

# XcytoMatic® 40

High-throughput cell count  
and viability analysis



**AUTOMATED**

**24**

**SAMPLE HANDLING**

## The cell count and viability analyzer for bioprocessing

Cell counting probably isn't the most exciting part of your day. We're OK with that. But we're not OK with unreliable cell count and viability analysis in cGMP manufacturing. The XcytoMatic® 40 (XM40™) is consistent by design. With a matte-black finish, it's sleek, but unassuming, sitting quietly without taking up much space.

But on the inside, state-of-the-art technology, powered by advanced algorithms and artificial intelligence, analyzes all kinds of cell types, at all kinds of cell densities.

In determining cell counting precision, we analyze the cell types that matter to our customers, mimicking real-world cell counting needs.

With the XcytoMatic® 40, measuring viable cell density has never been quite so precise—or freeing. The cell count is a small, but necessary step in your process, and we made it quick and painless so you can focus on getting your life-saving treatments to those that need it.



\*CV  $< 3\%$  when cell densities are  $> 1 \times 10^6$  cells/ml

## What do you call fast?

When you count dozens of cell samples per day, and hundreds per week, speed is of the essence.

The XM40™ takes about 35 seconds to analyze one cell sample—an entire carousel with 24 samples can be analyzed in 14 minutes, at a rate of 100 samples per hour. Processing time is not the only factor that affects your cell counting speed, however.

The XM40™ does not require any calibration nor does it require manual sample staining. The instrument just needs your cell sample and takes care of the rest.

## Automated sample handling and disposal

Each tube in the XM40™ carousel is loaded with just 50  $\mu$ l cell sample, saving your precious samples from going to waste.

Used tubes along with the cell sample are automatically dispensed into the waste containers. The XM40™ uses two reagents: XM Cell Stain 2 solution and XM Rinse 1.

The XM Rinse 1 solution automatically rinses the tubing of the instrument after cell counting is complete.

LOW SAMPLE VOLUME

50  $\mu$ l

100  
SAMPLES PER HOUR



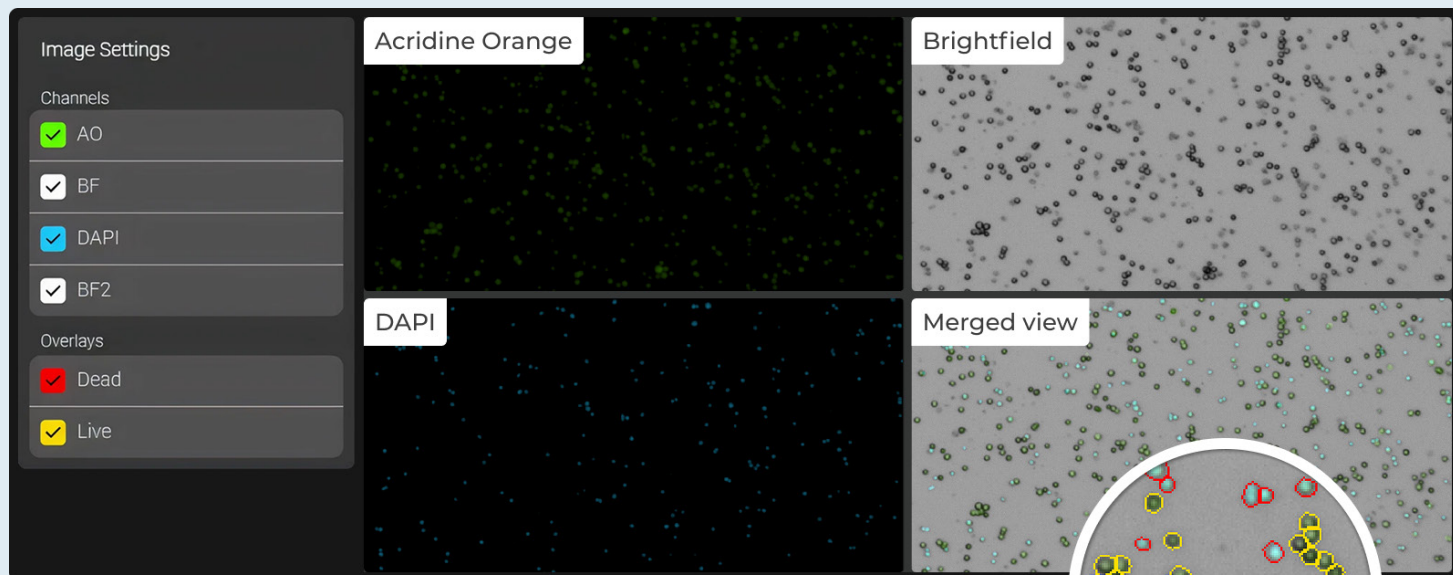
## XM-View™ : Powerful AI-based cell imaging software

Combine brightfield imaging with fluorescence for optimal cell detection and counting.

The XM-View™ software enables users to operate and visualize images acquired with the XM40™ instrument. Operators can examine images, browse through the acquisition channels (AO/DAPI/Brightfield), and apply overlays to distinguish between live and dead cells.

XM-View™ seamlessly integrates with other systems to facilitate data export and comply with 21 CFR Part 11 requirements.

### XM-View™



### Parameters Measured

- Total Cell Count (cells/ml)
- Live Cell Count (cells/ml)
- Dead Cell Count (cells/ml)
- Viability (%)
- Single Cell (%)
- Diameter ( $\mu\text{m}$ )
- Debris (count/ml)
- Red Blood Cells (RBC)

## Greater precision

We achieved even greater cell count precision with the XM40™. The intra-sample variation between all 24 samples in one carousel is under 3%\*

*\*Cell concentration:  $5.00 \times 10^4$  cells/ml*

## Instrument-to-instrument variation < 5%

At ChemoMetec, our standard for acceptable instrument-to-instrument variation may seem extreme. But standardizing the cell count is crucial when it's time to scale up and out. Our pre-calibration protocols ensure that each instrument is calibrated to a "gold standard" instrument before release.

The resulting instrument-to-instrument variation is therefore under 5%—an industry-leading figure.

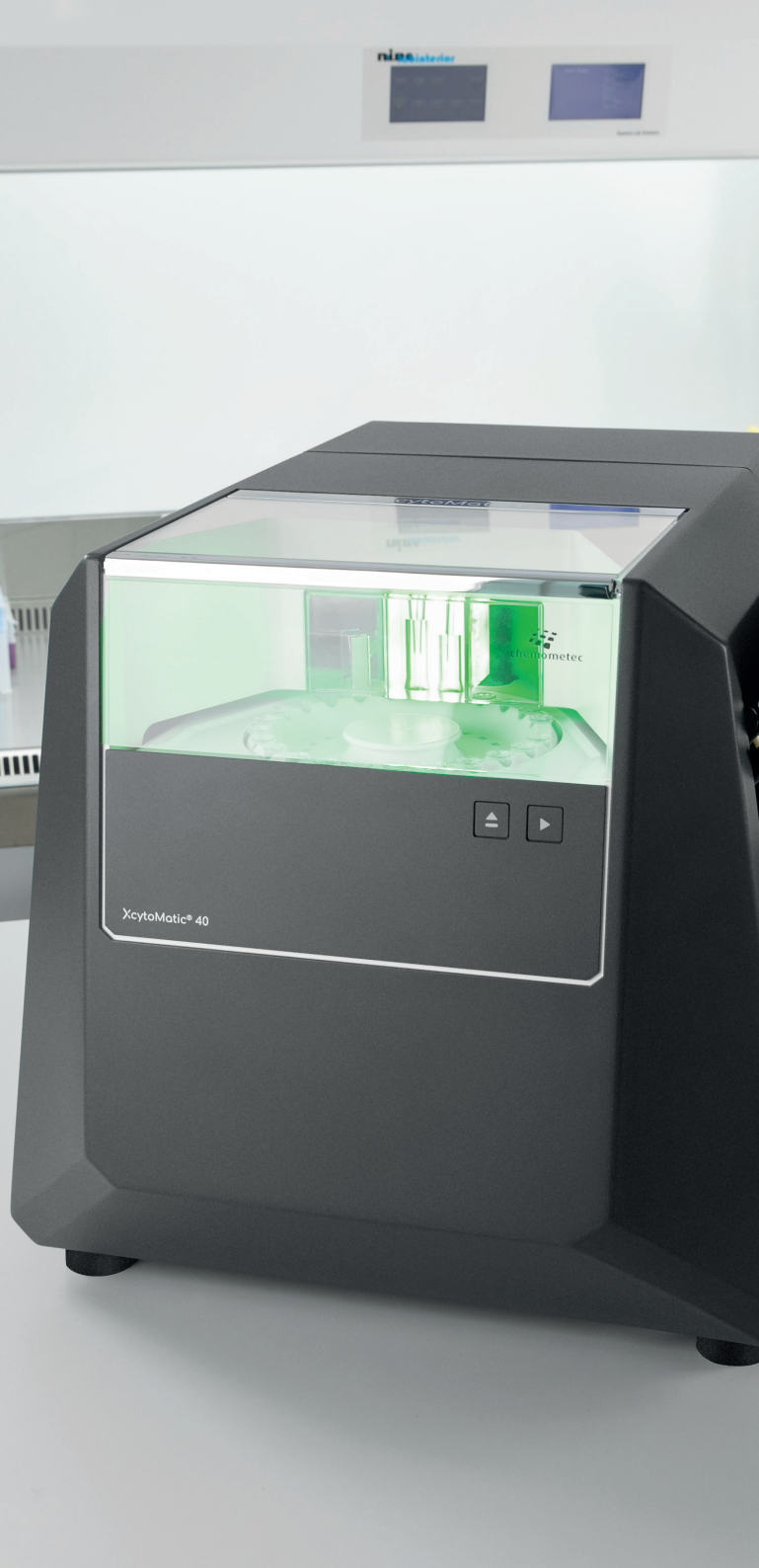
## Even greater accuracy with brightfield channels

Without using trypan blue, we added a brightfield channel to our technology. The combination of brightfield microscopy with fluorescence allows us to accurately measure cell diameter and cell debris. The added channel provides more data for analysis, increasing the versatility of the instrument.

## Service plan

Ensure peace of mind with an annual service plan and extended warranty coverage. This comprehensive package also provides priority access to ChemoMetec specialists, yearly on-site qualifications and valuable training sessions for GMP personnel.





## More convenience

### Count denser samples, without diluting

The expanded cell counting range on the XM40™ means your sample preparation steps can remain consistent as your cells grow.

The optimal cell counting range goes from 50,000 cells/ml to 100 million cells/ml.

### Consumables

The XM40™ carousel accepts 1.5 ml capless tubes. In addition, the XM40™ consumable package consists of long-lasting stain and rinse solutions.

The instrument automatically detects levels of reagents as well as noting the specific lot number and expiry date of the consumables.

## EXPANDED DYNAMIC RANGE

# 5 x 10<sup>4</sup>–1 x 10<sup>8</sup> cells/ml

## XcytoMatic® 40 advantages

### Walk-away cell counting

Count cells faster and minimize downtime from waiting around. You can order multiple carousels with your XM40™, so you may load one carousel while another is being analyzed.

### Cell debris measurement

Track cell debris like never before. The XM40™ provides cellular debris data as a quality parameter so you can track debris build up in cell culture or be alerted to potential contamination.

## Robust by design

The XM40™ is built with a durable all-metal construction, made to last. Pre-calibrated and ready to plug-and-play, expect greater uptime and reliability.

## Fixed focus

To avoid variations in how the microscope views cells, the lens magnification in our instruments is fixed. All cells within the cell counting chamber are thus analyzed, providing objective and representative cell counts.

## 21 CFR Part 11 ready

The XM40™ supports cell count and viability analysis in cGMP environments, like our other instruments.

## Impeccable customer support

We pride ourselves on our customer service, involving field application scientists and engineers that are ready to help you achieve quality results with your instrument.

| **AUTOMATED 24-SAMPLE HANDLING**

| **ROBUST BY DESIGN**

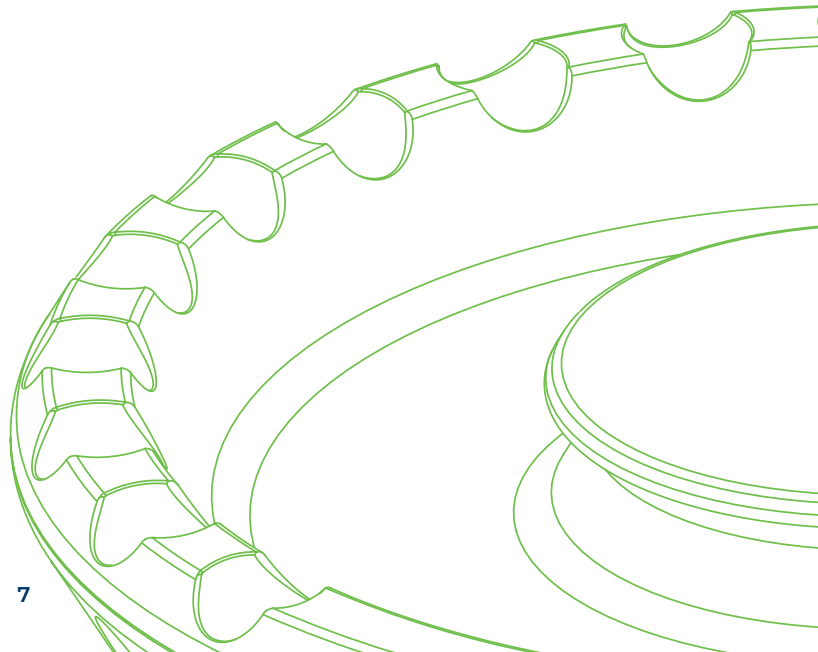
| **PLUG-AND-PLAY**

| **PRE-CALIBRATED**

| **DYNAMIC RANGE TO 10E8 CELLS/ML**

## Specifications

IQ/OQ/PQ kit	✓
21 CFR Part 11 module	✓
De-clustering algorithm	✓
Debris count	✓
Automated aspiration and sample mixing	✓
Autofill of sample ID	✓
Export results to PDF and CSV	✓
Consumables monitoring and alerts	✓
Auto-cleaning	✓
Maintenance cleaning procedure	✓
Fluorescence and brightfield-based analysis	✓



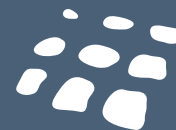
## About us

Founded in Denmark in 1997, ChemoMetec is a global supplier of automated cell counting and analysis equipment. We are dedicated to developing and manufacturing highly precise analytical instruments, empowering the life science industry to achieve reproducible results.

Our core focus lies in producing innovative cell counting solutions like the Xcytomatic® and NucleoCounter series. These instruments are recognized for their versatility and precision, making them ideal for applications ranging from process development, research and development, clinical- and commercial-grade manufacturing of cell and gene therapies and other biopharmaceuticals, upstream bioprocessing and academic research in diverse therapy areas.

With headquarters in Allerød, Denmark and multiple US offices, ChemoMetec offers dedicated support through its team of field application scientists and field service engineers. Our support team ensures seamless adaptation, installation and service of our products so that our customers obtain quality results.

Beyond providing state-of-the-art cell counters, ChemoMetec strives to be a true partner in the advancement of biopharmaceutical research and development. We actively engage with innovation hubs and life science incubators, collaborating with emerging biotech to understand their unique needs and challenges. Our curiosity and commitment to reproducible scientific methods fuels our continuous innovation in cellular analysis. No matter the cell type, sample or user, our products provide consistent and reliable results.



# chemometec

### Contact

[www.chemometec.com](http://www.chemometec.com)  
[contact@chemometec.com](mailto:contact@chemometec.com)

### ChemoMetec A/S

Gydevang 43  
3450 Allerød  
Denmark  
Phone: +45 48 13 10 20  
CVR-nr. 19 82 81 31

### ChemoMetec Inc.

29 Camp ST  
Cambridge, MA 02140  
United States  
Phone: +1 631 676 4237  
EIN No. 27-3548268

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