Corning® Cell Counter

Accurate Cell Counts in a Flash

For years, the choice between manual and automated cell counting has been a difficult one. Manual cell counting, on the one hand, is accurate, but time-consuming and very userdependent. Automated cell counting, is much faster and less user-dependent, but the cost of disposable counting slides can be an issue. A tough choice, but now there is a solution.

The new Corning® Cell Counter is the first automated cell counter that combines the best of both worlds. It is:

- ◗ **Fast** – thanks to its online image processing
- ◗ **Accurate** – thanks to its cloud-based machine learning algorithm.
- ◗ **Low-cost** – works with common reusable glass hemocytometer. No consumables required.

Three-second Cell Counts

The Corning® Cell Counter can perform a single cell count in less than three seconds*. This is much faster than most automated cell-counting systems. With traditional systems, the image analysis algorithms must be processed on a relatively small onboard computer. The Corning® Cell Counter, utilizing the CytoSMART™ Cloud App, can process the images in the Microsoft Azure Cloud Computing Platform. This cloud computing ability means that it can analyze the images faster than any existing onboard processer can.

Higher Accuracy

The Corning® Cell Counter uses a sophisticated Deep Neural Network for cell detection. This state-of-the-art image analysis software allows for optimal accuracy. When Trypan Blue is added (Figure 1) the system can also detect cell viability. The Corning® Cell Counter can detect clusters of cells, which leads to accurate cell counts of "highly concentrated samples" (up to 1 x 107 cells/mL; Figure 2).

Low Cost Like Manual Counting

This Cell Counter works with the provided counting chamber or customer supplied hemocytometers, enabling users to enjoy the benefits of automated cell counting without the cost of disposable slides.

Easy to Use

The Cell Counter is easy to use. Simply connect the Cell Counter to your computer or tablet and start the CytoSMART™ Cloud App. Place the loaded counting chamber on the stage. Focus on your cells and press the Count button. The simplicity of the Cell Counter allows anyone working in your lab to easily count cells without the need of extensive training.
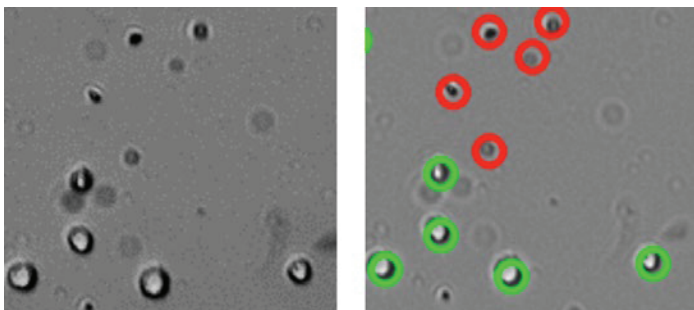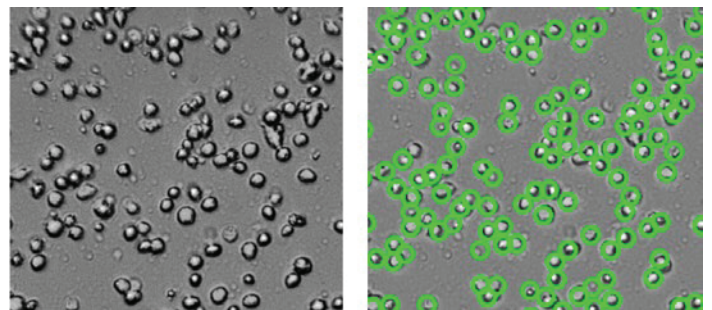

Figure 1. Dead cells stained with Trypan blue are detected by the image analysis algorithm. Red circles represent dead cells, green circles represent live cells.

Figure 2. The image analysis algorithm is able to detect clusters of cells. Red circles represent dead cells, green circles represent live cells.

*Measured using a 73 Mbps download speed and a 20 Mbps upload speed. Actual speed can vary depending on the internet connection.

Accessible Data Anywhere, Anytime

The Corning® Cell Counter instantly generates a report containing the counted cell concentrations and viability and also the image of the counted sample with the counted cells (live and dead) clearly indicated.

This is an improvement over traditional automated counting systems, in which reporting is hampered by three factors:
1. Onboard computers are so small that it takes a very long time to generate a report.
2. Screen interface is of low quality to clearly see what has been counted as live vs. dead cells.
3. Data can only be exported using a USB stick, which can be a hassle.

With the Cell Counter, the report is instantly shown on your computer and sent to the CytoSMART™ Cloud App, enabling you to look up the analyzed image and cell count on your smartphone, tablet, or computer. Since all data is saved in the CytoSMART™ Cloud App, you can gain insight into the health and quality of your cell culture from one experiment to the

Specifications

Counting range	5 x 10^5 to 1.0 x 10^7 cells/mL
Counting range	10 to 70 μm
Measurement time	<3 sec.*
Compatibility	Reusable and disposable counting chambers
Sample volume	10 μL
Weight	1.0 kg
Field of view	2.0 x 1.5 mm
Magnification	200X
Image resolution	2048 x 1536
Exported formats	PNG
Light source	LED
Camera	5 MP CMOS
Unit dimensions	90 x 90 x 100 mm (L x W x H)
Operating environment	5°C to 40°C, 20% to 95% humidity

* Measured using a 73 Mbps download speed and a 20 Mbps upload speed. Actual speed can vary depending on the internet connection.

Ordering Information

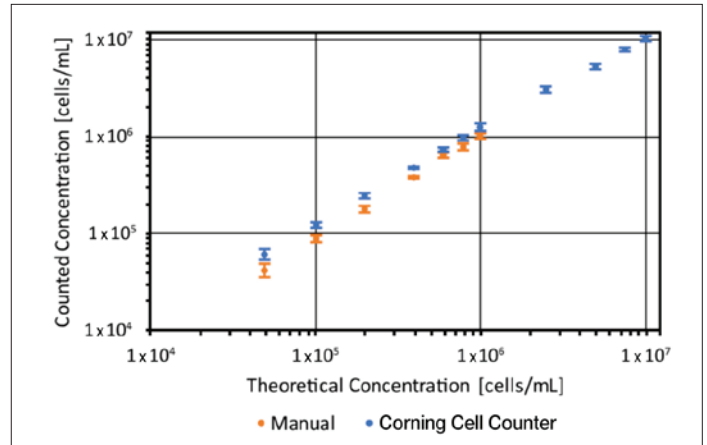| Cat. No.	Description	Qty/Cs
6749	Corning® Cell Counter	1

Figure 3. Different concentrations of C6 cells were counted manually and using the Corning® Cell Counter (n = 3). In both cases, the count corresponds well with the theoretical concentration (error bars represent Nthe standard deviation).
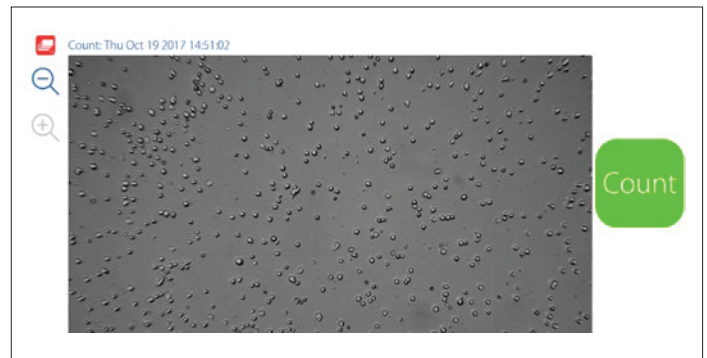

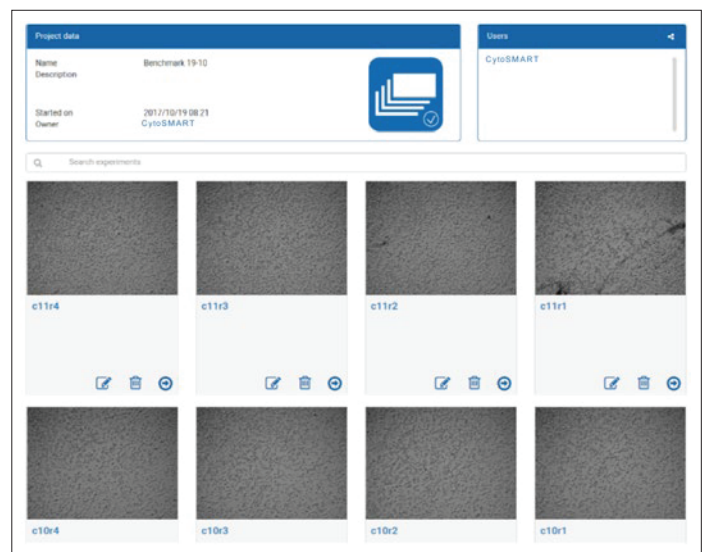**Figure 4. Press the Count button to start your cell count.**

Figure 5. Look back at your data on the CytoSMART™ Cloud App.