

PRODUCT OVERVIEW 2020



FLOW CYTOMETRY



CENTRIFUGATION



LABORATORY AUTOMATION



GENOMICS



PARTICLE ANALYSIS

ADVANCING SCIENCE
through discovery.


**BECKMAN
COULTER**
Life Sciences



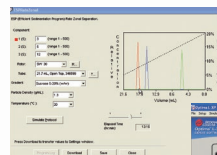
CENTRIFUGATION

Virus purification, organelle purification, exosomes, extra cellular vesicles, DNA purification, cell cultures, cytoplasm, elutriation, lipoproteins, nano particles ...

Optima XPN/XE-Series Preparative Floor-Standing Ultracentrifuges

Our Optima XPN/XE Series ultracentrifuges provide speeds to 100,000 rpm (802,000 x g) and offer intuitive operation coupled with powerful onboard features such as eXPert software for method development. These are network compatible and offer a connection to mobile handheld devices with the MobileFuge-App.

- Exclusive safety concept with Rotor-Safety-System, Dynamic Rotor Inertia Check (DRIC)
- Innovative concept for the management of voltage fluctuations and power failures
- BioSafe*-Concept for laboratory ware, rotor and centrifuge
- Rotor volumes up to 1,675 ml
- Variety of swing-out, fixed angle, vertical, and near-vertical, zonal and flow rotors



NVT 100



SW 32 Ti



45 Ti



Optima XPN

Optima MAX-Series - Table Top Ultracentrifuges

The Optima MAX Series ultracentrifuges provide speeds to 150,000 rpm and generate centrifugal forces to over 1,000,000 x g. With an extended volume range, these space-saving ultracentrifuges can present a credible alternative to floor-standing models.

- Sample volumes from 175 µl - 194 ml
- Biological safety through the BioSafe*-concept for centrifuges rotor and labware
- MAX-XP-Software enables extended safety concept (User log in, password)

Optima MAX-XP



MLA-55

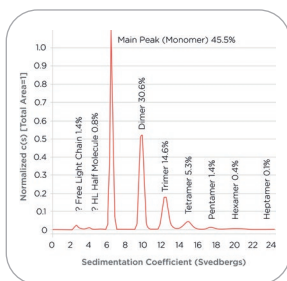


MLA-150

Optima AUC - Analytical Ultracentrifuges

With the Optima AUC, macromolecules and nanoparticles can be precisely characterized. Mass of free molecules, stoichiometries, form parameters and thermodynamic parameters can be directly determined- absolute, that is, without comparison to standards.

- Separation and optical measurement in one step
- Max. speed of 60,000 min⁻¹
- Freely selectable buffer or solvents
- Characterization of heterogeneous samples
- AUC reliably detects low sub-populations, e.g. aggregation proportions of <1%



Optima AUC



JA 30.50

All-Spin
JS-5.3

JLA 8.1000

Avanti JXN-Series – High Performance Centrifuge

The Avanti JXN-Series high performance centrifuges have impressive versatility paired with many innovative new features. Speeds are available to 30,000 rpm (110,500 x g) and volumes to 6 liters, offering diverse solutions to separate cells, extra-cellular vesicles, proteins and nanoparticles.

- BioSafe*-concept for centrifuge, rotor and labware
- Sample temperatures of +4°C at all rotor speeds (Avanti JXN-30)
- GMP-friendly data management, network connection
- J-Lite rotor design for manageable handling of large volume rotors



Avanti
JXN-30



Avanti J-15R



Allegra X-30



MobileFuge

Table Top Centrifuges

The table top centrifuges of the Allegra and Avanti series fit a broad range of applications through sample volumes of just a few µl to 3 litres and speeds generating centrifugal forces to 64,000 x g.

- First-time use of Ultra Harmonic Technology (UHT) for the Avanti J15
- Tube (vial), adapter, bottles and microtiter plate usage possible



Microfuge-Series – Microcentrifuges

Small, quick and versatile. Microcentrifuges from our Microfuge-Series are designed for 1.5 and 2 ml microcentrifuge tubes (vials) and also for PCR-tubes (vials)



Microfuge 16

Microfuge 20

Labware

- A large choice of tubes (vials) and tube closure systems are available
- **NEW:** now certified-free (DNAse, RNAse and Endotoxin free) and sterile ultracentrifugation tubes available



Tube Materials and Their Properties

Property	Thinwall Polypropylene	Thickwall Polypropylene	Ultra-Clear™	Polycarbonate	Polyethylene	Cellulose-propionate	High-grade Steel	Teflon
Optical	transparent	translucent	transparent	transparent	transparent / translucent	transparent	not transparent	not transparent
Autoclaveable	yes	yes	no	no	no	no	yes	yes
Puncturable	yes	no	yes	no	yes	no	no	no
Sliceable	yes	no	yes	no	no	no	no	no
Reusable	yes	yes	no	yes	no	no	yes	yes
Acids (dilute or weak)	S	S	S	S	S	S	S	S
Acids (strong)	S	S	U	U	S	U	S	S
Alcohols (aliphatic)	S	S	U	U	S	U	S	S
Aldehydes	M	M	S	M	S	U	S	S
Bases	S	S	U	U	S	U	S	S
Esters	M	M	U	U	S	M	S	S
Hydrocarbons (aliphatic)	S	S	U	U	U	S	S	S
Hydrocarbons (aromatic and halogenated)	M	M	U	U	M	S	S	S
Ketones	M	M	U	U	M	U	S	S
Oxidizing Agents (strong)	M	M	U	M	M	M	S	S
Salts	S	S	M	M	S	S	S	S

S = satisfactory resistance

M = marginal resistance

U = unsatisfactory resistance



CLINICAL FLOW CYTOMETRY

Flow Cytometer for IVD use. High-complex analysis and fully automated workflows.

DxFLEX - Flow Cytometer

High resolution and intuitive software solutions simplify DxFlex workflows both for beginners and experts alike.

Reliable results

- Detection of low-fluorescent populations due to ADP-Technology
- Up to 13 color CE-IVD marked fluorochromes to maximize sample analysis
- Tools for simplified data analysis
- Optimized resolution and linearity

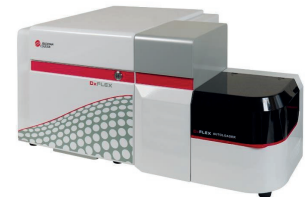
Excellent efficiency

- Simple and easy to use compensation due to the linearity of the semiconductor.
- Space saving small footprint



NEW

DxFLEX



Navios EX* - 10 color-Flow Cytometer

Intended for in-vitro diagnostic use

- Up to 3 lasers, 12 parameters
- 25,000 events per second
- Integrated vortex
- 32 sample carousel with integrated bar code reader
- LIS connectivity

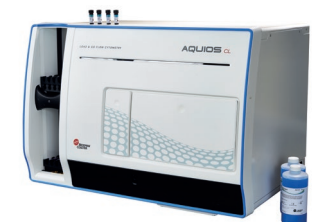
AQUIOS CL - Load & Go Cytometer

streamlines operations by incorporating automated loading, sample preparation, reagent management, and barcode scanning.

- SIRO "sample in - result out" technology
- Insert primary tube (vial) and go!
- Cap piercing, pipetting, incubation, lyse and acquisition is fully automatic
- LIS Connectivity with Host Query Mode
- AQUIOS Designer Software provides an intuitive and user-friendly interface with powerful features to set up your user-defined protocols, acquisition templates, panels, compensation settings, and statistic / QC parameters.



Navios EX



Aquios





RESEARCH FLOW CYTOMETRY

CytoFLEX* Plattform



Flexible Flow Cytometer with 1-6 Laser and 6-23 Parameters

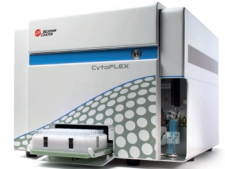
... optimally combines excitation and emission, thereby achieving maximum sensitivity. Detection of extracellular vesicles; Measurement of bacteria, bacteriophages, yeasts, cells or similar can be easily realized. With up to 6 lasers and up to 21 fluorescence avalanche photo diodes (plus 2 scatters) this system leaves nothing to be desired.

- Compact bench-top flow cytometer
Easy to Use, intuitive software and compensation
- Single sample feed and MultiPlateLoader available
- Absolute cell count without reference beads,
- 30,000 events occurrences per second, 24 bit, 7 decades

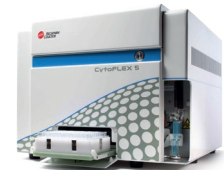
MoFlo Astrios* High Speed Sorter

MoFlo Astrios* jet in air based sorter, with or without bio-safety hood, suitable for use in S2 environment. Areas of application, High Speed Sorting, research and development, industrial sorting.

- 70,000 eps Sort-Mode
- 6-way sort; patent pending
- Laser engine with up to 7 lasers "onboard"
- 49 PMT available / 32 fluorescences measurable simultaneously
- Aerosol evacuation (AES) and
- Adapted Biosafety-Hood available



CytoFLEX*



CytoFLEX S*



CytoFLEX LX*



MoFlo Astrios*

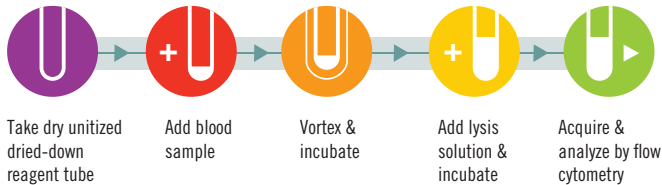


REAGENTS AND SOFTWARE

DURAClone* Antibody Panels

Beckman Coulter's DURAClone* dry reagents are shelf-stable at room temperature, ready-to-use, affordable, and accurate. DURAClone* dry reagents simplify your workflow, minimize your hands-on time, and deliver the same consistent performance as liquid reagents.

- Stable at room temperature even after opening the pouch – no cold chain storage necessary
- Produce a single batch that you can store at room temperature for the duration of a study
- Single use tube or microtitre plate formats
- Two to 10 colour cocktails
- Product provided in a light-impermeable pouch
- Option to include calibration beads for absolute cell counting
- Ready to use kits available or made as a CDS product per customer request



DURAClone*

LUCID* - Custom Design Service

With this service, almost all products of our catalogue, but also one's own antibodies or those acquired from other manufacturers can be manufactured to customer specifications, including configuration, conjugation, and quantities.

- Manufacture of bulk quantities
- Conjugation of customer's own antibodies
- Manufacture of Multicolour cocktails
- All products also available as DuraClone
- Stable at room temperature



Contract Manufacturing Services

Beckman Coulter manufactures the components for your specific test reagents under GMP conditions, accordingly to your specifications.



ClearLLab 10 Color System - All pieces are in place

Integrated L&L** solution for Immunphenotyping and analysis for lymphoid and myeloid neoplasie

ClearLLab 10c are In-vitro diagnostic tests for qualitative identification of cell populations with multiparameter Immunphenotyping using Navios and Navios EX flow cytometer.

- Ready-to-use ClearLLab CE-IVD 10 color panel
- Process control (normal/abnormal)
- 500 pages Case study book
- Simple analysis with Kaluza C analysis software

Software Solutions

The recently Cytobank addition in our Software portfolio enables you to get additional information from your flowcytometry data analysis. Are you single user or part of a multi center group? We have the right solution for you available.



Cytobank is cloud-based software solution, which enables you to analyse and visualize multiple single data sets at the same time to increase productivity in Research.

- Enhance the depth of your analysis performance
- Access to tools to increase a powerful analysis and visualization
- Reduction of analysis time by using complex algorithm for your data

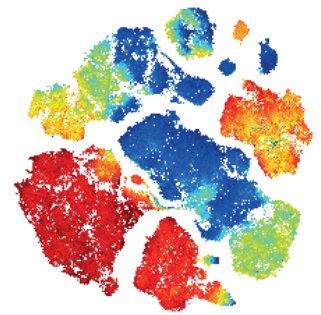
Kaluza* - Analysis Software

The KALUZA* Analysis Software combines the innovative simplicity of novel display options with high performance analysis of Multicolour-Cytometry-Datasets.

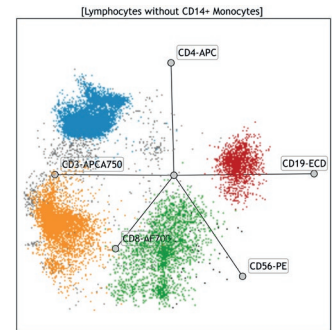
- Real-time analysis
- Tree Plot; Radar Plot, Histogram Overlay
- Computable with files from other vendors

Kaluza C - Clinical Analysis Software

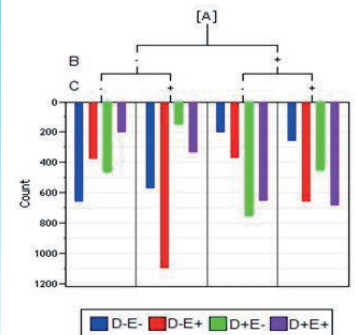
IVD Software for fast analysis of clinical data



VISNE
(Cytobank)



Radarplot
(Kaluza)



Treeplot
(Kaluza)

* For Research Use Only, Not for Diagnostic Purposes.

** For lymphoma this refers to Non-Hodgkin's lymphoma only.



LIQUID HANDLING

Automated Workstations

Biomek i-Series

Engineered to optimize walk-away time in mid- to high-throughput labs.

- Onboard cameras provide live broadcast and on-error video capture enabling remote diagnostics and expediting service response
- Rotating gripper with unique offset finger design optimizes access to high-density decks for more efficient workflows.
- Large-volume, 1mL multichannel head with selective tip pipetting
- Multiple color- and pattern-coded status light bar instantly alerts you to the instrument's current mode.

Biomek i7

- Large deck capacity with 45 positions allow full walk-away for complex protocols
- Ultimate flexibility through combinations of multichannel head (96/384) and span-8 with gripper
- Modular deck allows the user adaptation for changing workflows

Biomek i5

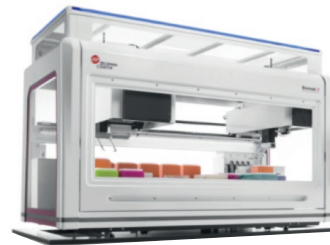
- 25 deck positions
- Compact instrument with large deck capacity allows full automation in small lab spaces
- On deck device integrations for changing workflow needs
- Available configurations:
 - Multichannel head (96/384) with gripper
 - Span-8 with gripper

Biomek 4000

Low-throughput system, ideal for smaller laboratories and/or those new to automation.

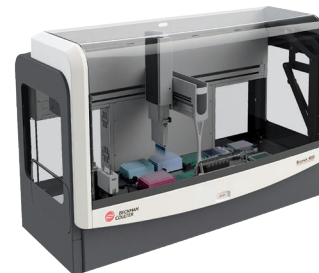
- Available configurations: 1 - 1,000 μ L pipetting for single- and 8-channel
- Ready-to-run methods for Agencourt SPRI reagents and demonstrated methods for: NGS sample Prep, PCR, Cellular staining, CE-SDS proteomic applications
- Intuitive icon-based software

**Biomek i7
Automated Workstation**



**Biomek i5
Automated Workstation**

**Biomek 4000
Automated Workstation**
Shown with optional enclosure.



Acoustic Liquid Handler and Integrated Workstations

Echo-Series - Acoustic Liquid Handlers

Non-contact, ultra low-volume liquid transfers through sound energy.

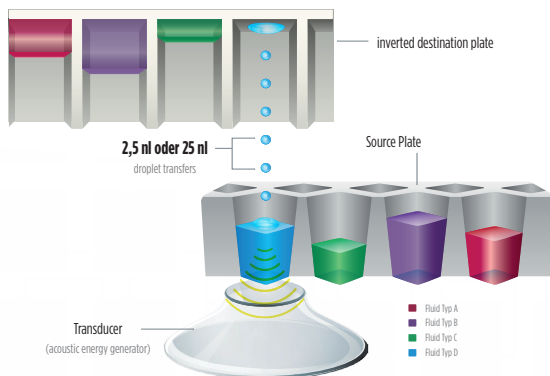
- High-precision, high-speed - No risk of carryover or cross-contamination
- 2.5 nL - 25 µL dispensing capability
- Rapid “any-well to any-well” transfers to execute highly complex, multi-component assays and experiments
- Transfer from acoustic sample tubes and process microplates at the highest throughput

Access - Robotic Systems

Ready-to-Go Robotic Systems for Echo Liquid Handlers

- Modular Design
- Flexible solutions from 1-12 devices
- Environmental control options available

FluidX™ AcoustiX™ Sample Tubes – by Brooks Life Science, transform workflows by enabling acoustic dispensing directly from tubes. The AcoustiX™ Tube preserves sample integrity by allowing samples to be accessed individually – ideal for applications that require subsets of large libraries to be accessed frequently.



Acoustic Droplet Ejection - The transducer is positioned below the source microplate well and emits focused sound energy repeatedly to the meniscus of the fluid to be transferred. A stream of 2.5 nL or 25 nL droplets (model dependent) is reliably ejected into a well of an inverted destination microplate.

Integrated Workstations

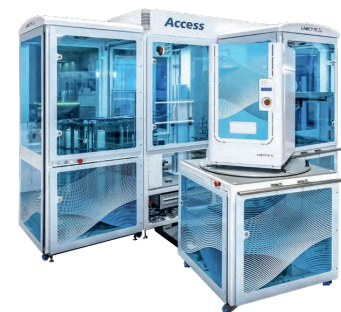
Integration capabilities of the Biomek i-Series go beyond on-deck integrations.

The Biomek i-Series is designed to enable integration through the sides, rear and also beneath the instrument. We can transform Biomek liquid handlers into complete workflow solutions for your specific needs. From simple on-deck devices to complete robotic systems, we can develop custom, Biomek-based solutions that integrate third party tools such as barcode readers, microplate centrifuges, plate readers and imagers, plate transportation devices, plate washers, safety and biocontainment enclosures, temperature controlled storage, tube handling/capping/decapping devices and most other related devices.

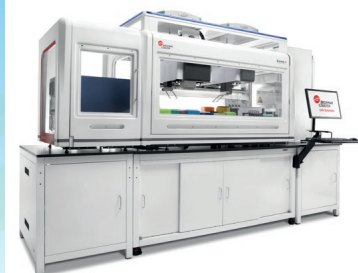
NEW



Echo 650 Series
Acoustic Liquid Handlers



Access
Robotic Systems



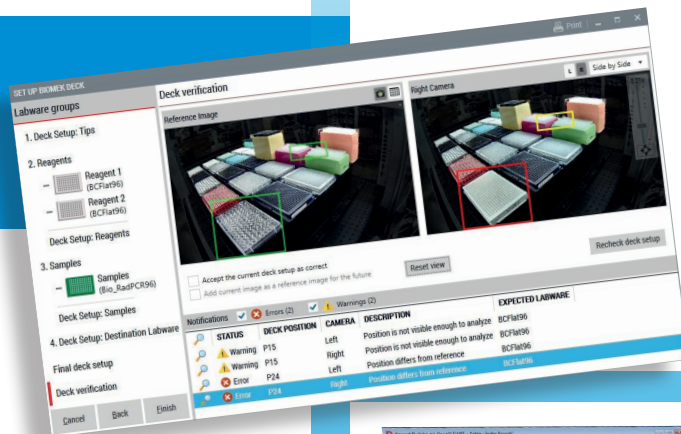
Biomek i-Series
Integrated Workstation



LABORAUTOMATION Software

Biomek - Automation Control Software*

Biomek software ensures that your samples are treated identically within every liquid transfer and in every run providing absolute confidence in your data. Embedded tools enables compliance with 21 CFR part 11.



Biomek Software

Method authoring with point-and-click interface

- No advanced software expertise required
- Full control over liquid handling parameters
- Manage user accounts and permissions

Biomek Method Launcher

Simplified, intuitive user-interface for operators:

- Execute only validated methods
- Avoid set-up errors by automated deck verification
- Remotely monitor method progress

DART 2.0

DART 2.0 software enables efficient management of data generated by your Biomek:

- Simplifies workflow data capture
- Gathers meta-date and runtime information and making that data available between methods and across multiple Biomeks Helps to transform data into information which drives research decisions
- Helps transform data into powerful information to ease research decisions

SAMI Workstation EX Software

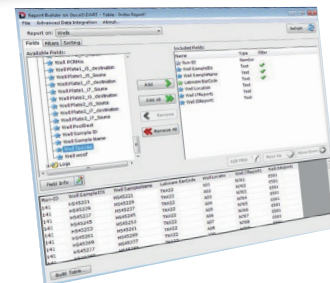
This flexible software package is designed to provide complete automation and process control supporting a wide variety of applications.

- Plans/schedules activities in a data-driven manner
- Optimizes sequence of workflow actions to ensure consistent timing
- Visually identifies bottlenecks and confirms workflow execution

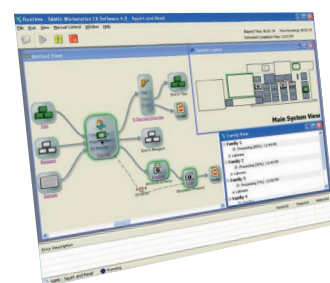
SAMI Process Management Software

This calendar-format tool enables the addition, monitoring and planning of SAMI EX methods and other events as part of user-defined processes.

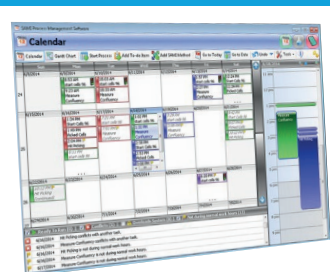
- Controls long processes such as cell culture within a single, visual workflow-management tool
- Lets you run multiple processes simultaneously
- Stores and reports on all labware locations, data and process information



DART 2.0



SAMI Workstation EX Software



SAMI Process Management Software

* Specific software products shown here are available for purchase as optional add-ons to the Biomek software that is provided at no additional cost with Biomek automated workstations.



GENOMICS REAGENTS

Next Generation Sequencing, DNA/
RNA Isolation, Purification and Clean up

Genomics

Our reagent portfolio is powered by Solid Phase Reversible Immobilization (SPRI) technology, widely known for use in our Agencourt AMPure XP, which uses paramagnetic beads to selectively bind nucleic acids by type and size. SPRI enables our chemistries to deliver high-performance isolation, purification and clean-up protocols supporting applications such as qPCR, ddPCR, Sanger sequencing, next-generation sequencing (NGS) and microarrays.

DNA Isolation Kits

- Apostle MiniMax™ - cfDNA from plasma, serum, saliva & more
- Agencourt DNAdvance - gDNA from mammalian tissue and cells, saliva, Genotek Orgagene and mouse tail
- GenFind v - gDNA from whole blood, serum, mammalian tissue, cell culture, saliva, buccal swab, FTA cards, bacteria and fresh or frozen tissue
- FormaPure XI Total - DNA and Total nucleic acid isolation from FFPE tissue
- Agencourt CosMC Prep - Plasmid DNA from E. coli

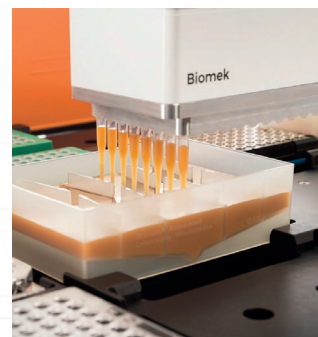
RNA-Isolation Kits

- Agencourt RNAdvance Blood - RNA from blood (PAXgene tubes), cells and tissue
- Agencourt RNAdvance Cell v2 - RNA from mammalian cell cultures (<50K cells)
- Agencourt RNAdvance Tissue - RNA from tissue and cells (50K to 1M cells)
- Agencourt FormaPure XL RNA- RNA from FFPE tissues

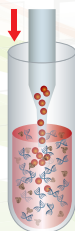
Purification & Clean-up Kits

- Agencourt AMPure XP - Removal of primers, unincorporated dNTPs, primer dimers, salts and other contaminants
- Agencourt CleanSEQ - Removal of Big Dye terminator and sequencing reaction contaminants
- Agencourt RNAClean XP - Post-reaction cDNA and cRNA clean-up
- Agencourt SPRIselect - Fragment size selection for NGS library construction

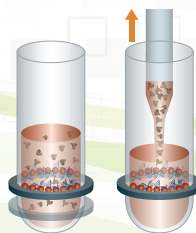
For maximum flexibility, you can use our chemistries with manual methods and/or automated methods on Biomek liquid handlers.



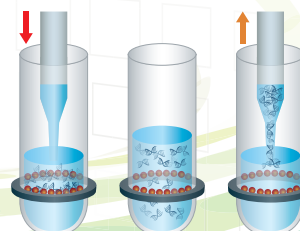
Clean-up



Step 1:
Nucleic acid immobilization
- SPRI beads are directly added to sample reactions. Nucleic acids are selectively immobilized onto SPRI beads, leaving contaminants in solution.



Step 2:
Contaminant removal & wash -
A magnetic field is used to pull the microparticles out of solution. Contaminants are aspirated and microparticles are thoroughly washed, yielding high quality nucleic acids.



Step 3:
Nucleic acid elution -
Purified nucleic acids are easily eluted from the microparticles under aqueous conditions, which provides maximum flexibility for downstream applications.



CELL ANALYSIS

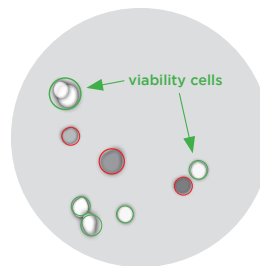
Cell counting, determination of cell size, cell activity, pH value, lactate, glucose ...

Vi-CELL BLU

Fully automated digital image analysis for cell count, determination of cell concentration and viability from sampling, mixing and up to analysis and cleaning



- Measuring range: 2 - 60 μm (diameter)
- Automated Trypan-Blue-Method
- 24 position carousel for sample loading or 96-well plate compatible
- Calculation of cell vitality, cell sizes and cell concentrations
- 200 μl minimum sample volume
- Software facilitates 21 CFR Part 11 compliance



Vi-CELL BLU

Vi-CELL MetaFLEX

Bioanalyser for analysis of many bioreaction parameters with low sample volume

- Only 65 μl sample volume required
- Quick results in only 35 seconds
- Parameters: pH, glucose, pO_2 and pCO_2 , lactate, potassium, calcium, sodium
- Can interface with data management system

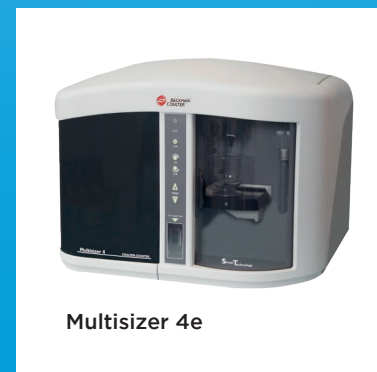
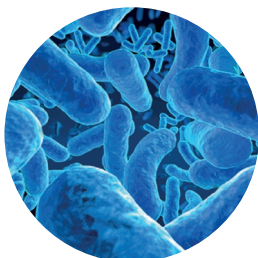


Vi-CELL MetaFLEX

Multisizer 4e

Determination of cell count and cell size with highest resolution

- Measuring range: 0.2 - 1,600 μm (diameter)
- Algae, bacteria, human cells, insect cells, plant cells and protein aggregation
- Presents the distribution of quantities, surfaces, and volumes (absolute, /ml, %)
- Combines the Coulter measuring principle with a high resolution pulse analysis



Multisizer 4e

AIR PARTICLE COUNTER/TOC ANALYSIS

Portable air particle counter, hand held air particle counter, remote air particle counter, ISO 14644-1, ISO 21501-4, GMP, 21 CFR Part 11 ...

Met One 3400

Portable air particle counter specially for clean room monitoring and clean room qualification

- Measuring range: 0.3 μm – 25 μm
- Throughput should be Sample volume of 28.3 l per minute
- Particle count data management by exporting as PDF, CSV or Excel files
- Complies with ISO 14644-1 and ISO 21501-4 standards.

Met One HNPC+-Series

Handheld particle counter for clean rooms and clean room applications

- Measuring range: 0.3 μm – 10 μm
- Throughput should be Sample volume of 2.83 l/min
- Available with 2, 3 or 6 channels
- Direct download of measured data in Excel via Ethernet or USB-Stick

Remote Air Particle Counter

Air particle counter for stationary monitoring of clean rooms

- Measuring range: 0.3 μm – 10 μm
- Throughput rates: 28.3 l/min
- Monitoring, control and data recording with the help of software as per 21 CFR Part 11

TOC QbD 1200

The new Laboratory-TOC-Analyzer for the measurement of organic carbon for ultra-pure water analysis

- TOC measuring range: 0.4 ppb – 100,000 ppb
- Calibration time: 90 minutes
- Quick measurement results through low Carry-Over-Effect



TOC PAT 700

Online or portable TOC analyzer

- TOC measuring range: 0.5 ppb – 2,000 ppb
- 2 integrated UV lamps for a constantly accurate result of measurement
- Online release for WFI and PW water
- Automated calibration and SST
- Complies with EP, USP, JP and CP regulation standards
- Calibration stable for 12 months

Met One 6000



Met One 3400

HNPC+



TOC QbD 1200



TOC PAT 700

LIQUID PARTICLE COUNTING

Pharmaceutical quality control, oil particle counting, determination of particle size, USP <787>, <788>, <789>, <797>, 21 CFR Part 11, ISO 13 319 ...

HIAC 9703+

Liquid particle counter for pharmaceutical quality control in accordance with USP-guidelines

- Measuring range: 0.5 μm – 600 μm
- Conforms to PharmSpec Software 21 CFR Part 11
- Pre-configured SOPs for USP, EP, JP and KP test routines
- Low sample volumes < 1 ml



HIAC 9703+

HIAC 8011+/HIAC PODS+

HIAC 8011+ - the universal oil particle analysis system
HIAC PODS+ - the portable oil particle counter for hydraulic oils

- Measuring range: 0.5 μm – 600 μm
- Results in less than 60 seconds
- Reporting standards: ISO, NAS, SAE, GOST, DOD and ASTM



HIAC+ 8011



HIAC PODS+

HIAC ROC

The HIAC ROC online oil particle counter

- Measuring range: 4 μm – 21 μm
- Viscosity range: 2 cSt to 424 cSt
- Sample pressure: 20 – 7250 psi
- Compatibility with fluids: hydraulic and lubricating oils, mineral oils, synthetic oils
- Purity classes: ISO 4406 NAS 1638, SAE 4059

HIAC ROC



Contact us at
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