

# Exact

Smart design  
that counts



# CytoSMART Exact

## Automated cell counter Quick Starter Guide

### In short

The CytoSMART™ Exact can accurately determine cell concentrations of mammalian cells. The system operates within a cell size range between 5 and 70  $\mu\text{m}$ .

Accurate results are provided for samples within a concentration range of  $5 \cdot 10^5 - 1 \cdot 10^7$  cells/mL.

**Working with the CytoSMART™ Exact is very easy. Just follow these three steps and you will be on your way.**

### Step 1 - Unpack and clean

Unpack the CytoSMART™ Exact and clean the device using lint free wipes and EtOH (70%) or IPA.

Do not use acetone to clean the CytoSMART™ Exact. Also, do not autoclave the device, as this can result in damage to the electronics.

### Step 2 - Setting up

First, you need to install the software. Open a browser and download the Exact App using the link provided in the confirmation email. Trial users can use the fully installed tablet that is included.

- Double click the downloaded file to install the Exact App.
- Launch the software, and connect the CytoSMART™ Exact to the Windows device using the USB-cable. When connected, the LED of the device will activate.
- Sign in or create a new user account
- Create a new project and start an experiment within that project before counting your cells. After clicking 'Start cell count' you will see an image in the live screen of the Exact App (fig. 1)

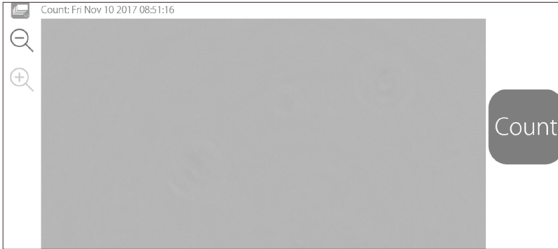


Fig. 1. Image in the live screen of the Exact App.

Next up is the installation of the adapter plate, which is used to guide the hemocytometer during image acquisition of the sample. Carefully slide the notch of the adapter plate around the base of the light arc (fig. 2).

Push the adapter plate downwards, until it clicks into place on-top of the CytoSMART™ Exact (fig. 3). After you have installed the software and adapter plate, the CytoSMART™ Exact is ready to perform a cell count.

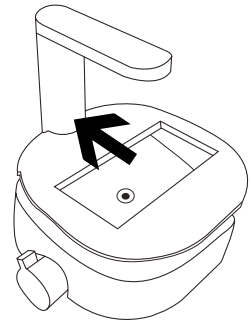


Fig. 2. Placing the adapter plate.

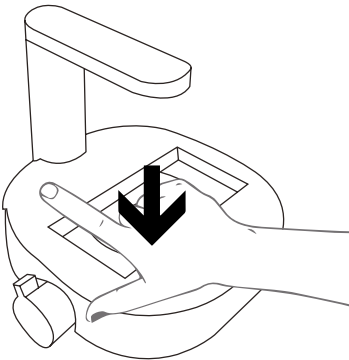


Fig. 3. Push the adapter plate downwards, until it clicks into place.

# CytoSMART Exact

## Automated cell counter Quick Starter Guide

### Step 3 - Your first cell count

After the CytoSMART™ Exact is connected, load 10  $\mu\text{L}$  of cell sample into a hemocytometer. Place the hemocytometer in the adapter plate. The Exact App now shows an image of the cell sample on the live screen (fig. 7).

For proper analysis, you should be seeing a contrast: living cells having bright centers and dark edges (fig. 5).

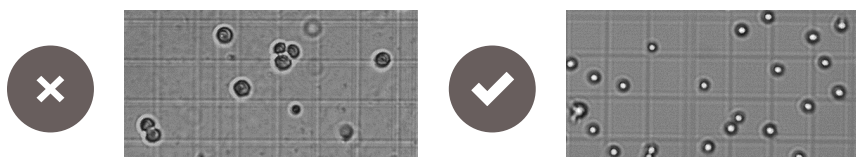


Fig. 5. Examples of correct and incorrect focus settings.

To achieve this, you need to set the focus just above the cell using the focus knob (fig. 6).

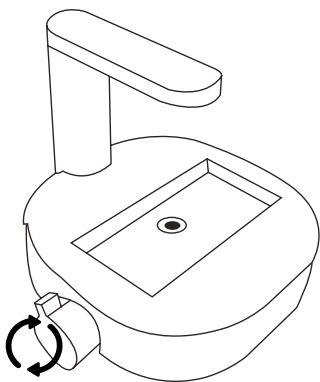


Fig. 6. Turn the focus knob to change focus.

Verify the focus setting from the live screen – adjust if needed – and select **‘Count’ (1)** (fig 7).



Fig. 7. Press “Count” to analyze the image.

The Exact App will now analyze the image and present the result. On the left side of the result page, within the image, analyzed cells will be surrounded with either green or red circles (fig. 8). Green circles represent living cells, red circles are dead cells. On the right side of the result page, the cell count and the experiment information are presented. You can also add notes here.



Fig. 8. Result page. Represented in grayscale, for colorized representation see the Exact manual.

Press **‘Start new cell count’ (2)** to analyze a different image of the same sample or a new sample.

# CytoSMART Exact

## Automated cell counter Quick Starter Guide

And the best part? The data of all your cell counts are stored in the CytoSMART™ Exact Cloud environment. Thus you can examine your data anywhere on your smartphone, tablet or computer using your login details at <https://cloud.cytosmart.com/>.

A direct link to the experiment in the CytoSMART™ Cloud is also provided in the experiment's confirmation email.

Enjoy experiencing the ease you can now work with!

[illegible]

# CytoSMART Exact

Automated cell counter  
Quick Starter Guide

## Final Note

If additional help or information is required, please see the instruction manual or contact us at [support@cytosmart.com](mailto:support@cytosmart.com).

## Contact details

CytoSMART™ Technologies BV  
Kastanjelaan 400  
5616 LZ Eindhoven  
The Netherlands

Phone: +31 (0)88 20 32 200

Email: [support@cytosmart.com](mailto:support@cytosmart.com)

© Copyright 2017, CytoSMART™ Technologies BV. All rights reserved.

CS\_Exact\_002Int (01/16)