# Accuracy elevated.

revvity

Cellometer™ Ascend™ automated cell counter

- Introduction
- Features and benefits
- Technology
- Reagents and consumables
- Software
- Performance
- Specifications
- Support
- Contact us


# We've raised the bar for cell counting.

*An integrated, high resolution touchscreen elevates the user experience.*

Introducing the **Cellometer™ Ascend™ automated cell counter**, the newest innovation in our renowned, trusted portfolio of cell counting instruments.

Packed with advanced functionalities including autofocus, sample slide detection, and automatic result analysis, the Cellometer Ascend accelerates your lab workflow, helping to mitigate human error… all while ensuring a consistent, standardized cell count.

With its revolutionary design, the Cellometer Ascend has elevated accuracy and reliability in cell counting. Plus, its user-friendly Matrix™ software incorporates an automated and sophisticated image analysis workflow that delivers reliable results in a matter of seconds.

For research use only.
Not for use in diagnostic procedures.

- Introduction
- Features and benefits
- Technology
- Reagents and consumables
- Software
- Performance
- Specifications
- Support
- Contact us


FEATURES AND BENEFITS

# Heightened functionality accelerates your research workflow.

- **Cell counts and viability information**: dual fluorescence and brightfield imaging assist with increasing accuracy for nuclei and cell counting
- **Fast results**: size, count, concentration, and viability calculations in <60 seconds
- **Count up to eight samples at a time**: choose between a three- or eight-chamber slide
- **Multiple fields of view**: capture up to eight images per sample to increase the accuracy of counts
- **Analysis of various sample types**: including cultured cell lines, PBMCs, primary cells, whole blood, and bone marrow
- **Small sample volume**: as little as 10 µl of cell sample needed
- **Favorites feature:** customize experiment settings and save commonly used assays
- **Built-in predefined protocols**: quickly analyze viability, apoptosis, and transfection efficiency
- **Pre-loaded cell types**: includes saved parameters for over 400 cell types
- **21 CFR Part 11 ready**: optional add-on that includes an audit trail, user access control, and digital signature

For research use only.
Not for use in diagnostic procedures.

- Introduction
- Features and benefits
- Technology
- Reagents and consumables
- Software
- Performance
- Specifications
- Support
- Contact us


TECHNOLOGY

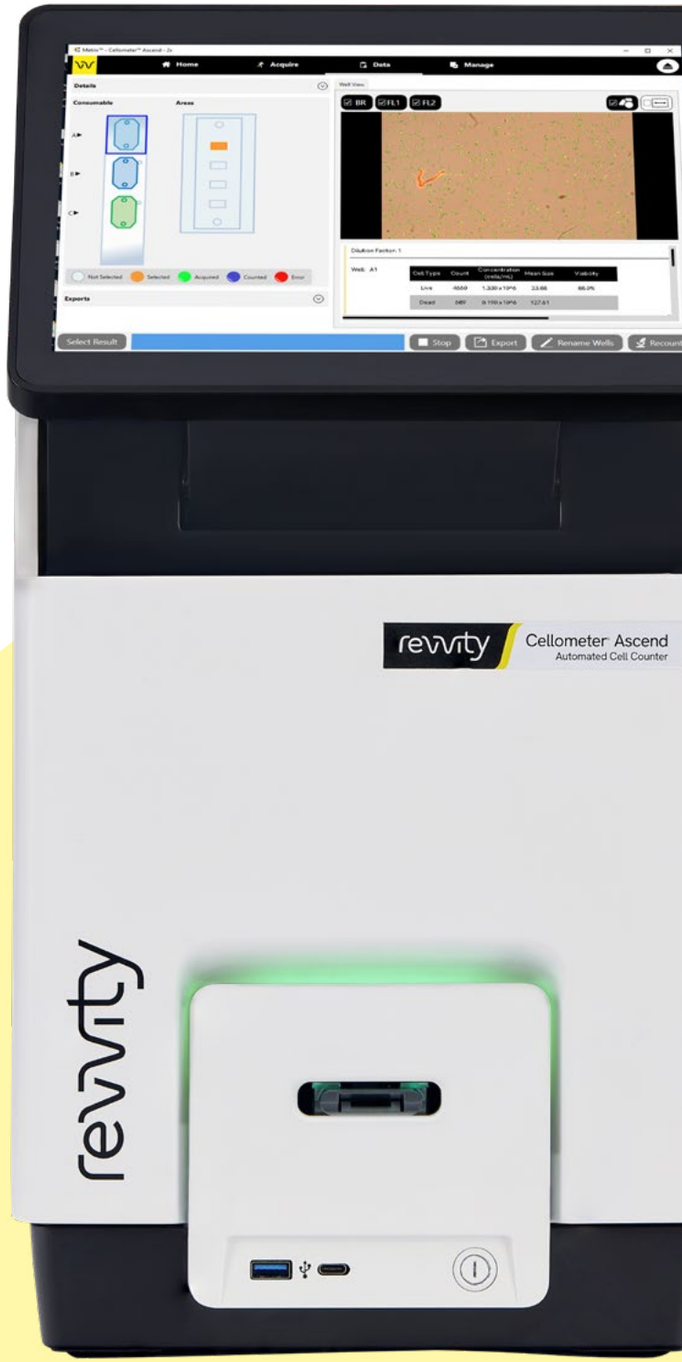
# Accuracy elevated.

Cell counting is fundamental in cell biology laboratories, yet can be a tedious time-consuming task, prone to the inefficiencies and inaccuracies of manual methods. Accuracy is paramount for maintaining the integrity of downstream workflows, especially within cell therapy research.

The Cellometer Ascend distinguishes itself for its exceptional performance:

- Proprietary image-based cell identification algorithms
- A choice of two auto-focus methods: slide* or image-based focus, to get the best results for your particular sample and cell type
- Bi-directional (x, y) stage movement to capture the maximum sample volume, especially for samples with low cell concentration

** Slide-based focusing uses a target on the slide to provide positional verification and create consistent focus between samples.*




For research use only.
Not for use in diagnostic procedures.

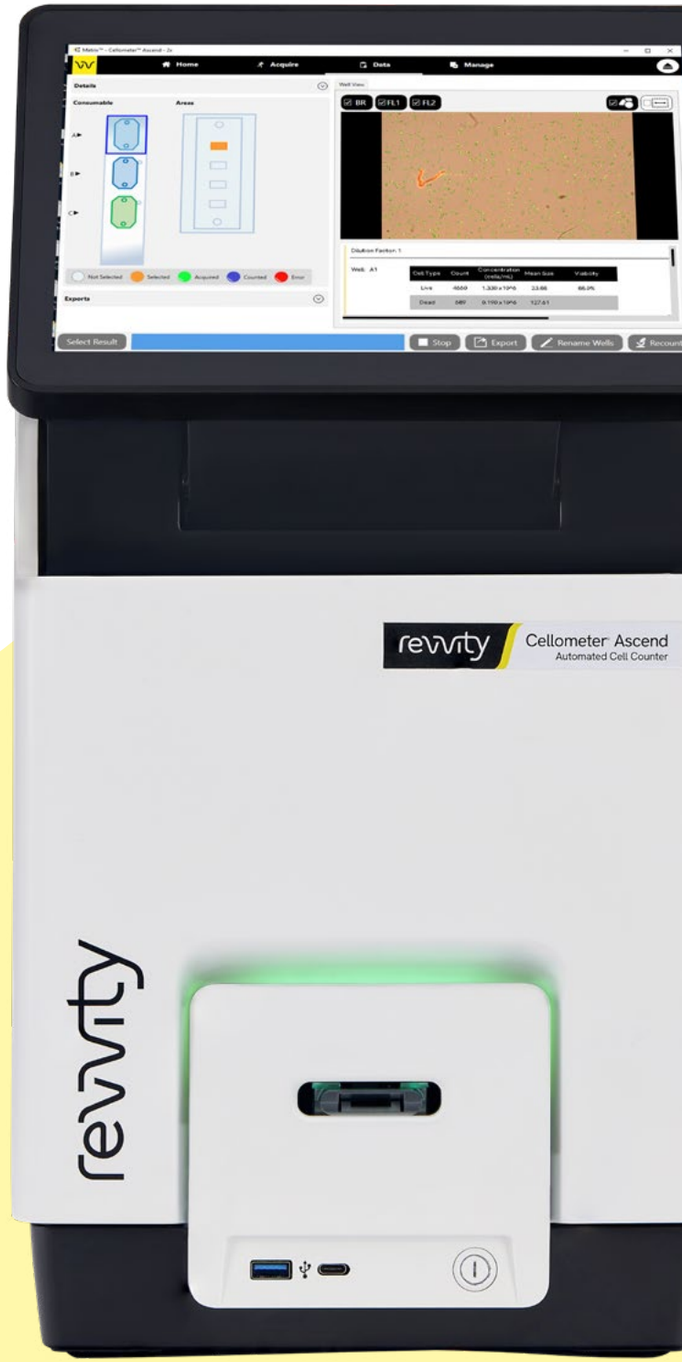
- Introduction
- Features and benefits
- Technology
- Reagents and consumables
- Software
- Performance
- Specifications
- Support
- Contact us


TECHNOLOGY

# Speed elevated.

A key aspect of the Cellometer Ascend's performance is its counting speed. Compared to manual counting, it's about **10 times faster**.

- Sample slides are detected automatically: counting begins as soon as a slide is inserted
- Samples are illuminated by high power LEDs minimizing the exposure time and generating fast results
- Focusing is automatic, with a choice of two methods to best suit your sample




For research use only.
Not for use in diagnostic procedures.

- Introduction
- Features and benefits
- Technology
- Reagents and consumables
- Software
- Performance
- Specifications
- Support
- Contact us


TECHNOLOGY

# Technology elevated.

The Cellometer Ascend is the pinnacle for a simplified user-experience. Its integrated touchscreen and small footprint bring advanced cell counting capabilities directly onto your benchtop.

- Bright, high-resolution viewing
- Flexible screen angle
- Glove-friendly touchscreen
- Pinch to zoom function
- On-screen keyboard for custom naming
- Integrated USB/USB-C ports
- Wi-Fi or ethernet enabled for network data storage

For research use only.
Not for use in diagnostic procedures.

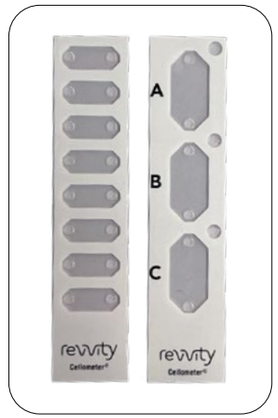
- Introduction
- Features and benefits
- Technology
- Reagents and consumables
- Software
- Performance
- Specifications
- Support
- Contact us


For research use only.
Not for use in diagnostic procedures.

REAGENTS AND CONSUMABLES

# Better by design.

The Cellometer Ascend is accompanied by dedicated reagents and consumables designed to work together to give you optimal results.




## Sampling elevated

The Cellometer Ascend's single-use counting slides, with either 3 or 8 counting chambers, bring throughput flexibility to the benchtop.

**Advantages of Cellometer Ascend slides:**

- Run up to 8 samples at once
- Preform multiple replicates within a single slide
- Disposable slides for infectious sample safety control
- Mitigated cross-contamination risk
- No clogging
- Ideal for fragile cell types such as hepatocytes
- Wide dynamic range for cell concentrations
- Minimal sample volume of 10 µl for the 8-chamber slide
- Composed of shatterproof plastic materials
- Integrated autofocus feature on the three-chamber slide
- Three-chamber slide is optimized for low concentration samples

- Introduction
- Features and benefits
- Technology
- Reagents and consumables
- Software
- Performance
- Specifications
- Support
- Contact us


## Optimized reagents and consumables analysis

The dual-fluorescence stain combination AOPI (acridine orange – propidium iodide) is the preferred method for viability analysis of primary cell samples that may contain debris or red blood cell contamination.

The instrument automatically reports live/dead cell number, live/dead cell concentration, mean diameter, and percent viability.

In addition, other wash-free and incubation-free assays compliment standard viability measurements:

- Calcein AM/PI for vitality
- Nuclear staining dyes for live and dead cell identification
- GFP reporter
- Trypan Blue viability
- Detection of apoptotic caspase 3 protein

For research use only.
Not for use in diagnostic procedures.

- Introduction
- Features and benefits
- Technology
- Reagents and consumables
- Software
- Performance
- Specifications
- Support
- Contact us


SOFTWARE

# Analysis elevated.

Matrix, Revvity's cell counting analysis software, now teamed-up with the Cellometer Ascend, is a win-win for users.

Complete with its pre-loaded templates, Matrix simplifies your workflow and accelerates data acquisition, for assays such as viability, apoptosis, and transduction efficiency. The software is comprehensive with built-in templates, and has over 400 pre-loaded cell types.

Additionally, laboratories will benefit from Matrix's library of predefined reports as well as the flexibility to create custom reports with easy-to-generate graphs, images, charts, and tables. As a unique time-saver, a handy 'Favorites' feature tags the most-used assays and cell count settings for speedy setup and execution in the future.

Cellometer Ascend with Matrix software is 21 CFR Part 11 ready:

- Multiple access levels
- Password and user protection
- Data security
- Comprehensive audit trail

For research use only.
Not for use in diagnostic procedures.

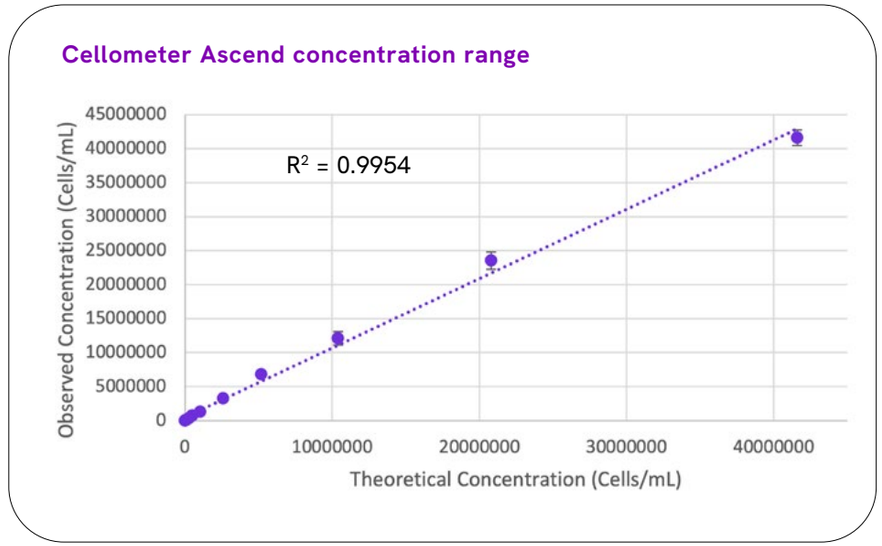
- Introduction
- Features and benefits
- Technology
- Reagents and consumables
- Software
- Performance
- Specifications
- Support
- Contact us


**PERFORMANCE**

# Confidence elevated.

The versatile Cellometer Ascend can analyze various cell sample types - both primary cell samples as well as cultured cells, at a wide range of concentrations. In particular, the system has been optimized to analyze low concentration samples for applications such as single cell sequencing.

As well as measuring viable cell counts and concentrations, the instrument can also perform a range of common cell-based assays including apoptosis, nuclei counting and GFP reporter gene expression.




*Graph of results for cell concentration dynamic range on the Cellometer Ascend. Data set was taken on a concentration series of cultured Jurkat cell line. Samples from 2 x $10^4$ – 4 x $10^7$ cells/mL can be counted without further dilution. The %CV at each concentration was below 10%.*

For research use only.
Not for use in diagnostic procedures.

- Introduction
- Features and benefits
- Technology
- Reagents and consumables
- Software
- Performance
- Specifications
- Support
- Contact us


# Specifications

### Includes:

- Cellometer Ascend automated cell counter with integrated touchscreen computer and dual-fluorescence optic channels
- Matrix software
- Two ports in front of instrument *(one USB A and one USB C)*
- Three ports in back of instrument *(two USB A and one Ethernet)*
- Power supply and power cord
- Phone/online applications support during set-up

### Instrument specifications:

| | |
|---|---|
| **Weight:** | 24 lbs (10.5 kg) |
| **Dimensions:** | Width: 9.9″ (25 cm)<br>Depth: 13″ (32.8 cm)<br>Height: 18.7″ (47.5 cm) |
| **Input to power adapter:** | 100-240 VAC, 50/60 Hz, 1.5A |
| **Output to instrument:** | 12 VDC, 10A |
| **Display:** | Touchscreen (10.1″) with advanced touch capabilities |

### Imaging performance:

**Cell size:** 5 – 80 microns

**Conc. range:** $2x10^4$ – $4x10^7$ cells/ml

Brightfield imaging, fluorescent imaging, and pattern-recognition software to quickly and accurately decluster, identify, and count individual cells.

### Fluorescence optics:

**Excitation/emission:** 470 nm/534 nm

**Example Fluorophores:**
- Acridine Orange (AO)
- Calcein AM
- CFDA
- GFP (Green Fluorescent Protein)

**Excitation/emission:** 531 nm/655 nm

**Example Fluorophores:**
- Propidium Iodide (PI)
- Ethidium Bromide (EtBr)

For research use only.
Not for use in diagnostic procedures.

- Introduction
- Features and benefits
- Technology
- Reagents and consumables
- Software
- Performance
- Specifications
- Support
- Contact us


# Count on our support.

Revvity focuses on providing laboratory solutions and support to meet and exceed today's researcher's specific needs. We collaborate with customers every day, analyzing new cell types, analyzing new cell-based assays, and exploring new therapeutic areas and methodologies.

Through joint application development, we learn from our customers and assist with integration into their current workflows. Our specialist are committed to globally supporting cell quantification, in-depth analysis, and optimizing cell-based assays in academic and government research institutions, biotechnology, industrial settings, and more.

## Instrument support services

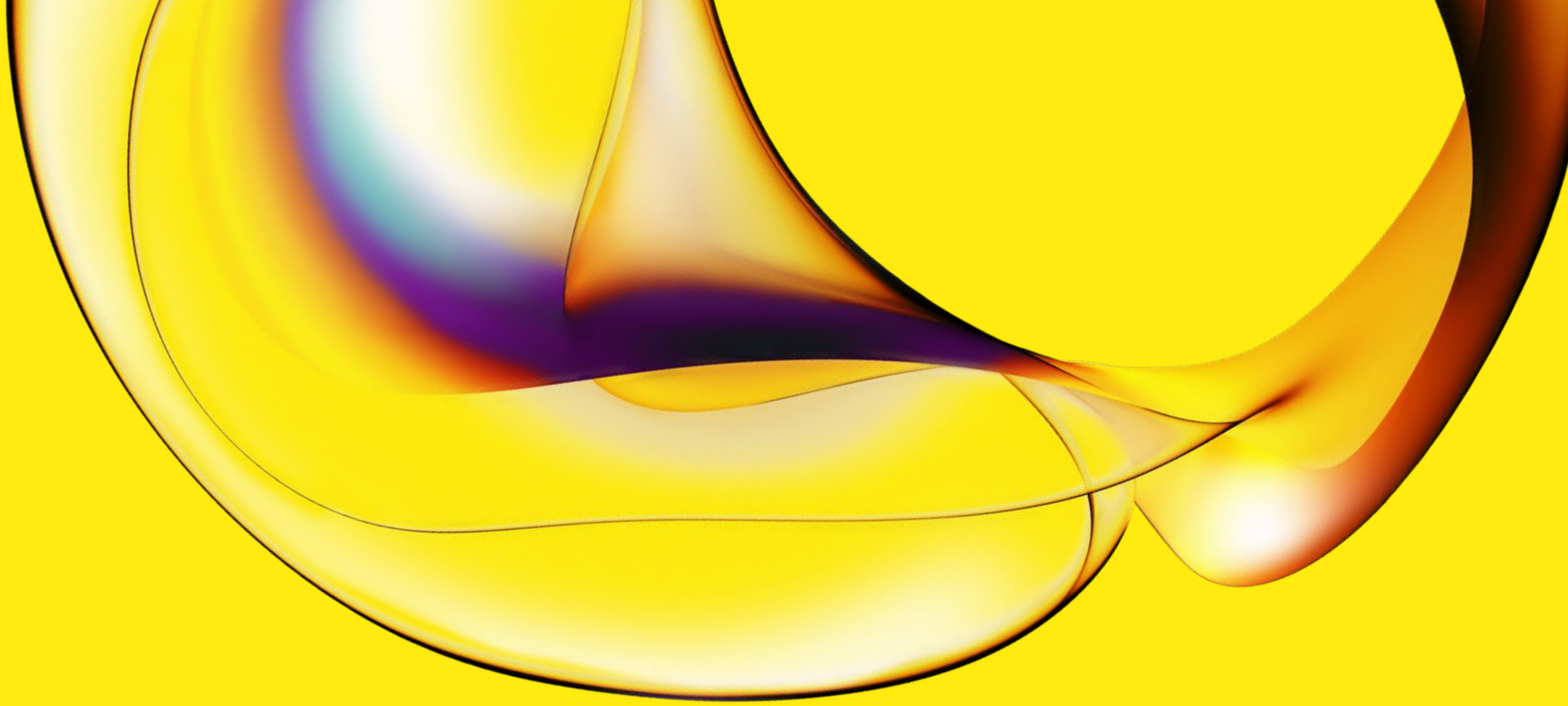
Maintaining labs is never easy, especially when an instrument is down. We know you're responsible for the performance of your laboratory, and we make sure nothing holds you back. Our field service engineers, manufacturing site technical services, and research and development teams are here at your disposal to ensure maximum uptime.

You need instruments to be reliable and running with minimal downtime, and you want flexible service agreements that are easy to comprehend. We understand, and we're here to help.

## Education services

Whether you are looking for a basic instrument refresher course, simple troubleshooting techniques, general application support, or method optimization, our field application scientists or service engineers will come directly to your lab. Through education, you will gain knowledge and insights into the latest techniques, not only increasing your confidence, but also unlocking the full potential of your instrument.

For research use only.
Not for use in diagnostic procedures.



**www.revvity.com**

revvity

**For a complete listing of our global offices, visit www.revvity.com**
Copyright ©2024, Revvity, Inc. All rights reserved.

1353388