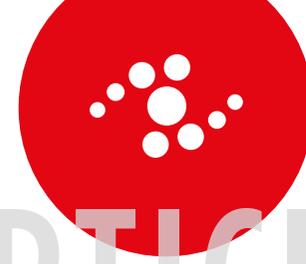


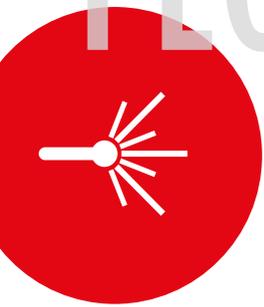
GENOMICS



PARTICLE  
ANALYSIS



FLOW CYTOMETRY



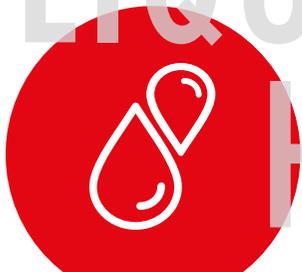
**BECKMAN  
COULTER**

*Life Sciences*



CENTRIFUGATION

LIQUID  
HANDLING



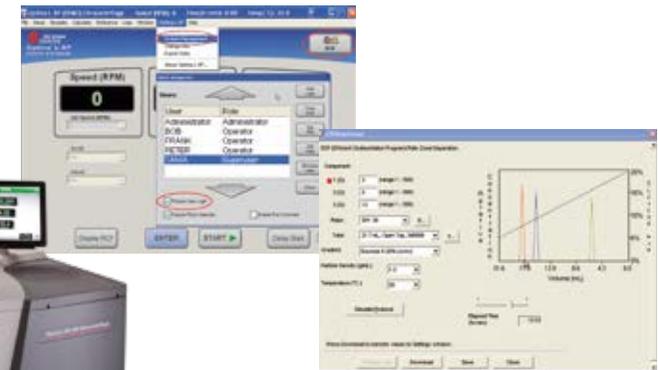
**2022**

## 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 1675 ml
- offers possibilities for the regulatory implementation of 21 CFR Part 11
- Variety of swing-out, fixed angle, vertical, and near-vertical, zonal and flow rotors



SW 32 Ti



45 Ti



NVT 100



VTi 50.1

## Optima MAX-Series - Table Top Ultracentrifuges



The Optima Max-Series generates speeds of up to 150,000 rpm with rcf of over 1 million x g. With an extended volume range, these space-saving tabletop benchtop ultracentrifuges are a perfect alternative to preparative ultracentrifuges.

- Sample volumes from 175 µl - 194 ml
- Maximum biological safety thanks to the BioSafe\* concept for centrifuge - rotor and labware
- MAX-XP software enables extended safety concept (user login, password)



MLA-55



MLA-150

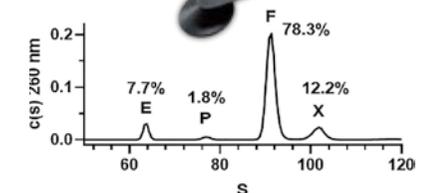
# CENTRIFUGA

## Optima AUC - Analytical Ultracentrifuges



Optima AUC can be used to precisely characterize viral vectors (e.g. AAV), macromolecules and nanoparticles. Mass of complexes, stoichiometries, shape parameters and thermodynamic properties can be measured directly in a buffer environment that best suits their application without the need for standards.

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



Analysis of empty (E), full (F), and partially-full (P) AAV particles with aggregates (X). Reproduced with permission from Wang et al.

# Intellifuge



More than just a calculator for your rotors

- Conversion for rotors and tubes
- Direct overview of all available rotor and tube combinations
- Comparison of different rotor/tube

# Mobilefuge



The app that connects you to your centrifuge

- Monitor and control up to 16 centrifuges
- Warnings and status messages sent directly to your smartphone or tablet
- Usable for Optima XPN- and Avanti-JXN series

## 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



## 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



## 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**



## Microfuge-Series – Microcentrifuges



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



\*BioSafe and BioSafety are terms intended to describe the enhanced biocontainment features of our products.

## DxFLEX - Flow Cytometer



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

### Reliable results

- Detection of low-flourescent populations due to ADP-Technology
- Up to 13 color CE-IVD marked flouochroms 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



## 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



# CLINICAL FLOW CYTOMETRY



## AQUIOS - Load & Go Cytometer

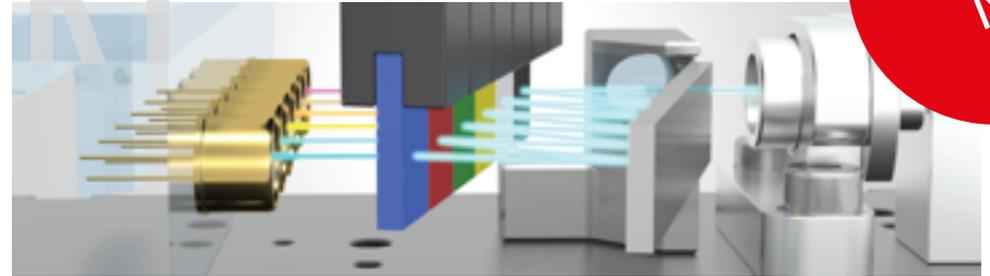
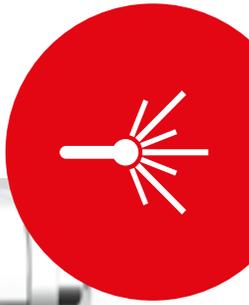


Fully automated Flow Cytometer with integrated sample preparation for immunophenotyping

- 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
- With the AQUIOS Designer Software, user-defined protocols, acquisition templates and panels can be created flexibly



# FLOW CYTOMETRY IN RESEARCH



## CytoFLEX\*\* Plattform



## Flexibles Flexible Flow Cytometer with 1-6 Lasers 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

## CytoFLEX\*\* SRT - Cell Sorting in Benchtop Format: Space-saving and flexible upgrade



Sort up to four cell populations at the same time with simple compensation workflow and the ability to upgrade your cell sorter to meet new requirements at any time.

- 4-way mixed-mode sorting with the ability to capture soft aborts
- Up to 4 lasers and 15 fluorescence detectors - easy to upgrade
- Simple compensation workflow thanks to APD-Technology
- Cell sorting in 96- or 384-well plates, with or without index sorting



# DURAClone\*



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.

- No pipetting of antibodies or antibody cocktails
- Reagents are already in the measuring tubes (FACS tubes)
- Pre-prepared reagents reduce pipetting errors
- Stable at room temperature, no cooling necessary
- Long shelf-life reduces lot-to-lot validation
- Ideal for multi-centre studies or lab-to-lab comparison



Take dry unitized dried-down reagent tube

Add blood sample

Vortex & incubate

Add lysis solution & incubate

Acquire & analyze by flow cytometry

# REAGENTS

# AND

## 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.

- Production of large quantities
- Conjugation of customer's own antibodies and multicolored cocktails
- All products also available as DuraClone
- Long shelf-life at RT, ideal for clinical trials and multicenter studies



## RESSOURCE\* - Contract Manufacturing Services



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

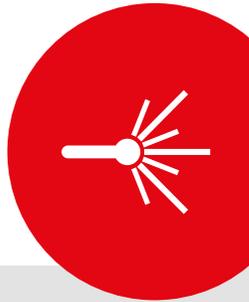


## Integrated L&L\*\* solution for Immunphenotyping and analysis for lymphoid and myeloid neoplasie



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

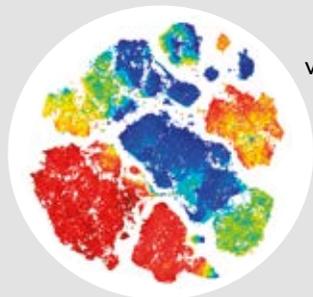


# SOFTWARE



Cytobank is a cloud-based software solution, which enables you to analyse and visualise multiple datasets 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



VISNE

## Software Solutions



The recent Cytobank addition in our Software portfolio enables you to get additional information from your flow cytometry data sets. Are you single user or part of a multi-centre? We have the right solution for you.

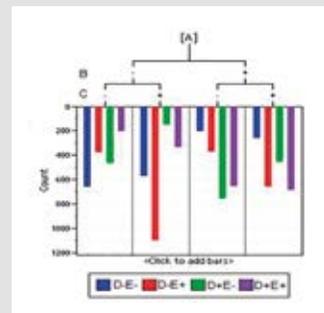
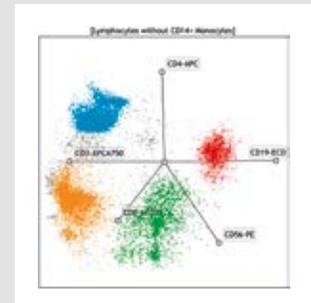
## Kaluza\* - Analysis Software



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
- Compatible with data sets from other manufacturers

Radarplot



Treeplot

## Kaluza C - Clinical Analysis Software



IVD Software for fast analysis of clinical data

\* For Research Use Only. Not for Diagnostic Purposes.

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

## 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



# LIQUID

# TIP-BASED LIQUID HANDLING

### 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 i5 Nucleic Acid Solutions



We've combined our expertise in reagent chemistry and automation, providing you three configurations to suit increasing workflow complexity. This offers the benefits of a plug-and-play system with the ability to add components later for enhanced functionality.

- Biomek i5 Cleanup Solution
- Biomek i5 Extraction Solution
- Biomek i5 Advanced Extraction Solution

# ACOUSTIC DISPENSING HANDLING



## Access - Robotic Systems



### Ready-to-Go Robotic Systems for Echo Liquid Handlers

- Modular Design
- Flexible solutions for integration of 1-12 devices
- Environmental control options available

# INTEGRATED SYSTEMS

## 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 many other related devices.

## Echo-Series - Acoustic Liquid Handler

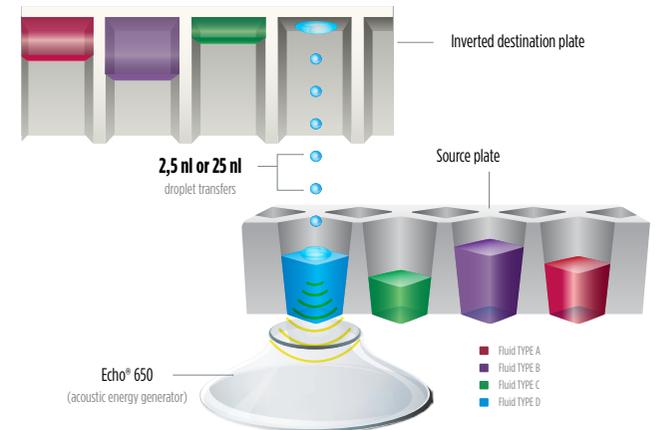


Non-contact, ultra low-volume liquid transfers through sound energy.

- Highly precise & fast - no risk of cross-contamination
- 2,5 nL - 2,5 µL dispensing volume
- Fast „any-well to any-well“-transfers for performing highly complex, multi-component assays and experiments
- Liquid transfer from acoustically compatible test tubes and microtitre plates in high throughput
- Integrates with Biomek i-Series or Access - Robotic Systems



**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.



**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.



# 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 enable compliance with 21 CFR part 11.



# LIQUID HANDLING SOFTWARE

## 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 (DeckOptix™)
- Remote monitoring of real-time progress via Google Chrome Browser from any device

## DART 2.0

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

- Simplifies workflow data capture
- Gathers meta data and runtime information and makes 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



SAMI Workstation EX  
Software



SAMI Process  
Management  
Software



DART 2.0

\* 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.



## GENOMIC SOLUTIONS

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.



### Biomek NGenius Next Gen Library Prep System



**Biomek NGenius Next Gen Library Prep System**  
The Biomek NGenius System represents an evolutionary leap in NGS liquid-handling with its best-in-class performance, error-reduction technology, ease-of-use, reduced hands-on-time, and flexibility.

- Batch sizes of 4 to 24 samples
- Dynamic DeckOptix system provides software-guided labware placement and confirmation
- Reagent Carousel reduces the need to manually transfer reagents and automates most reagent kits designed for manual use
- Complimentary Application Library is designed to evolve with your changing chemistry needs



# GENOMIC SOLUTIONS

### EMnetik System - Nucleic Acid Cleanup and Plasmid Purification



- EMnetik 24: a 24-well microparticle processor designed to work with the EMnetik PCR Cleanup Kit & EMnetik Plasmid Purification Kit
- Perform semi-automated cleanups in less time and fewer touchpoints than leading spin column products



# KITS

### 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 v3 - 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

- RNAdvance Viral / RNAdvance Viral XP
- RNA from saliva or swab transport media samples
- 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 crRNA clean-up
- Agencourt SPRIselect - Fragment size selection for NGS library construction

## Vi-CELL BLU



Fully automated digital image analysis for cell count, concentration and viability determination from sample collection and sample preparation with Trypan-Blue until analysis and cleaning. And the measuring time? Two minutes.

- Measuring range: 2 - 60  $\mu\text{m}$  (diameter)
- Automated Trypan-Blue-Method
- Display of number-, size- and concentration-distribution
- Sample feed via 96-well plate or 24-position carousel
- Only 200  $\mu\text{l}$  sample volume (in the concentration range  $5 \times 10^4$  -  $1.5 \times 10^7$  cells/ml)
- 21 CFR Part 11 compliant



## Vi-CELL MetaFLEX



Fast and reliable analysis of bioanalytes in cell culture media with low sample volumes. The Vi-CELL MetaFLEX is the optimal solution for monitoring metabolic activities in a matter of seconds.

- Only 65  $\mu\text{l}$  sample volume required
- Quick results in only 35 seconds
- Parameters: pH, glucose,  $\text{pO}_2$  and  $\text{pCO}_2$ , lactate, potassium, calcium, sodium
- Can interface with data management system



# CELL ANALYSIS FERMENTATION

## BioLector XT Microbioreactor



Accelerate your bioprocess development with microbioreactors for high-throughput cultivations

- Up to 48 simultaneous cultivations in a single microtiter plate
- Suitable for aerobic and anaerobic fed-batch processes thanks to continuous, well-individual pH and feeding control
- Customizable cultivation protocols, flexible combination of feeding and pH control strategies
- Cultivation of highly oxygen-demanding strains with gassing of up to 100 % oxygen
- Can be automated for complex experiment design (DoE), sampling and more



# CLEANROOM ENVIRONMENTAL MONITORING



## MET ONE 3400+ Portable Counter for Routine Environmental Monitoring



Designed for GMP Cleanroom routine environmental monitoring, the MET ONE 3400+ portable air particle counter allows users to upload their SOP maps onto the counter screen to create an interactive map for the technicians.

- Audit Trail
- Active Directory User Name and Password control
- Export secure electronic records straight from the counter via Wi-Fi or Ethernet



## MET ONE HHPC+-Series



Handheld particle counter for clean rooms and clean room applications

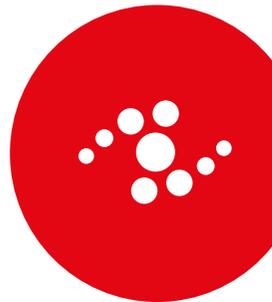
- Measuring range: 0.3  $\mu\text{m}$  - 10  $\mu\text{m}$
- Throughput should be Sample volume of 2.83 l/min
- Available with 2, 3 or 6 channels
- Direct download of measured data in Excel via Ethernet or USB-Stick

## MET ONE Cleanroom monitoring systems



Wall-mount air particle counters for cleanroom continuous monitoring systems.

- 0.5- and 5-micron counter
- option for integral sampling pump
- 24V DC or 100-230V AC power options
- Ethernet, Wi-Fi, RS485 and 4-20mA options
- built-in flow-rate monitor

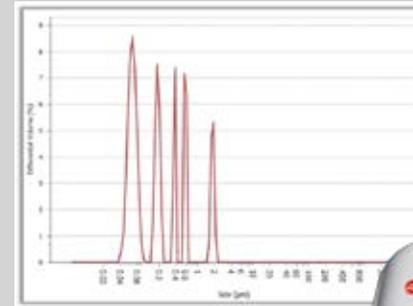
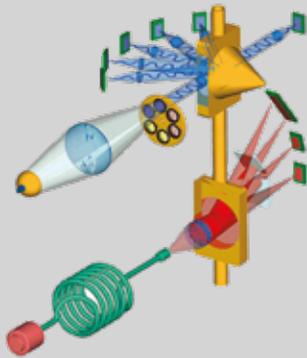


# LS 13 320 XR



Laser diffraction at the highest level for precise particle size measurement in suspensions, emulsions and powders. The improved PIDS-Technology and the extended measuring range provide a higher resolution and more accurate, reproducible results.

- Measuring range: 10 nm - 3,500 µm
- Detects down to 10 nm due to enhanced PIDS-Technology
- High-resolution analysis through 132 detectors
- Flexible dispersion modules for suspensions (e.g. UL module) or powders (Tornado)
- Simple software for data evaluation within a few clicks
- 21 CFR Part 11 compliant
- Sub-visible particle counting



High resolution measurements from 10 nm – 3,500 µm - even for narrow particle size distributions

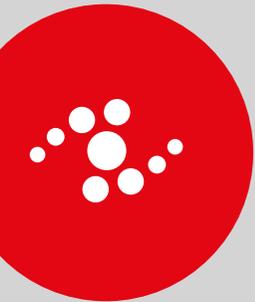


Universal Liquid Modul



Dry Powder System Modul

# PARTICLE SIZE ANALYSIS

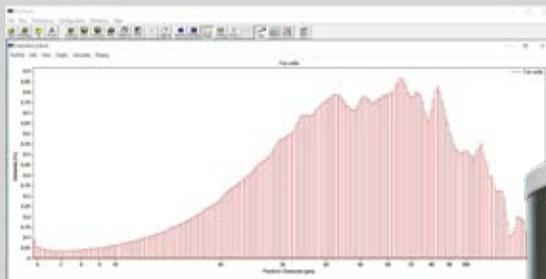


## Multisizer 4e



The Coulter Principle enables particle sizing and counting with the highest resolution. Thanks to the latest Digital Pulse Processor Technology the Multisizer 4e provides a detailed insight into possible sub-populations of the particle distribution.

- Measuring range: 0.2 µm – 1,600 µm (diameter)
- Presentation of number, surface, and volume distribution (absolute, /ml, %)
- Dynamic range: 2 – 80 % of the capillary opening (Standard: 2 – 60 %)
- 21 CFR Part 11 compliant
- Independent of form, color, density, and optical properties



# LIQUID PARTICLE COUNTING

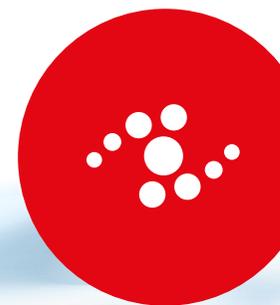


## HIAC 9703+ Light Obscuration Testing to USP<787>, <788>, <789> and EP2.9.19



Designed specifically for GMP injectable and infusion testing, the HIAC 9703+ PharmSpec software provides automatic pass/fail reporting to USP, EP, JP and KP.

- Audit Trail
- Active Directory User Name and Password control
- Database back-up and restore
- Secure electronic record export via Ethernet
- Test to USP<787> with just 0.2mL of product



# WFI & PW WATER QUALITY

## PAT 700 Total Organic Carbon and Conductivity Analyser



Designed specifically for Total Organic Carbon analysis (TOC) in Purified Water and Water for Injection. The PAT 700 reports TOC, Conductivity (uncompensated) and Temperature for on-line monitoring to USP<643>, <645> and EP 2.2.38 and 2.2.44.

- reagent-free TOC analysis
- 12 month service interval
- Main and Standby, auto-switching UV lamps
- No negative TOC results
- Active Directory User Name and Password control
- Automatic secure electronic record and audit trail daily export via Ethernet
- System Suitability Test SOP routine built-in, with automated data entry and pass/fail calculation





Experience all products  
also virtually in our  
**digital**  **campus**



Contact us  
[www.beckman.com](http://www.beckman.com) or  
[Lsreurope@beckman.com](mailto:Lsreurope@beckman.com)

**ADVANCING SCIENCE**  
*through discovery.*



© 2022 Beckman Coulter, Inc. All rights reserved. Beckman Coulter, the stylized logo, and the Beckman Coulter product and service marks used herein are trademarks or registered trademarks of Beckman Coulter, Inc. in the United States and other countries.

LSR-EU15501V7-ENG

Beckman Coulter International S.A.

22, rue Juste-Olivier  
1260 Nyon  
[Lsreurope@beckman.com](mailto:Lsreurope@beckman.com)  
[www.beckman.com](http://www.beckman.com)