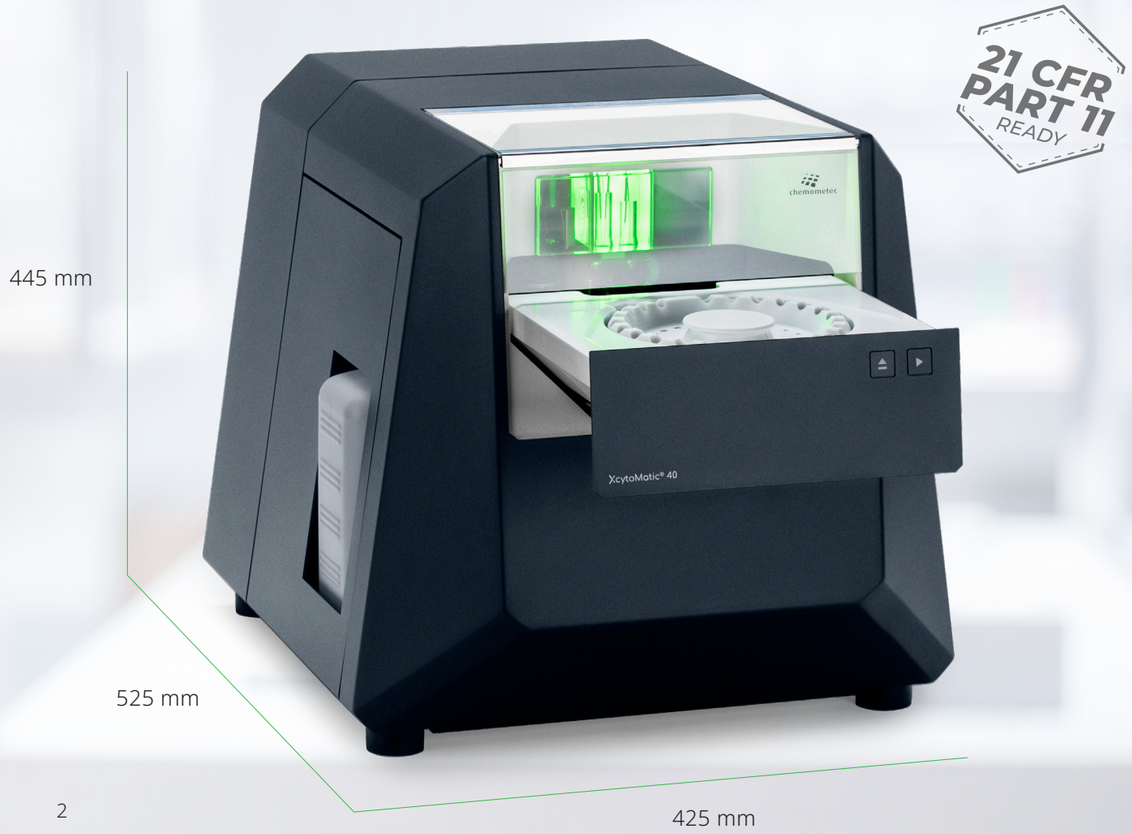
chemometec

XcytoMatic® 40

FAST AND ACCURATE HIGH-THROUGHPUT CELL COUNTER

XcytoMatic® 40

- High capacity: 24-sample carousel
- Fast: ~ 100 samples in 1 hour
- Low sample volume: 50 µL
- Trypan blue-free operations
- Wide cell counting range: 50 000 - 100 million cells/mL
- Automatic sample handling and cleaning



Cell Counter for High-Throughput Operations

When high-throughput cell counting is critical, the XcytoMatic® 40 (XM40™) delivers fast and reliable results. Processing up to 24 samples per run and up to 100 measurements per hour, it supports demanding process development, analytical, and QC workflows.

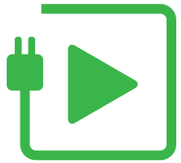
Cell-specific AO/DAPI staining combined with brightfield and fluorescence imaging allows for accurate cell identification across a wide range of mammalian cell samples.

In addition to cell count and viability, the XM40™ reports key quality attributes including debris, aggregate percentage, and cell diameter, providing deeper insights for process development and manufacturing control.

Read more about the XM40™ on our website

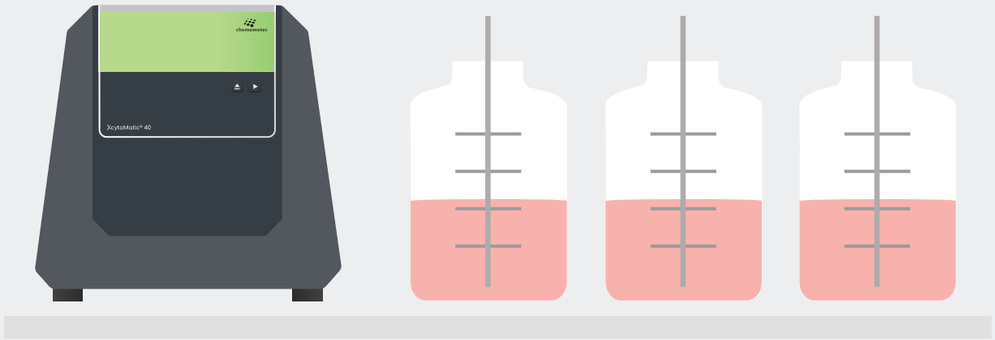
Advantages of XcytoMatic® 40

Plug-and-Play Workflow
Standardized protocols enable immediate analysis of a wide range of mammalian cell samples, including high-debris cultures, mixed cell populations and non-nucleated cells.



Reliable Scale-Up & Scale-Out
Volume-calibrated flowcell, fixed-focus optics, fully automated sample handling, and high analysis volumes deliver consistent and robust measurements across operators, instruments, and sites.

Sample-to-sample variation	Instrument-to-instrument variation
<3%	<5%



Handles High-Density Samples
The XM40™ supports monitoring of bioreactor cultures throughout the entire process without extra dilution steps.

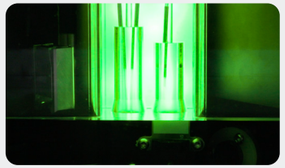
From 50 000 to 100 million cells/mL

Counts Aggregated Cells
The XM40™ offers dedicated assays for reliable viability and concentration measurements of aggregated cell types.

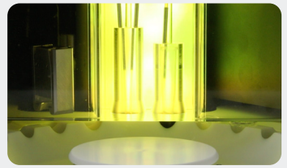
Debris Quantification
Debris is reported as an additional parameter alongside cell count and viability to give insight into culture performance or potential contamination.

Cell Diameter Measurement
The XM40™ reports median cell diameter as a standard result parameter, used in monitoring culture state, cell activation, and expression performance.

Advanced Design

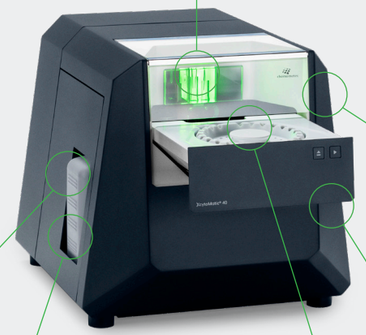


SAMPLE ANALYSIS
Brightfield and fluorescence imaging in volume-calibrated flowcell



SAMPLE MIXING
50 µL of the sample is automatically mixed with the staining solution

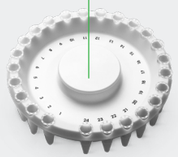
LIQUID WASTE
Trypan blue-free liquid waste in an easy-to-replace bottle



XM RINSE
Minimizes the risk of sample carryover, even with the stickiest samples

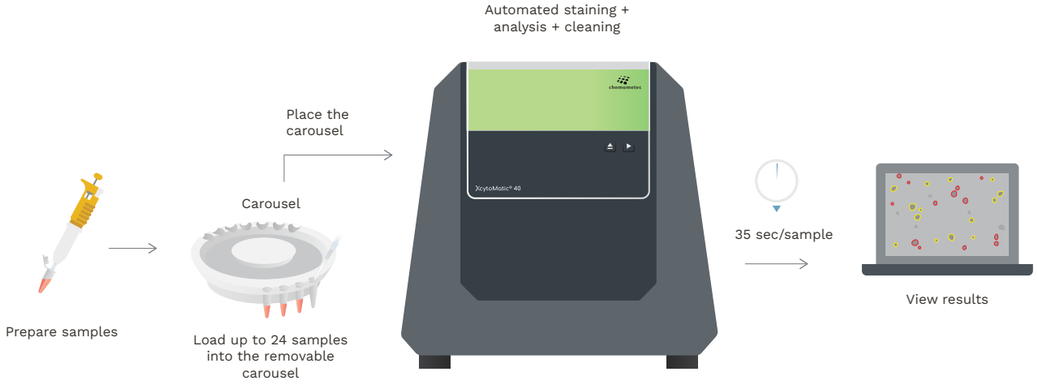
XM CELL STAIN
Mix of AO and DAPI fluorescent dyes

TUBE WASTE
Collects all empty tubes in one container



CAROUSEL
Replaceable carousel, which takes up to 24 samples

Simple Workflow



Carousel Benefits

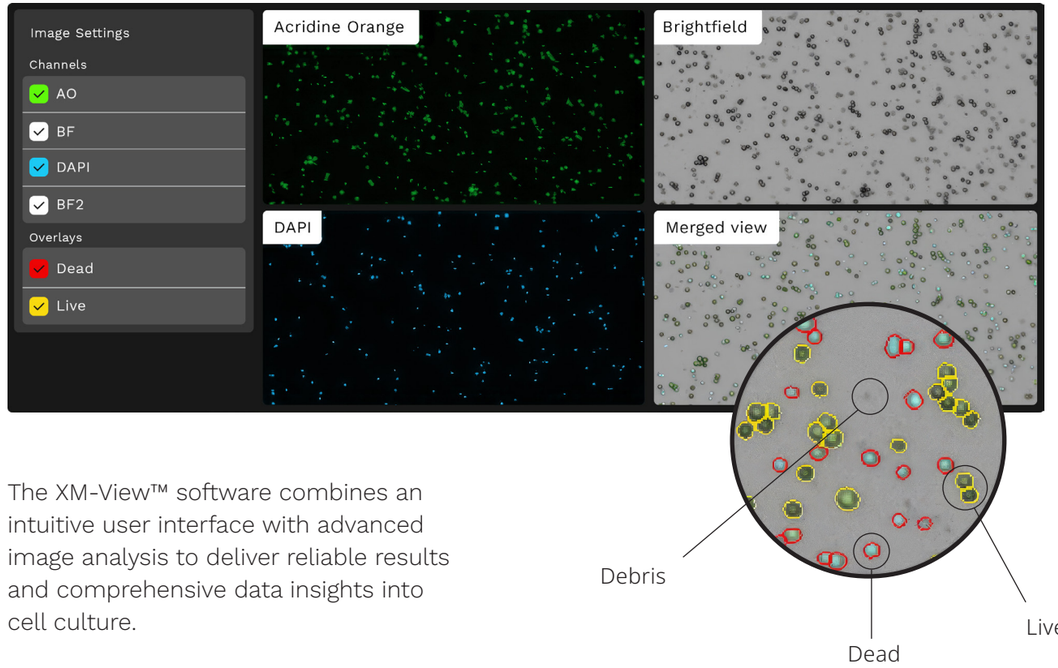
Easy Sample Handling
Cap-free microtubes simplify sample handling and preparation. Each run accommodates up to 24 samples.

Removable
Analyze one carousel while preparing the next, enabling throughput of up to 100 samples per hour.

Automatic Sample Detection
The XM40™ automatically identifies sample positions upon loading and can match them with pre-filled sample names.

Can Be Autoclaved
Designed for laboratory environments, the carousel can be autoclaved for safe operations.

XM-View™: Streamlined Data Acquisition and Management



The XM-View™ software combines an intuitive user interface with advanced image analysis to deliver reliable results and comprehensive data insights into cell culture.

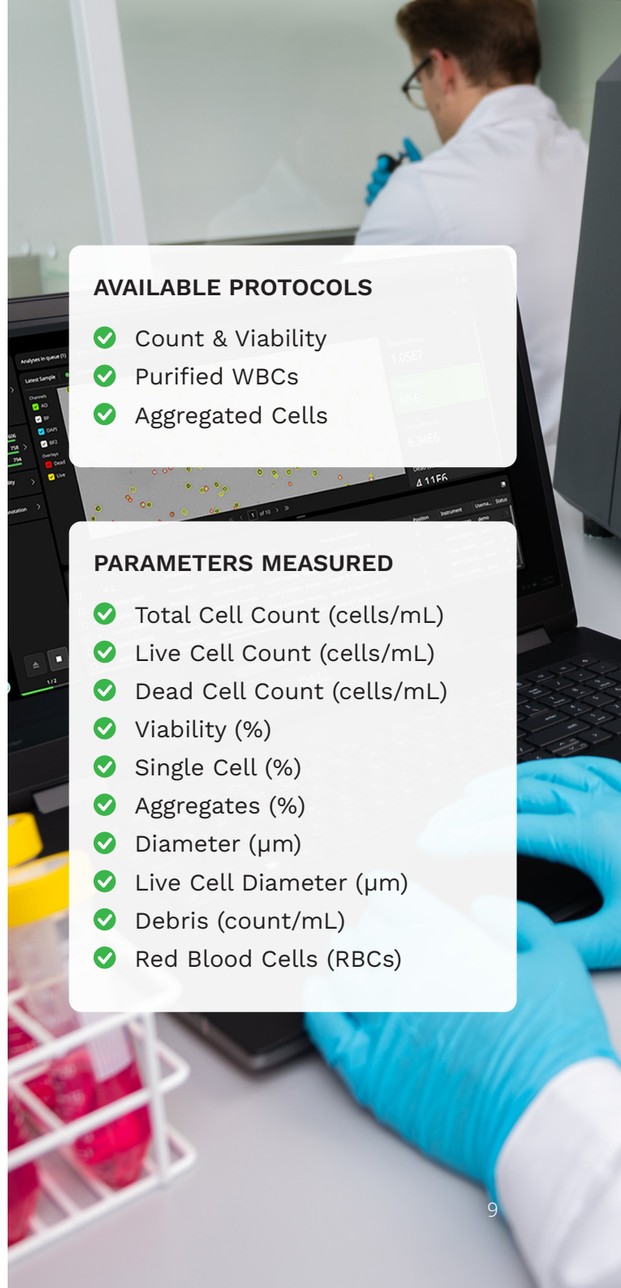
Count Any Sample
Pre-validated protocols enable standardized cell counting across most mammalian cell types without parameter adjustments.

Continuous Workflow
Review results, export data, and prepare new analyses while measurements are running in parallel.

API Integration
Integrate seamlessly with LIMS and data management systems for automated data transfer.

Sample Quality Control
Automated quality control detects artifacts, sample movement, and inconsistencies to ensure reliable results every time.

21 CFR Part 11 Ready
Support compliant electronic records, audit trails, user access controls, and electronic signatures for GMP-regulated environments.



AVAILABLE PROTOCOLS

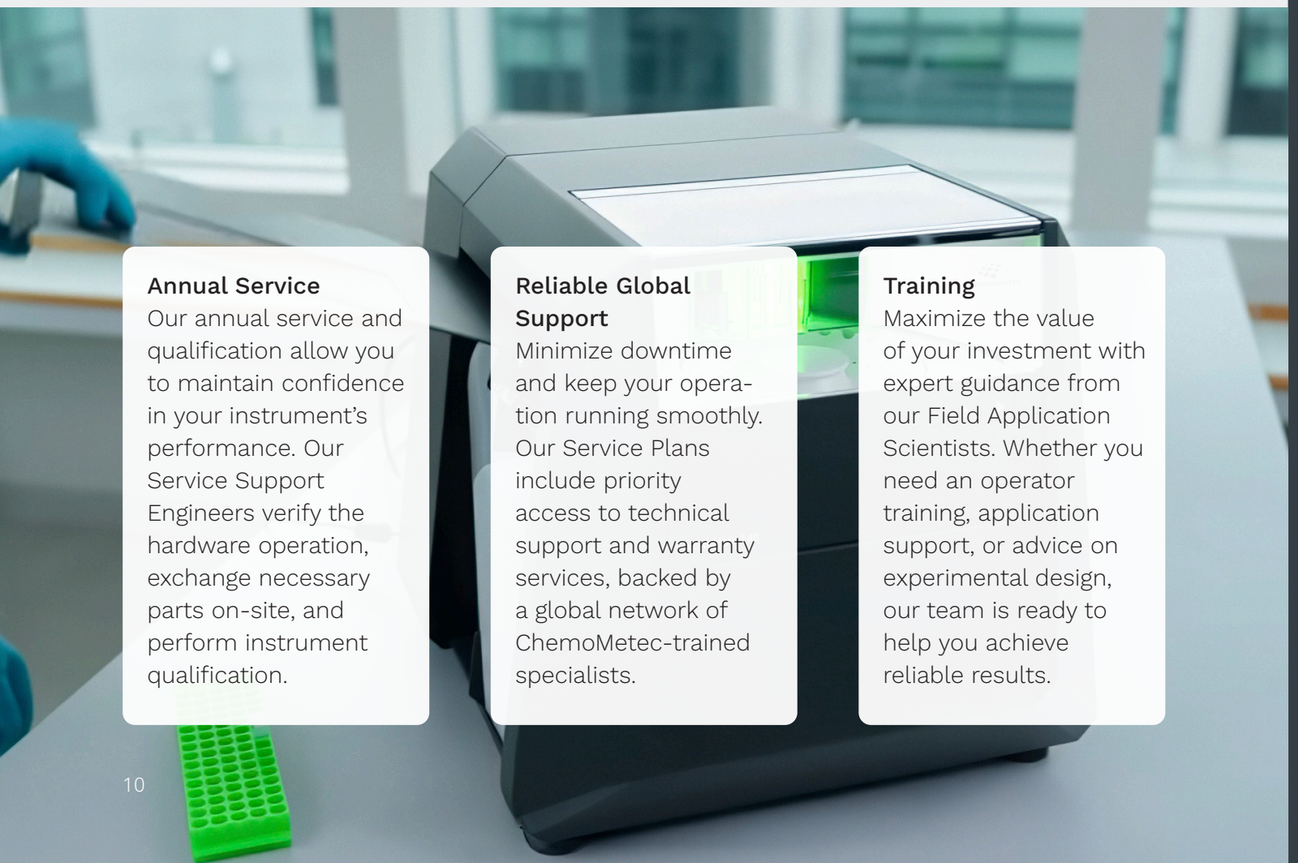
- Count & Viability
- Purified WBCs
- Aggregated Cells

PARAMETERS MEASURED

- Total Cell Count (cells/mL)
- Live Cell Count (cells/mL)
- Dead Cell Count (cells/mL)
- Viability (%)
- Single Cell (%)
- Aggregates (%)
- Diameter (µm)
- Live Cell Diameter (µm)
- Debris (count/mL)
- Red Blood Cells (RBCs)

Exclusive Support for Your XM40™ Operations

Our Service Plans provide priority access to ChemoMetec's scientific and technical experts, supporting you throughout the entire instrument lifecycle.



Annual Service
Our annual service and qualification allow you to maintain confidence in your instrument's performance. Our Service Support Engineers verify the hardware operation, exchange necessary parts on-site, and perform instrument qualification.

Reliable Global Support
Minimize downtime and keep your operation running smoothly. Our Service Plans include priority access to technical support and warranty services, backed by a global network of ChemoMetec-trained specialists.

Training
Maximize the value of your investment with expert guidance from our Field Application Scientists. Whether you need an operator training, application support, or advice on experimental design, our team is ready to help you achieve reliable results.

Specifications

MODEL

Instrument	XcytoMatic® 40
Product Number	900-0040

DIMENSIONS

Width	425 mm	16.73 in
Height	445 mm	17.52 in
Depth	525 mm	20.67 in

WEIGHT

~ 45 kg (~ 99 lb)

SOFTWARE

XM-View™

CONSUMABLES

XM Cell Stain 2, XM Rinse 1, XM Liquid Waste Container 1, Tube Waste Container, XM Sample Tube 1

STAINING DYES

Acridine orange (AO) and DAPI

Book an XM40™ Demo

APPLICATIONS

Count and Viability analysis of primary cell types (e.g PBMCs, MSCs) and established cell lines (e.g. CHO, HEK, A3)

PERFORMANCE

Counting range	5 x 10^4 – 1 x 10^8 cells/mL
Measurement time	35 seconds/sample
Sample volume	50 µL
Max. sample capacity	24 samples/run
Variations	Sample-to-Sample: <3%
	Instrument-to-instrument: <5%

API INTEGRATION

Available

DATA EXPORT

PDF, Excel, CSV, and clipboard

OPTICAL & FLUORESCENCE

Optics	Lens with ×2.1 magnification, 2/3" CMOS
Excitation	3 LED light sources with peak wavelengths at 365 nm, 430 nm, 505 nm
Emission	A single dual-band emission filter: 410–460 nm and 540–650 nm

About us

Founded in Denmark in 1997, ChemoMetec is a global supplier of automated cell counting and analysis equipment. We develop precise instruments like the XcytoMatic® and NucleoCounter® series, ideal for applications in process development, R&D, clinical and commercial manufacturing of cell and gene therapies, upstream bioprocessing, and academic research.

Headquartered in Allerod, Denmark, with multiple US offices, we provide dedicated support through our field application scientists and engineers, ensuring seamless adaptation, installation, and service. Beyond providing state-of-the-art cell counters, ChemoMetec partners with biopharmaceutical organizations to support research and development.

We collaborate with innovation hubs and biotech companies to understand their unique needs and challenges, driving continuous innovation in cellular analysis.

Our commitment to reproducible scientific methods ensures our products deliver consistent and reliable results for any cell type, sample, or user.

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The instrument and the specifications shown may differ from the final version.

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