock station of the Kima controller or by remotely connecting to the controller using Wi-Fi network.

**Main screen**



Control bar


Animation screen

Status bar

Navigation bar

**Navigation bar**

➤ Press once any icon to navigate from menu to any other menu.



Main menu: used to connect Kima to iPod touch

Washout menu: control washout actions

Perfusion menu: control the perfusion mode

**Control bar**



Menu name

Control button (see below for a full description)

Connect

Wash

Perfuse

Stop


Connect Kima controller to iPod Touch in Wi-Fi mode

Start Kima pump in washout mode

Start Kima pump in perfusion mode

Stop Kima pump in both washout and perfusion modes

**Status bar**



Provides status of the Kima controller and pump

Open the info screen

## Main menu

The main menu is used to connect the iPod Touch to the Kima controller. It can be connected either by Wi-Fi (remote control) or serial communication (Universal Dock).

### Universal Dock

Plug the iPod Touch into the Universal Dock. Communication establishes automatically with the Kima controller (not necessary to press the connect button).

### Wi-Fi

First of all, check that Wi-Fi is enable on the iPod Touch (settings menu – ref to Apple user guide) and is connected to the Cellix network.

Press Connect and the animation shows it is connecting. Once connected, you can start controlling the Kima pump.



## Washout menu

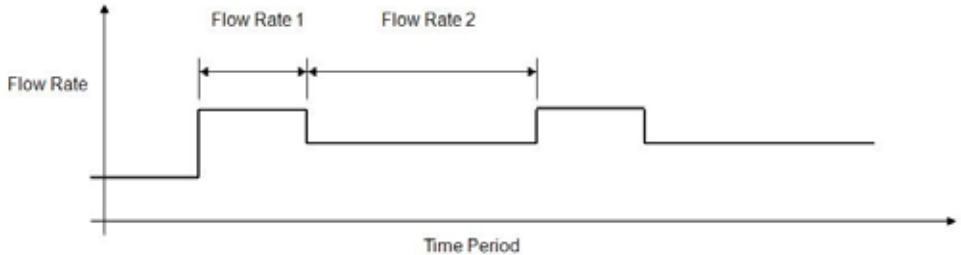
The washout mode is used to wash and prime tubing before and after cells culture experiments.

Press wash to start running the pump and press stop to stop it. While it is running, an animation displays 'Washing'.



## Perfusion menu

The perfusion mode is used to run samples at flow rates determined by the user. The user can select two flow rates for two different time periods. These two flow rates are then continuously looped or cycled until the user stops the device. The Wi-Fi connection of the iPod to the Kima pump is not necessarily maintained; i.e. it may fall asleep but the device will continue to work as programmed.



First select the flow rate:



Set flow rate for each period here



Set time period for each flow rate here



## Perfusion menu

After selecting the flow rate, then select the “Perfusion time”. This will bring up the following option, enabling you to set the time in hours, minutes and seconds:



Scroll to select the time in hours, minutes and seconds

Typical settings:

- Flow rate 1: 600  $\mu$ L/min for Period I = 2 minutes
- Flow rate 2: 0  $\mu$ L/min for a Period II = 20 minutes (i.e. flow stops).

### Note:

“Made for iPod” and “Made for iPhone” mean that an electronic accessory has been designed to connect specifically to iPod or iPhone and has been certified by the developer to meet Apple’s performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards. Please note that the use of this accessory with iPod or iPhone may affect wireless performance.

## Info menu

The info menu displays status, running time and settings (perfusion mode only). It is opened by pressing the question mark button on the status bar in the different screens. Press the back button on the control bar to move back to the previous screen.



Pump status:  
Stopped – the pump is stopped.  
Washing – the pump is washing.  
Perfusing – the pump is perfusing.

— Pump status

— Running time while perfusing

— Running times:  
Total time – total time since perfuse button was pressed.  
Current time – time since Perfusion Period I or Perfusion Period II has started.

— Perfusion / Flow rate settings

## Troubleshooting

1. The iPod Touch doesn't connect with the Kima controller in Wi-Fi mode
  - Check settings of the iPod Touch:
    - Wi-Fi enabled and connected to Cellix network. This is typically the same name as the serial number on the back of the pump. When selected, the IP address should be set to the "Static" setting. The IP address is 192.168.2.30. The Subnet Mask is 255.255.255.0.
  - If the Cellix network doesn't show up in the network list, restart the controller (wait until the controller is ready).
2. The iPod Touch doesn't connect with the Kima controller on the Universal Dock
  - Unplug the iPod Touch, quit the application and try again.
  - If you still get error messages, switch Off and On the controller (wait until the controller is ready and plug the iPod Touch again).
3. The Kima pump doesn't run
  - Check that cable between the pump and the controller is securely connected to Port 1.
  - Check that status shows either "Washing" or "Perfusing". If so, switch Off and On the controller and try again.



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