

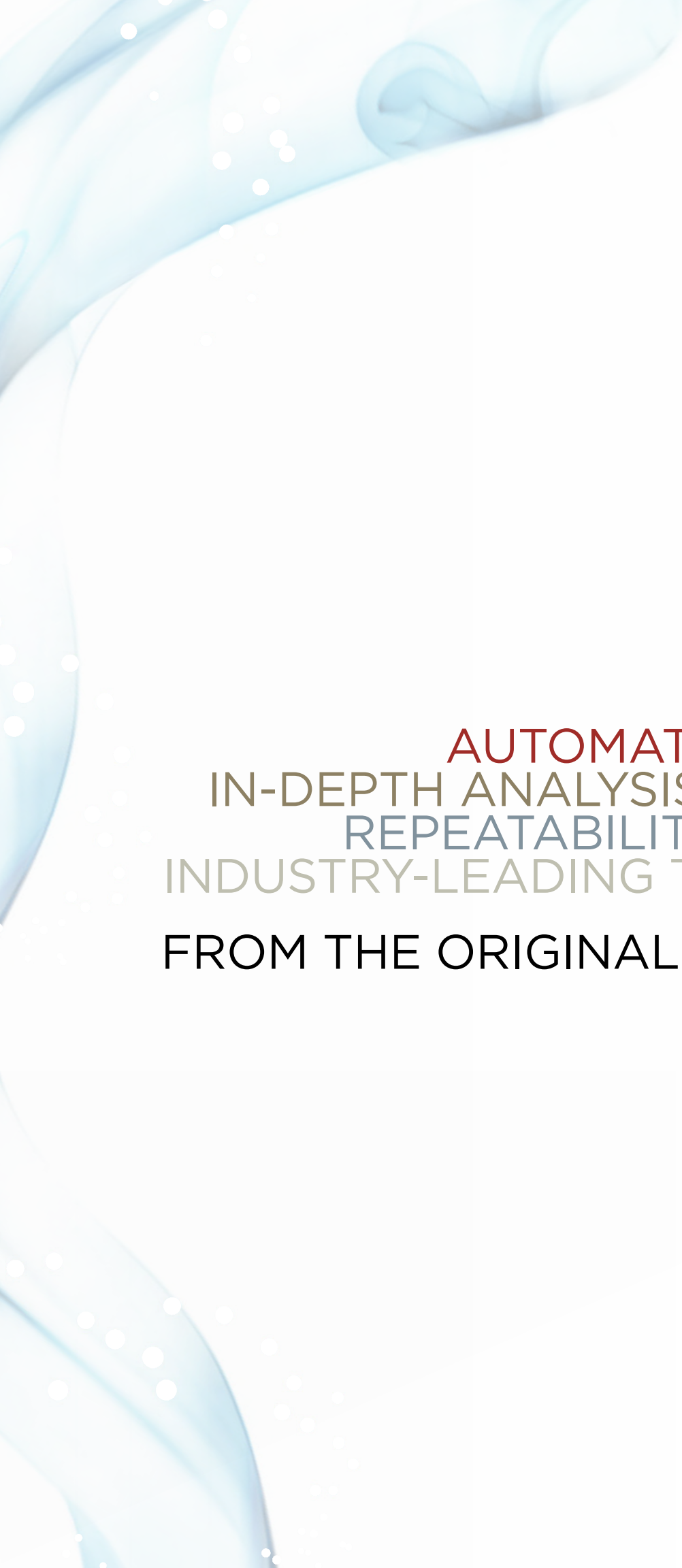
# CELL COUNTING, SIZING, AND VIABILITY SOLUTIONS

QUANTIFIABLE INNOVATION.

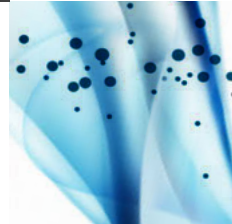


Characterized  
*by ingenuity*





AUTOMATED INTUITIVE  
IN-DEPTH ANALYSIS RELIABILITY  
REPEATABILITY ACCURACY  
INDUSTRY-LEADING TECHNOLOGY  
FROM THE ORIGINAL INNOVATORS



**1953** *Patent for the Coulter Principle*

**1954** *The first COULTER COUNTER*

**1999** *Digital Pulse Processing*

**2000** *Particle Image Analysis*

**2002** *Cellular Imaging Solution*

## > Discovery that inspired an entire industry.

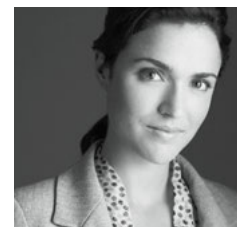
Since the invention of microscopes, technicians have spent countless hours on cell counting, with results frequently varying by operator. Wallace Coulter and his brother Joe were determined to find a better way.

In a small, basement laboratory in his Chicago home, Wallace experimented with generating measurable electrical pulses by the passage of cells through an aperture. After many trials, the method they finally discovered made it possible, for the first time, to count and size microscopic particles in three dimensions, at a rate of several thousand per second. And so, the Coulter Principle was born.

Today, the Coulter Principle is the most widely used method in the world for counting and sizing cells. In fact, more than 98 percent of automated cell counters incorporate it. Not only did the Coulter Principle help found the company that would become Beckman Coulter, it also launched the entire particle characterization field.

Wallace and Joe Coulter knew there was a better way to conduct cell counting, and their commitment to discovering it was unrelenting. That same passion lives on at Beckman Coulter today, both in our philosophy and in the instruments we create. We believe in the work you do and the difference it makes for all of mankind. We consider it our responsibility to continue to provide solutions that make your discovery process easier, more streamlined and more accurate.





# Vi-CELL XR Cell Viability Analyzer

Automated platform. Accelerated results.

Perfect for large-scale applications in medical, industrial and academic fields, the Vi-CELL XR Analyzer automates the widely accepted trypan blue dye exclusion method for cell viability that has historically been performed manually with a light microscope, pipette and a hemacytometer.

Thanks to cutting-edge liquid handling technology, the entire system—from sample aspiration to reagent handling to instrument cleaning—is fully controlled by an advanced,

yet easy-to-use software interface designed for maximum flexibility.

In about 90 seconds, the Vi-CELL XR measures 50 to 100 times the volume of the hemacytometer method with a more comprehensive number of parameters.

This instrument revolutionizes the speed, reliability and objectivity of your results, and provides critical information conventional methods simply can't offer.



## Vi-CELL XR Quad Pack

Beckman Coulter proprietary reagent solutions arrive in color-coded packs for quick and easy installation and, most importantly, validated reproducibility. In fact, Beckman Coulter reagents are manufactured in a clinical diagnostic grade facility, are premium-grade and are guaranteed with service contracts.



# Multisizer 4 COULTER COUNTER

**In-depth analysis. Incredible insight.**

As the most advanced COULTER COUNTER ever developed, the Multisizer 4 provides unmatched versatility and accuracy. The Multisizer 4 COULTER COUNTER is ideally suited for high-end academic and bio-research applications such as stem cell research.

The Multisizer 4 builds on the original Coulter Principle, adding a Digital Pulse Processor for ultra-high resolution, multiple-channel analysis and accuracy unattainable by other technologies. Specially designed low-noise electronics provide maximum sensitivity for small cells

(down to 0.4  $\mu\text{m}$  in diameter). Large cell types are also easy to measure due to advanced fluidics and a wide range of available apertures. The result is size distribution in number, volume and surface area in one measurement and a response that is unaffected by cell color, shape, composition or refractive index.

In addition, the smart technology integrated into the Multisizer 4 makes it incredibly easy to use with simpler and cleaner reagent handling, reduced noise and an overall uniform testing environment for repeatable, reliable results.



## Apertures and Accuvette Cups

Multisizer 4 apertures enable measurement of particles between 0.4  $\mu\text{m}$  and 1600  $\mu\text{m}$ .

Accuvette cups are available in sizes from 4 mL to 400 mL.



# Z Series COULTER COUNTER

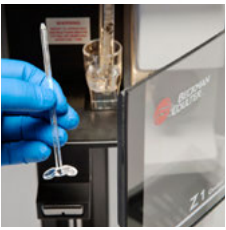
Robust and reliable characterization.

When you need a fast, easy and reliable method to count cells, Z Series analyzers provide the solution. They're perfect for cell culture, counting and splitting—or any application in which accurate and simple cell counts are required.

Using the Coulter Principle, Z Series instruments analyze thousands more cells in far less time than the manual method, producing more precise, reliable results. In fact, the Z series is considered the gold

standard against which many competitors measure the accuracy of their own entry-level cell counters.

Z Series instruments also have a small footprint that conserves valuable laboratory space, and the recessed sample platform allows sample vessels to be held safely in place during analysis. A well-recognized industry leader, the Z Series is the entry-level analyzer for your general cell counting needs.



## Apertures and Accuvette Cups

Z Series apertures enable measurement of particles between 1  $\mu\text{m}$  and 120  $\mu\text{m}$ .

Accuvette cups are available in 20 mL size.

## Z Pak

Z Paks are self-contained, disposable reagent packages that include electrolyte solutions and a waste container to ensure hazardous materials are isolated. Simply discard the empty container when finished and connect a new Z Pak.

# Particle Characterization

Solutions to revolutionize your process.

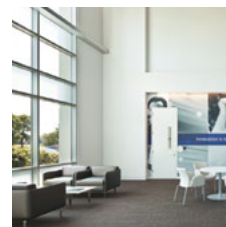
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With the Coulter Principle, Beckman Coulter effectively created the particle characterization field. Since then, we've continually introduced new innovations to improve your workflow—culminating in a full family of cell counters including our Vi-CELL, Multisizer 4 and Z Series Analyzers.

Each takes a different approach to helping you count and size cells, featuring sophisticated, industry-leading technology. They're powerful, versatile and precise platforms, yet still perfectly user-friendly and intuitive.

So, whether you're looking for full automation, in-depth results, or simply a level of reliability unmatched in the industry, you're sure to find a Beckman Coulter solution that answers the call.





# Beckman Coulter Cell Counting, Sizing, and Viability Analyzers

*Streamline your process. Open up the possibilities.*

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Since the invention of the original COULTER COUNTER, we have built a full family of innovations that streamline cell counting, sizing and viability analysis—thereby opening up new possibilities for you in life sciences.

Every solution we create starts with you, and the performance, accuracy and workflow efficiency you need. Reliable engineering is built in, so that you can count on your instrument to meet the demands of your lab time after time.

## Service and Support

When you invest in Beckman Coulter instruments, you're backed by an incomparable support organization. No matter where you are in the world, as a Beckman Coulter customer you have access to experienced, courteous service professionals. Each and every one has the same, extensive level of product knowledge, and the power to solve your problems quickly and efficiently—so you can return your attention to critical tasks.

**“There is no satisfactory substitute for excellence.”**

*Arnold O. Beckman, PhD*







## A global presence. Focused on individuals.

Our innovations happen behind the scenes. Yet we touch people the world over by developing, manufacturing and marketing systems that offer endless analytical possibilities in life sciences.

For over 75 years, we've built a global reputation for providing instruments that are relied upon to perform vital roles day in and day out. We know just how important your work is. That's why at Beckman Coulter, we remain focused on innovations that answer your needs—both today and far down the line.

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



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