

€15.–

Your guide to laboratory and pathology equipment in Europe

# LAB BOOK

- Automation & Sample Processing
- Chemistry & Immunochemistry
- Hematology
- Pathology
- DNA
- Microbiology
- POCT
- IT
- Peripheral Devices

# 2019

Vol.6



Set up the workflow you need: The UN-Series offers you the freedom to automate your urinalysis workflow from start to finish with maximum flexibility. With fluorescence flow cytometry technology at its core, the Sysmex UN-Series is an innovative solution for any laboratory.

# Imprint

*published by*

## **EUROPEAN HOSPITAL VERLAGS GMBH**

Theodor-Althoff-Straße 45, 45133 Essen, Germany  
phone: +49 201 871268-51  
fax: +49 201 871268-64  
info@european-hospital.com  
www.healthcare-in-europe.com



## **DR. NEUMANN & KINDLER GMBH & CO. KG**

Herner Straße 324, 44807 Bochum, Germany  
phone: +49 234 9571969-0  
info@labcore.de  
www.labcore.de

## **EDITOR-IN-CHIEF**

Markus Neumann

## **EXECUTIVE DIRECTOR**

Daniela Zimmermann

## **LAYOUT AND GRAPHIC DESIGN**

Christoph Muschiol, Dorfen, Germany

## **ADVERTISING**

Gavin Hua (China)  
Eric Jund (E, F, I)  
Simon Kramer (B, GB, L, NL)  
Ralf Mateblowski (D, A, CH)  
Jane Park (Korea)  
Hanna Politis (U.S.A, Canada)  
Charles Yang (Taiwan)

## **SUBSCRIPTION**

Dorothea Fleischer, fleischer@european-hospital.com  
Subscription rate: € 15,- plus postage

## **PRINTED BY**

LENSING Druck, Dortmund, Germany

## **DISCLAIMER**

The information and opinions expressed in articles and product entries published in LABBOOK are solely those of the manufacturers / companies, their authors and contributors, for which the publisher holds no responsibility.

All trademarks, product names, company names and logos in this publication are the property of their respective holders. Users must obtain permission from those holders before copying or using the owner's trademarks, product and company names or logos.

Errors and omissions excepted.

© 2019 by EUROPEAN HOSPITAL Verlags GmbH.  
All rights reserved.



## *Dear reader,*

Welcome to the Labbook 2019. This year, we focus on sourcing and operating analytical instruments, on the selection of suitable peripherals, vials and containers, automation components and sample handlers in order to optimise sampling and sample logistics. In addition, just like last year, we are taking a close look at information technology (IT) since today no medical laboratory can operate efficiently without appropriate software solutions. The core tasks – performing analyses in the required quality and forwarding the results in a timely manner to the physicians – require IT. While in 2018 we focused on sourcing and selecting a laboratory information system (LIS), this year we would like to support your efforts to operate your LIS smoothly and without glitches. The bad news is: error-free software is an illusion. The good news is: nevertheless, you as a user have options, even if you have no idea of the complex and often chaotic software development process. One of the key issues here is to recognize when replacing your legacy software makes sense.

As is customary in the Labbook, you will find insights on the successful organisation of automated labs as well as manufacturer-oriented information on current equipment trends. With all this data we didn't forget our mission: to provide a comprehensive sourcing guide. You will find information on tried and tested instruments, IT systems, accessories and reagents presented in a handy format and categorized by sub-discipline, covering the whole of Europe.

A propos Europe: While the political situation remains – let's say – confusing, our partners, the manufacturers of the components shown here, are clearly optimistic and keen as ever to showcase their products in this sixth edition of the Labbook to an international audience.

Last but not least we would like to point out that beyond the print edition of the Labbook you can find the information online. Go to [www.labbook.eu](http://www.labbook.eu) and [www.healthcare-in-europe.com](http://www.healthcare-in-europe.com) to browse the product database and the Labbook as e-paper; you will also find the contact data of all manufacturers and authors.

We, the manufacturers, authors and the editorial team, should like to thank you for your interest in the Labbook. We are looking forward to receiving your feedback – suggestions, criticism, kudos are all equally welcome to guide us towards the 2020 edition.

Enjoy reading and browsing

**Daniela Zimmermann**

**Dr Markus Neumann**

## Trends & Topics

- 1 Editorial
- 5 **High-performance tube sorting:** The latest generation of ASP SortPro
- 8 **Sophisticated tech transforms Spanish lab:**  
Siemens Healthineers system alters workloads
- 16 **With the UN-Series, the choice is yours:** Sysmex Urinalysis
- 28 **5-FluoroUracil:** Curing or killing the patient?
- 32 **Introducing the SCIEX Citrine MS/MS**  
your Medical Diagnostic (MD) mass spectrometer
- 72 **Old software makes old mistakes...:** Cynefin framework
- 80 Companies & Suppliers

## Index of Advertisers

6 ASP Lab Automation · 25 Siemens Healthineers · 35 Alsachim, a Shimadzu Group Company · 41 Shenzhen Mindray · 45 Sysmex Europe · 47 BD Europe · 55 Sarstedt · 56 RfB · 85 Thermo Fisher Scientific · 86 Sciex Diagnostics

## Products & Systems



### 3 Automation & Sample Processing



### 13 Chemistry & Immunochemistry



### 28 Mass Spectrometry



### 40 Hematology



### 53 Pathology



### 57 DNA



### 61 Microbiology



### 64 POCT



### 70 Information Technology



### 75 Peripheral Devices

# Automation & Sample Processing



Automation  
Robotics  
Sample Processing

# Sample Processing

## Sample Processing

### ASP Lab Automation – Bench-top Decapper DeCap Pro



**Dimensions:** 560 × 360 × 610 mm (w × h × d)

**Sample throughput:** Over 2,000 tubes per hour

**Highlights:** DeCap Pro decapper is a compact bench-top device that safely and efficiently removes original caps from blood specimen tubes.

- Avoids potential health risks from Carpel Tunnel Syndrome and aerosol contamination
- Tubes are loaded and decapped in analyzer racks
- Handles up to 15 racks each for input and output
- Available for many analyzer rack types
- Robust and simple design guarantees high reliability and uptime
- Smaller models available that handle single racks

### ASP Lab Automation – Recapper KapSafe



**Dimensions:** 730 × 730 × 1,100 mm (w × h × d)

**Sample throughput:** Up to 1,200 tubes samples/h

**Power consumption:** 0.063 kW

**Highlights:** Automated recapping of sample tubes  
KapSafe is an automated, pneumatics-free, high-speed, benchtop recapper designed to safely and automatically recap tubes for storage or archiving. The system recaps all standard vacuum collection tubes with 13 to 16 mm diameter and enables repeated automated decapping and recapping. It provides walkaway operations with an input capacity of up to 20 racks with various-sized tubes in each rack.

### ASP Lab Automation – Tube Sorter SortPro



**Dimensions:** 1,170 × 1,852 × 601 mm (w × h × d) for six channels + 200 mm for each two extra channels

**Weight:** ca. 120 kg

**Sample throughput:** Up to 3,000 samples/h

**Power consumption:** 0.250 kW

**No of Channels:** Freely configurable from 5 to 10 target bins

**Highlights:** The SortPro tube sorter is an economical automation device for the preanalytics of small and high-volume labs.

- Early specimen identification and registration
- Fast presorting of specimens
- Priority handling for urgent tubes
- Bulk input and bulk output of specimens
- Processes all standard blood and urine tube types
- Identifies specimen by barcode, cap color and/or tube type
- Software for documentation and statistics
- Archives photos of all processed tubes

### Samplision – HENmini – Automatic blood collection tube labeler



**Dimensions:** 599 × 396 × 199 mm (h × w × d)

**Sample throughput:** High speed over 300 tubes per hour

**No of channels:** Max. 10 inlets for different brands of tubes and sizes

**Weight:** 15 kg

**Highlights:**

- Table top and mobile labeling system for blood collection tubes with storage capacity for 140 blood collection tubes
- High automation: integrated customer specific loading compartments/inlets (up to 140 tubes)
- All types and sizes of blood collection tubes can be used (BD, Greiner, Sarstedt)
- Immediate patient specific availability

# High-performance tube sorting

More than 16 years of experience in the complex matter of workflows within clinical labs leads to the latest generation of ASP SortPro tube sorter.

To make the investment in sorting devices efficient, these must be integrated perfectly into the workflow. The ASP team sold hundreds of tube sorters to clinical labs and hospitals worldwide. In all these installations the German engineers have accumulated deep knowledge about the workflow in clinical labs. This experience is an integral part of the specification for every new generation of ASP SortPro tube sorter.

While ASPs innovation last year focused on software tools to optimize the workflow and data integration into the LIS, ASP's 2019 product release combines these digital benefits with a completely new device fulfilling all the customer demands. This comprehensive update requires a relaunch of the hardware.

A high-resolution camera and advanced image processing software are used to identify the processed tubes. It recognizes barcode, cap colour and tube type (manufacturer and size) within milliseconds. This powerful detection unit speeds up the sorting process to more than 3,000 tubes per hour without any change in the proven soft handling of the tubes through the sorting device. The pictures of the tubes can be inspected at the device and are available for export and documentation purposes of processed samples.

The new design of the specimen hopper ensures no tubes remain in the hopper by accident. It also detects if the hopper is empty and when tubes are filled into the hopper. The priority input allows

urgent specimens to bypass the hopper and to be processed immediately without stopping the standard process.

SortPro can sort bulk, fill analyser racks or hand over tubes to track systems or analysers. Each specimen is identified, registered in the LIS and sorted by internal sorting criteria or input from the LIS. ASP SortPro selects and separates tubes for manual handling while the majority of tubes are sorted for standard processing. Doublets are detected and can be handled individually. With its touch screen and modern user interface, the device is easy to use. Functions to manage and edit sorting rules make sure the device can be adapted to changing requirements at any time.



Easy access: The new lightweight target bin with permanent display



Priority input: Tubes placed here will be processed within seconds

The system works basically without human intervention. If staff is required, the integrated process management sends a text message to the person in charge. Maintenance and service tools guarantee maximum availability and minimum operating costs. ASP SortPro does not only register, sort and document your specimens – due to its comprehensive integration into the workflow, it constantly improves the efficiency of your lab. ■



**CONTACT**

ASP Lab Automation AG  
 Rugenranzel 4 · 25373 Ellerhoop, Germany  
 phone: +49 4120 70679-27  
 info@asplabauto.com · www.asplabauto.com

# Sample Processing

## Sample Processing

### Sarstedt – Decapper DC 1200 / Recapper RC 1200



- Highlights:**
- Decapper DC 1200:**
- Automatic decapping of all tube diameters from 11 to 16 mm
  - Processes a variety of tube types in mixed operation
  - Sample pre-sorting for the decapping process is unnecessary
- Recapper RC 1200:**
- Automatic recapping of all tube diameters from 13 to 16 mm
  - Minimises the risk of exposure
  - Eliminates sample contamination
  - Archiving cap fits all tubes from 13 to 16 mm diameter
  - Automated decapping enabled

### Sarstedt – Bulk Loader BL 1200



**Sample throughput:** Up to 1,200 tubes/h

- Highlights:**
- Ideal in combination with any analytical platform
  - No sorting or handling required
  - Process any tube type of 80 to 110 mm length (with cap) and 11 to 16 mm diameter, including false bottom options
  - Suited for any sample type (serum / plasma, serum gel / plasma gel, EDTA, citrate, blood sugar, urine)
  - Integral ID module
  - Automatic sample accessioning
  - Customised sort rules to a variety of carrier types or bins
  - Safe, rapid and continuous operation without error

**System range:**

- BL 1200 – Bulk to Rack
- HCTS2000 MK2 – Bulk to Bulk

## ASP SortPro: Efficient lab solutions



Priority input



Process management software



Realtime detection of

- Barcode
- Cap color
- Tube type



Sorting more than 3,000 tubes / h



**ASPLab**  
Automation

ASP Lab Automation AG  
Rugenranzel 4  
25373 Ellerhoop  
Germany  
+ 49 4120 7 06 79-27  
[www.asplabauto.com](http://www.asplabauto.com)



## Sarstedt – Sample Distribution System PVS 1625



**Highlights:** The PVS 1625 is a tailor made automation system for pre- and post-analytical processing of samples. It is capable to handle any kind of rack and tray type. As an open system, it is complementary to any analytical platform or can be used independently. Loading of unracked or racked sample tubes is via the Bulk Loader or in racks via the loading platform, which is suitable for closed and open tubes.

Full function pre- and post-analytical system

- Ideal in combination with any analytical platform
- Modular configuration according to customer needs with: Loading platform and / or Bulk Loader
- ID Module / Decapper / Recapper / Aliquoter / Sorter
- For all common tube types:  
13 – 16 mm diameter, 65 – 100 mm length
- Compatible with most racks or carrier types

## Sarstedt – Sorter DC/RC 900 Flex



**Sample throughput:** Up to 900 tubes/h

- Highlights:** Pre- and post-analytics in one system:
- Processes any tube diameter from 11 to 16 mm
  - Compatible with most racks or carrier types
  - Online or offline operation
  - Opens tubes with push caps, stoppers and screw caps
  - Can be customised to sort by tube type, material (barcode) or test request
  - Closes tubes with universal archiving caps
  - Retrofitting of decapping or recapping module is possible
  - Recapping with screw caps for Sarstedt tubes with 13 or 15 mm diameter

## T&O LabSystems – ATRAS (RS)



**Sample throughput:** Over 2,350 samples/h  
**Dimensions:** 1,100 × 1,130 × 600 mm (w × h × d) at min. configuration, add 200 mm for every additional module

- Highlights:** The ATRAS is a bulk-loader and sorter for automated registration and sorting of incoming blood and urine sample tubes. Every ATRAS provides a clear structure, intuitive operation and low maintenance.
- Early registration and plausibility check of sample tubes
  - Priority input for emergency tubes
  - Bulk to bulk sorting
  - Bulk to rack sorting
  - Free combination of bulk and rack targets
  - Works with or without LIS connection
  - Processes all standard blood and urine tube types

## Robotics

### Siemens Healthineers – VersaCell X3 Solution



**Dimensions:** 1,520 × 1,780 × 1,040 mm (h × w × d)  
**Sample throughput:** Up to 200 samples tubes/h  
**Power consumption:** 800 W  
**Assays:** Menu varies based on analyzers connected

- Highlights:** Advance workflow capabilities, streamline processes, and meet changing needs with agility – at a cost labs can justify. VersaCell X3 Solutions use robotics with dynamic STAT management to provide the optimal mix of chemistry and/or immunoassay analytics with one-touch sample management. Connect up to three Siemens' instruments including ADVIA 1800 chemistry System, ADVIA Centaur XPT and/or IMMULITE Immunoassay systems, and Dimension EXL and RxL Max integrated Systems.

Product availability varies by country.



Siemens Healthineers system alters workloads

# Sophisticated tech transforms Spanish lab

*Report: Daniela Zimmermann*

Touring the laboratory at the Clínic de Barcelona Hospital, Dr José Luis Bedini revealed how the latest Siemens Healthineers technology has transformed workflow to deliver quicker results, improve efficiency, conserve energy, and thus make the team of technicians very happy!

In recent months the Core Lab Operative Area at Hospital Clínic de Barcelona has undergone a transformation due to the introduction of a new Atellica Solution from Siemens Healthineers. Dr José Luis Bedini, the laboratory head, explained the Atellica Solution from "conception to reality" during a tour of his lab, outlining how the automated environment is slicker, delivers around-the-clock results to clinicians, and provides a more patient-friendly experience.

In working with Siemens Healthineers to develop the system the Hospital Clínic has streamlined its operation from ten analysers to just three Atellica Solutions. The Atellica Solution integrates immunoassay and clinical chemistry analysers with new sample-management technology. Scalable, it features bidirectional magnetic sample-transport technology, a broad assay menu and has the flexibility to create over 300 customisable configurations. It can be configured as a stand-alone system or connected to Aptio Automation, providing a multidisciplinary total lab solution and improving workflow with adaptable, multidisciplinary track configurations.

A selection of pre- and post-analytical modules can automate sample loading, preparation, and handling to free lab staff from time-consuming, low-value tasks, plus simultaneous STAT and routine testing on a single track.



A Lab environment with the Atellica Solution is slicker, delivers around-the-clock results, and provides a more patient-friendly experience.

Of the three Atellica Solutions in the Barcelona lab, two are SCI configurations (sample handler, chemistry and immunoassay) while the third is SCCI with two chemistry modules. These deliver a wide range of routine and STAT tests. "Our aim with clinicians is to have the results from the STATs in less than 60 minutes and we achieve that," Bedini explained. "With Atellica, we have improved the turnaround time to 48 minutes – an important benefit."

The 24/7 laboratory operates and handles 5,000 tubes daily, to produce 21,000-24,000 results per day.

### Three Atellica Solutions – many results

"In the past, to have this portfolio of activity we needed many different analysers; now we do everything on just three Atellica Solutions. There are benefits for workflow, for technicians and patients, with less turnaround time and quicker results," he added.

The samples arrive from two routes – direct via a tube from the emergency department – or delivered to the lab from other parts of the hospital, such as the cardiology or kidney units. They go to the centrifuge, onto the track and to the Atellica. The machine knows what the sample is – for example a Troponin test – by reading a bar code on the tube, which is automatically de-capped before analysis and then sent to the relevant analyser.

In terms of workload, most is generated from in- and out-patient services at the 700-bed hospital, plus 800 – 1,000 samples daily from the phlebotomy area of out-patients. "Our workload is 55 percent out-patients, 45 percent in-patients, but we also receive samples from other hospitals for special tests," Bedini pointed out.

By integrating the most frequent automated tests, resources are released for more specialist tasks, whilst new features of the Siemens Healthineers' system – notably automatic maintenance, automatic quality control and calibration – offer further advantages. Previously, such maintenance required manual input and a 20-minute wait for the outcome before processing patient samples. "With Atellica you can schedule maintenance, quality control >>



## PROFILE:

*Dr José Luis Bedini studied medicine at the Universitat Autònoma de Barcelona, where he earned his Master in Management and Direction of Clinical Laboratories. He also received a Master in Hospital Management and Healthcare Services from the University of Barcelona. From 1999 until 2002 he worked in the Clinical Chemistry Department at the Hospital Clínic de Barcelona. Since 2002 he has been Head of the Core Lab Operative Area at Hospital Clínic de Barcelona.*



## CONTACT

### Siemens Healthineers

Laboratory Diagnostics

511 Benedict Avenue · 10591 Tarrytown, NY, USA

phone: +1 914 631 8000 · [www.healthcare.siemens.com](http://www.healthcare.siemens.com)

and calibration when you want. Now, when we come in, we only need to review the results because our controls and maintenance operations had automatically been launched at 5–6 am. That means we can then start with our patient samples one hour in advance, compared to the previous system. This is an important feature."

### Time-saving is significant

According to Bedini, the time saved, compared to six months ago, is significant. The main staff shifts end at the same time – around 3.30 pm – but they can start to work earlier, at 7.45 am, rather than 8.30 am.

"Just by using Atellica we can improve our current turnaround time and, for us, an important indicator is that the physicians are happy. It's good for patients too, because they have the results faster – it's good for everybody, including the technicians, who tell me they feel more relaxed with Atellica."

The lab moved from the legacy system to Atellica Solution in a step-by-step approach, starting with urine samples, then chemistry and immunoassays and finally – when the system was stable and proven – the STATs, as the most critical element.

Lab automation has other benefits: "Just in tubes we've saved more than 900,000 euros, because in the past we needed 3–4 tubes per patient, one for chemistry, one hormones, one tumor markers, but now the same tube can be used – a benefit for patients because we need less blood." Yes, there is a money saving but also less patient discomfort, particularly for those who need frequent testing.

A key facet of Atellica Solution, he said, is the ability to prioritise samples in the system; another benefit is the ability to use the same tube sample for different tests – a major saving in tube usage, Bedini noted. Tubes can be kept in the refrigerated storage connected to the Aptio Automation track after resealing, and if a tube is needed for an additional test, the system will locate it and remove the seal, send it to the right analyser and back to storage. Once a tube is finished with, it is automatically discarded and collected for incineration.

Atellica Solution has no stand-by mode and it's always ready to operate immediately, with technicians able to operate the system from a screen, or via a tablet nearby.

For the Core Lab Operative Area at the Clínic de Barcelona Hospital, the implementation of the Atellica Solution has transformed the operation and offered clear benefits, with improved efficiency, faster turnaround of results and enhanced patient care. ■

## Automation

## Beckman Coulter – DxA 5000

<b>Dynamic inlet:</b>	Up to 1,200 tubes/h
<b>Centrifuges:</b>	Up to 500 tubes/h (1), Up to 1,000 tubes/h (2)
<b>Decapper:</b>	Up to 1,200 tubes/h
<b>Recapper:</b>	Up to 1,200 tubes/h



**Highlights:** The DxA 5000 helps laboratories meet the challenges of today's highly focused healthcare environment through a collection of patented innovations that deliver rapid and consistent turnaround time, provide a new level of comprehensive pre-analytical sample quality detection, and reduce the number of manual processing steps to significantly improve laboratory efficiency. Leveraging first-of-its-kind dynamic system software, the DxA 5000 utilizes Intelligent Routing to bring automated

patient-centric workflow to the laboratory. By understanding the tests requested, sample volume available and real-time analyzer capacity and status, the DxA 5000 continuously calculates the most expeditious route for every patient sample – both STAT and routine.

The DxA 5000 enhances Beckman Coulter's comprehensive portfolio of scalable solutions, and is a key component of its vision to bring workflow automation to laboratories of all sizes.

## Horiba Medical – HELO\* Solution

**Highlights:**

Horiba Medical has developed a new HELO\* configuration thanks to a new Yumizen T6000 island shape. This compact solution allows to connect analyzers (Yumizen H1500/H2500 and Yumizen SPS options) on both sides of the same track. This innovative track configuration generates a very high result production capacity per square meter of floorspace.

The HELO\* Solution is therefore available in four different shapes (Linear, Angular, Workcell, Island) in order to match with many laboratory architectural constraints.

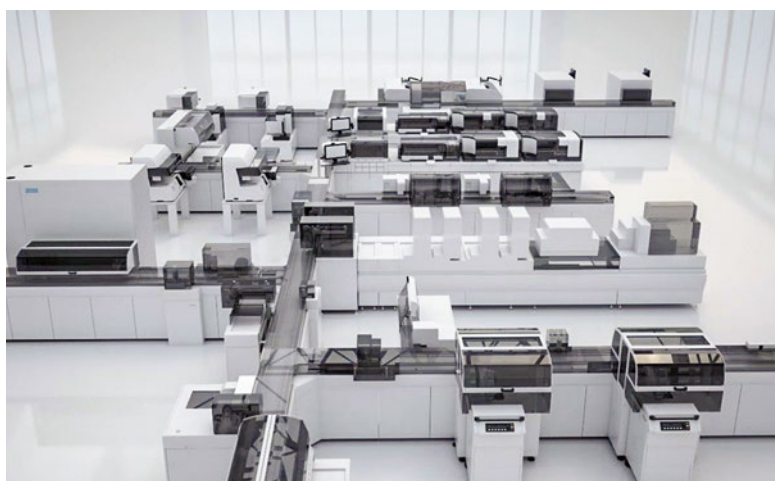
*\*Horiba Evolutive Laboratory Organisation*

## Inpeco SA – Total Laboratory Automation (TLA)

**Highlights:**

FlexLab is the most open automation system capable of managing the complete process of a patient sample, from tubes check-in, through pre-analytical and post-analytical modules, that automates all manual routine tasks, such as identification, sorting, centrifugation, decapping, aliquoting, recapping, storage, disposing and retrieval. FlexLab has over 50 validated connections with the most common analyzers, for many specialties.

FlexLab is a completely scalable system, that adapts to the specific laboratory current needs and is open for future integrations, as the lab evolves. It includes an integrated middleware solution, called Data Management Software, that receives patient results from analyzers, and sends the results to the Lab Information Systems.



## Automation

### Promega – Maxprep Liquid Handler

**Dimension:** 1,069 × 709 × 831 mm (w × h × d)  
**Weight:** 98 kg  
**Sample throughput:** 1–48 samples/hour; (2) 24 position Maxwell RSC 48 or (2) 16 position Maxwell RSC removable trays  
**Number of channels:** 4  
**Assays:** Promega Maxwell Kits

- Highlights:** Complete Nucleic Acid Purification System in combination with Maxwell RSC and Maxwell RSC 48
- Automated Maxwell sample preparation
  - Hands-free nucleic acid extraction on the Maxwell RSC or RSC 48
  - Post-extraction sample preparation for quantitation, normalization and amplification setup using the Maxprep Liquid Handler
  - UV decontamination and barcode scanner



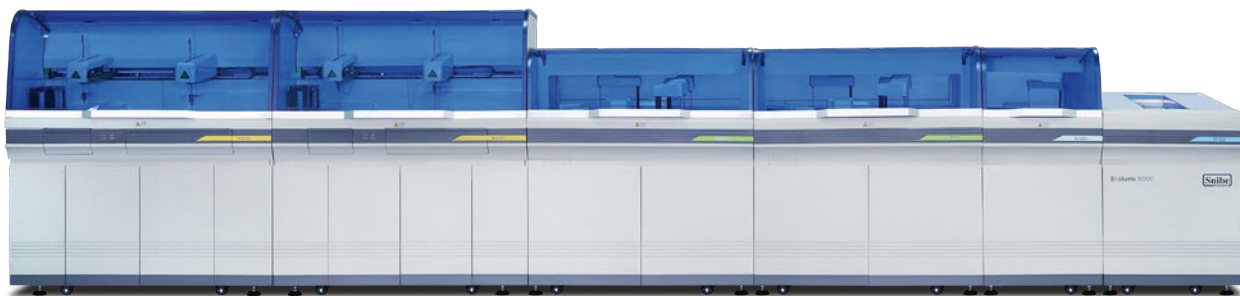
### Siemens Healthineers – Aptio Automation



**Highlights:**

Aptio Automation combines intelligent technologies with Siemens workflow expertise in adaptable, multidisciplinary track designs with intelligent routing, single-sample flow and primary tube sampling. Choose from a selection of pre- and post-analytical processing modules and automation-ready chemistry, immunoassay, hematology, hemostasis and specialty testing analyzers. Our experts perform data-driven simulations, optimization modeling and more to design and monitor your solution for ongoing productivity.

### Snibe – Biolumi 8000



- Highlights:** Sample processing module
- Loading 280 samples at one time
  - Continuous loading and unloading samples during operation
  - Specific STAT channel

- Biochemistry module (B)
- 1,600 tests/hour
  - Clot detection, liquid level detection
  - Wavelength range 340 – 800 nm, detect 16 different wavelengths simultaneously

- Electrolyte module (E)
- 1,000 tests/hour
  - Clot detection, liquid level detection
- Immunoassay module (I)
- 280 tests/hour
  - Clot detection, liquid level detection

# Chemistry & Immunochemistry

 **ABMEDICAL**

**ALSACHIM**  
a Shimadzu Group Company

  
**analyticon**

 **BD**

Clinical Chemistry  
Immunochemistry  
Immunoassays  
Integrated Systems  
Mass Spectrometry  
Electrophoresis/  
Chromatography  
Plasma Protein Testing  
Drug Testing  
Urine Screening  
Rapid Testing  
Research Use Only

 **BECKMAN  
COULTER**

**BioSystems**  
REAGENTS & INSTRUMENTS

**diatron** ● ●

**DRG** 

 **FUJIREBIO**

**Genru** 

  
**greiner**  
BIO-ONE

**mindray**

 **SARSTEDT**

 **SCIEX**

**SENTINEL**  
DIAGNOSTICS

 **SHIMADZU**  
Excellence in Science

**SIEMENS**  
Healthineers 

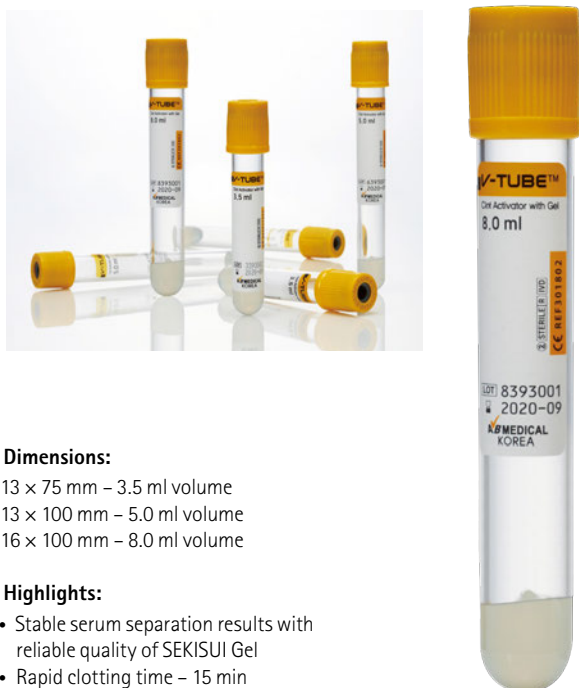
**Snibe**  
Diagnostic

 **sysmex**

**ThermoFisher**  
SCIENTIFIC

## Clinical Chemistry

### AB Medical – V-Tube Clot Activator with Gel



#### Dimensions:

13 × 75 mm – 3.5 ml volume  
 13 × 100 mm – 5.0 ml volume  
 16 × 100 mm – 8.0 ml volume

#### Highlights:

- Stable serum separation results with reliable quality of SEKISUI Gel
- Rapid clotting time – 15 min
- Paper or transparent label available
- Stable and efficient Push-fit Safety Cap: Six-Crown Rib Grip (Korea Patent)
- Made in South Korea

### Alsachim, a Shimadzu group company – Dosimmune



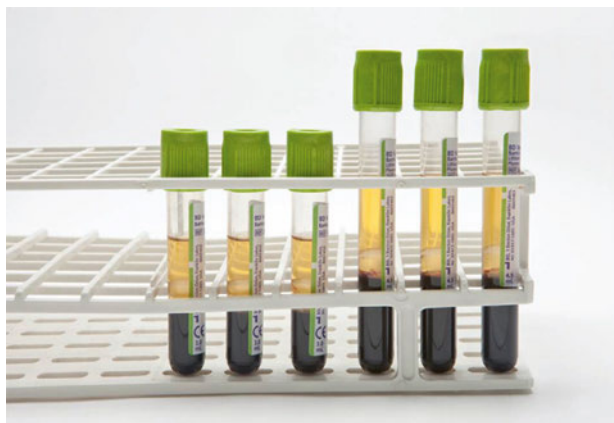
#### Highlights:

Immunosuppressants in whole blood for LC-MS/MS

Dosimmune is a reagent kit based on LC-MS/MS analytical method for the quantification of immunosuppressant drugs in whole blood: Cyclosporin A, Sirolimus, Everolimus, Tacrolimus.

Dosimmune is a turnkey diagnostic device for the rapid and multiplex assay of four immunosuppressant drugs, thanks to inhouse production of stable isotope-labelled internal standards. This multiplex method allows pharmacological therapeutic monitoring of patients treated with immunosuppressants.

### BD Vacutainer Barricor Blood Collection Tube



#### Dimensions:

13 × 75 mm / 13 × 100 mm  
 3 – 5,5 mL volume

#### Highlights:

- BD Barricor is a single-use plastic evacuated tube with a mechanical separator. This technology delivers a leading edge collection and analytical process by eliminating separator artefacts that may interfere with analyte testing and that could lead to instrument downtime.
- This innovation helps deliver the highest diagnostic quality and patient care.
- BD Barricor delivers a faster time-to-result for all patients with no clotting time and a reduction in centrifugation time of up to seven minutes.

### Beckman Coulter – AU5800 Series



#### Dimensions:

1,260 × 2,600 × 1,580 mm (h × w × d)

#### Weight:

1,070 kg

#### Sample throughput:

2,000 – 9,800/h

#### Power consumption:

200 – 240 W

#### Highlights:

The AU5800 series represents the highest throughput and fastest turnaround time in the Beckman Coulter AU chemistry analyzer family. With true random-access capabilities, the AU5800 series is available in four different scalable models, which are designed to meet the needs of the high-volume core hospital laboratories, as well as the ultra-high-volume commercial laboratory market segment.

- Maximize throughput with an intelligent sample management system that optimizes the processing of racks based on the tests ordered
- Ensure quick turnaround time for critical patients with STAT priority testing and auto-repeat of abnormal results



## Beckman Coulter – DxC 700 AU



**Dimensions:** 1,300 × 1,250 × 890 mm (h × w × d)  
**Weight:** 460 kg  
**Sample throughput:** 800 – 1,200/h  
**Power consumption:** 200 – 240 W

- Highlights:** Designed to meet the needs of mid- to high-volume clinical laboratories, the DxC 700 AU reduces the number of test-processing steps by 30 percent due to its intuitive user-interface that allow operators to spend less time on daily tasks and more time producing the quality results that empower better decision-making.
- Simple, intuitive design of the DxC analyzer with the robust throughput capabilities of the AU analyzer
  - Configurable with a total laboratory solution option to connect the DxC 700 AU with pre-analytical automation, immunoassay and clinical IT

## Beckman Coulter – HbA1c Advanced



**Highlights:** The fully automated HbA1c Advanced assay enables mid- to high-volume laboratories to provide physicians with state-of-the-art precision and accuracy for diagnosing diabetes mellitus, monitoring long-term glucose control in individuals with diabetes mellitus and identifying patients who may be at risk of developing diabetes mellitus.

- National Glycohemoglobin Standardization Program (NGSP) certified/DCCT standardized and precise, providing clinically relevant results for diagnosing and monitoring diabetes
- Unaffected by common hemoglobin variants, minimizing misdiagnosis or missed diagnosis for patients with these blood conditions
- Easy to implement and integrate into the laboratory's existing chemistry testing practices, providing workflow efficiency
- Available in a single all-in-one kit for Beckman Coulter DxC 700 AU analyzers

## BioSystems – A15



**Sample throughput:** 150 tests/hour  
**Assays:** Colorimetry, turbidimetry  
**Dimensions:** 840 × 615 × 670 mm (w × h × d)  
**Weight:** 45 kg  
**No. of channels:** 48 samples and 30 reagents (20 refrigerated)

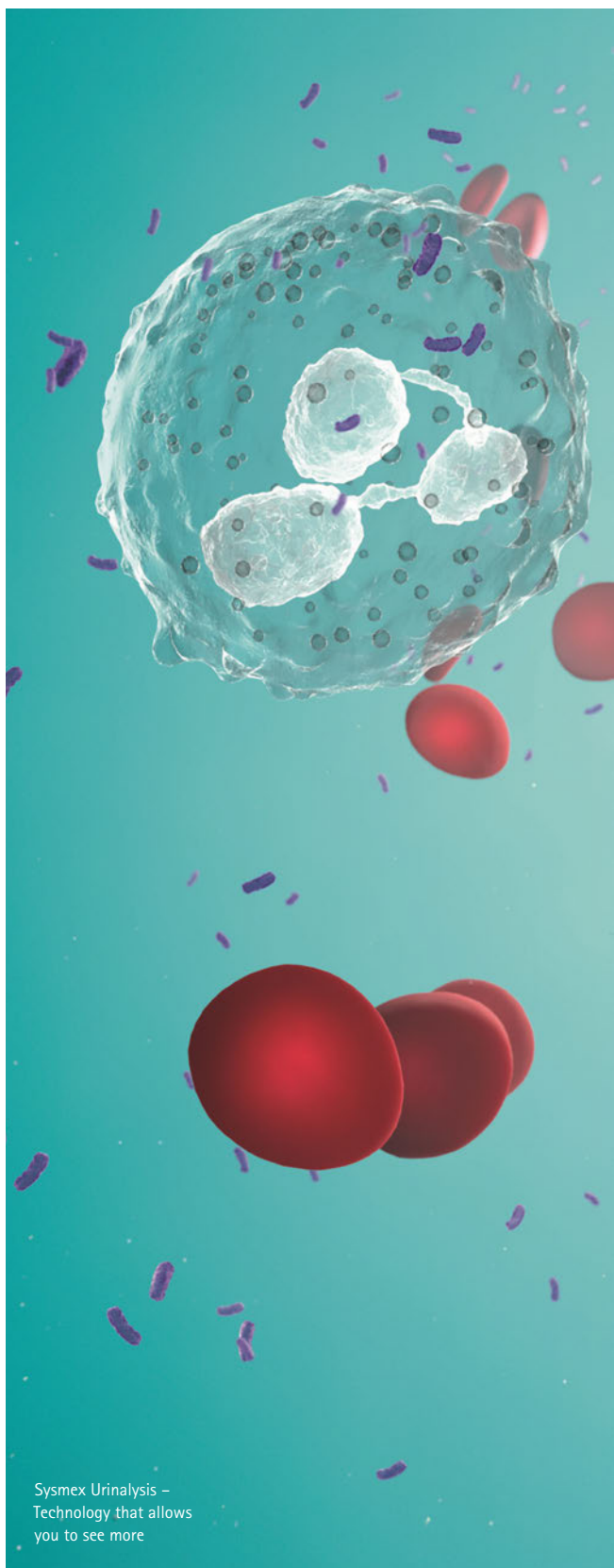
- Highlights:**
- Random access automatic analyzer
  - Fully open system with customized filter configuration and unlimited external applications
  - Improved reagent stability due to the new cooling system
  - Maximum flexibility in samples and reagent loading (primary tubes and sample cups) and reagent configuration
  - Continuous loading of samples during working session (STAT samples) without stopping the analyzer
  - Real prozone (antigen excess) and substrate depletion detection
  - Automatic sample pre- and post-dilution

## BioSystems – BA200



**Sample throughput:** 200 tests/hour  
**No. of parallel samples:** 267 tests/hour with ISE  
**Assays:** Colorimetry, turbidimetry, ISE  
**Dimensions:** 1,077 × 680 × 690 mm (w × h × d)  
**Power Consumption:** 260 VA

- Highlights:**
- STAT and Routine Laboratories Benchtop Random Clinical Chemistry Analyzer
  - Dynamic baseline with SMART LED Technology
  - High reagent and sample capacity (88 positions), the highest grade in flexibility
  - Barcoded dedicated reagents
  - Highly accurate dispensing
  - 120-cuvette rotor with washing station
  - Compact system with low maintenance
  - Real 200 t/h, even with bi reagent reactions



Sysmex Urinalysis –  
Technology that allows  
you to see more

## With the UN-Series, the choice is yours

Using urine to obtain diagnostic insights has been done for thousands of years and still remains an important tool to obtain crucial information. Covering a range of tests, urinalysis may be used to screen for or help to diagnose ailments such as urinary tract infections, kidney disorders, liver problems, diabetes or other medical conditions, just to name a few. Because urinalysis has been around for so long, that means the solutions have come a long way.

Our UN-Series covers the complete urinalysis workflow and allows you to select your solution to set up the workflow as you need it. If you want to perform test strip analysis and you need it done quickly, the UC-3500 is the answer. The UF-5000/UF-4000 – the core of the urinalysis workflow – will then perform sediment analysis via fluorescence flow cytometry. Then, if you wish to complete the automated workflow, the UD-10 performs digital image analysis on outlier samples that require further investigation. This is all tied together by our rule-based workflow management system U-WAM, which allows even further flexibility with individually programmable criteria.

If your lab is growing, your urinalysis solution can grow with you. Whichever urinalysis workflow solution you start with, you can flexibly extend it by adding extra modules at a later stage. Splitting your solution is also possible at any point in time, for example, if order profiles change.

### **UC-3500: sensitivity and speed**

Because we offer routine test strips that include both micro-albumin and creatinine test pads, you can detect kidney damage early on. The UC-3500 offers fast and highly accurate measurements, with the capacity to analyse 276 samples per hour\*. With these two facts combined, it means you are able to begin patient treatment quickly and specifically.



### **CONTACT**

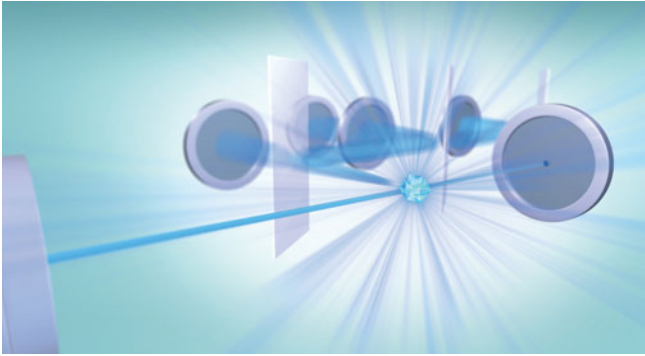
Sysmex Europe GmbH  
Bornbarch 1 · 22848 Norderstedt, Germany  
phone: +49 40 527 26-0  
info@sysmex-europe.com · www.sysmex-europe.com

\* For further detailed information please refer to instructions for use.

\*\* "Bact info" flag is a software flag message and not intended for patient diagnosis use.

## UF-5000/UF-4000: technology that makes a difference

Fluorescence flow cytometry is at the focus of the UF-5000/UF-4000. The cells are separated and counted by generating different signals depending on cell type. You can process all samples on UF or you can do an automatic selection based on results from the UC-3500. Or, if you don't need test strip analysis, the UF can be your primary analyser for all urine samples undergoing sediment analysis.



Superior technology – fluorescence flow cytometry for sediment analysis

Thanks to our unique signal detection, the UF ensures an accurate cell count through the illumination of each separate cell by a semiconductor laser beam. The UF is also able to sub-classify epithelial cells and casts to immediately get an indication of whether a patient is suffering from renal damage, for example, and to which degree.

Every UF has an integrated body fluid mode available with the click of a button and offers nine diagnostic parameters. In body fluids, the crucial cell concentrations are usually very low. In its body fluid mode, the UF covers the minimum detection limit of 15 RBC/ $\mu\text{L}$  2 WBC/ $\mu\text{L}$  using its proven fluorescence flow cytometry method. It can count the red and white blood cells and the total of nucleated cells within about a minute. The differentiation of bacterial or viral infections can also be presumed from the combination of WBC differentiation and bacterial count.

## UD-10: the smart way of digital imaging

In some cases, a closer look at your results is required – with the UD-10 we can truly automate your urinalysis workflow. The digital imaging device, which captures the particle images in urine samples, provides a detailed view of crucial urine particles without performing any manual steps. By defining the trigger criteria for UD analysis, you can modify the workflow to meet your lab's specific needs. With our solution, you only look at those samples and particle types that you wish to investigate further.

UN-Series – modular, flexible and scalable according to your needs



## U-WAM: workflow tailored to you

The Urinalysis Work Area Management system, or U-WAM, brings the whole system together and displays all modules' results on one screen. You get the full diagnostic overview of samples without losing any time or details. To further show that we offer full flexibility, rule sets can be customised for workflow optimisation.

## Where the UN-Series can really make a difference

Bacterial urinary infections are rather common and can lead to serious conditions, however using a UF in your microbiology lab can be extremely beneficial for both clinicians and patients. The UF allows you to promptly rule out negative samples where a UTI is suspected. This means that you can proceed immediately with those that are UTI-positive. From there, you also get the full bacteria count and based on the cells' staining behaviour, whether they are Gram-positive or Gram-negative, which allows clinicians to get a good insight on which antibiotic may work best for the patient.

## More than sediment analysis: infection management

By utilising the 'Bact info' flag\*\*, you can select specific culture media for incubating the positive samples and confirming possible treatment options. You can save a lot of time because initial results are available within minutes instead of days. Treatment can then be started earlier and is more targeted, relieving patients' pain quicker and helping prevent antibiotic resistances.

When it comes to the art of particles, we have superior technology  
[www.art-of-particles.com](http://www.art-of-particles.com)

## Lighting the way with diagnostics

Sysmex is unique in that we are the world's only IVD company that stains particles and utilises fluorescence flow cytometry to get the most accurate count and differentiation of cells.

We aim to shape the advancement of healthcare by providing healthcare professionals around the world with exceptional medical diagnostics products and solutions. Through our application of knowledge and teamwork with our stakeholders and network, and through the creation of products that truly address issues at hand, we are making a positive impact on the way in which laboratories do business. At the end of the day, our ultimate motivator and shared goal is to improve patient care together. ■

## Clinical Chemistry

### BioSystems – BA400



**Sample throughput:** 400 test/hour without ISE  
**No. of parallel samples:** 320 test/hour ISE module  
**Assays:** Colorimetry, turbidimetry, ISE  
**Dimensions:** 1,200 × 1,258 × 720 mm (w × h × d)  
**Power Consumption:** 500 VA

- Highlights:**
- Minimum user maintenance
  - Optical systems based on LED technology that assures unlimited lifetime avoiding lamp replacement and improving sensitivity
  - Photometric range up to 3.5 Abs and optical resolution of 0.0001 Abs
  - Capacity up to 135 sample positions (90 samples with barcode)
  - 88 cooling reagents on board (5–8°C) by 20 and 60 mL dedicated reagent bottles
  - Easy STAT samples positioning
  - Non fixed positions for samples, control, calibrator nor STAT
  - Barcode readers for sample and reagents

### Diatron – Intelligent Walk Away Chemistry with P500



**Sample throughput:** 300 tests/h, 480 with ISE  
**Dimensions:** 900 × 660 × 620 mm (h × w × d)  
**Weight:** 115 kg

- Highlights:**
- Bench top, fully automated Clinical Chemistry system
  - Advanced Windows-based software
  - Uninterrupted workflow, enhanced walk-away operation and remote access diagnostics
  - Full range of barcoded reagents, controls and calibrators

### Genrui – Auto Chemistry Analyzer GS480A



**Sample throughput:** Constant 400 tests/h  
**Assays:** Up to 88 items online  
**No. of channels:** 120 reusable cuvettes  
**No. of parallel samples:** Large capacity with 105 position  
**Dimensions:** 1,100 × 1,120 × 810 mm (w × h × d)

- Highlights:** The GS480A is a high-efficient chemistry analyzer with 400 tests per hour. the excellent performance and large capacity of samples & reagents will provide you a worry-less work. It delivers you accurate result, streamline your workflow and do it with greatest of ease.
- Constant 400 tests/hour
  - Support 88 maximum online items
  - Minimum reaction volume: 150µl
  - Unique 13 wavelengths with grating
  - One press to finish all parameter setting
  - Support auto diluent and rerun for abnormal sample

### Genrui – Auto Chemistry Analyzer GS300Plus



**Sample throughput:** Up to 240 tests/h  
**Assays:** Up to 58 items online  
**No. of channels:** 81 reusable cuvettes  
**No. of parallel samples:** Large capacity with 60 position  
**Dimensions:** 880 × 570 × 650 mm (w × h × d)

- Highlights:** The GS300Plus is a bench-top chemistry analyzer with high efficiency and large capacity. We provide a much friendly work station. It delivers you accurate result, streamline your workflow and do it with greatest of ease.
- Up to 240 tests/hour
  - Support 58 maximum online items
  - 81 reaction positions
  - Minimum reaction volume: 150µl
  - Eight wavelengths with filters
  - One press to finish all parameter setting
  - Support LAN and Ethernet RJ45

## Genrui – Auto Electrolyte Analyzer GE500



**Sample throughput:** Up to 100 samples/h  
**Assays:** Up to 8 items on demand  
**No. of channels:** Auto loader with 32 positions  
**No. of parallel samples:** Whole blood, serum, plasma, urine  
**Dimensions:** 330 × 235 × 439 mm (w × h × d)

**Highlights:** GE500 supports flexible combinations with the parameters including K<sup>+</sup>, Na<sup>+</sup>, Cl<sup>-</sup>, iCa<sup>2+</sup>, Li<sup>+</sup>, Mg<sup>2+</sup>, PH, TCa. All worth and beyond your expectation.

- Throughput: 100 samples/hour
- Sample Type: Whole blood, Serum, plasma, urine
- Auto loader with 32 positions
- All-in-one reagent pack with long validity
- Easy to use software

## Greiner – Vacuette CAT Serum Fast Tube



**Highlights:**

- Tube combines the speed of a plasma tube with the properties of serum
- Shorter preanalytical process
- Full coagulation in just 5 minutes
- Improved turnaround time
- Blood collection can be performed shortly before transport of the blood samples
- Quicker lab results with on-site analysis

## Mindray – BS-480 Clinical Chemistry Analyzer



**Sample throughput:** Constant 400 t/h, up to 560 t/h with ISE  
**No of parallel samples:** Up to 78 on-board chemistry tests  
**Dimensions:** 1,185 × 1150 × 710 mm (w × h × d)  
**Weight:** 300 kg

**Highlights:**

- Discrete, random access, fully automated
- Constant throughput with 400 photometric t/h, up to 560 t/h with ISE
- 24-hour on board refrigerated reagent compartment at 2~10 C
- Reusable cuvettes with auto-washing station
- Two independent mixing stirrers
- Clot detection, automatic probe cleaning, liquid level detection & collision protection (V&H)
- Reversed grating system with 12 wavelengths (340~800nm)
- Pre-dilution and post-dilution for sample
- Built-in barcode scanner
- Bi-directional LIS interface

## Mindray – BS-240Pro Clinical Chemistry Analyzer



**Sample throughput:** Constant 240 t/h, up to 400 t/h with ISE  
**Dimensions:** 860 × 550 × 660 mm (w × h × d)  
**Weight:** 115 kg

**Highlights:**

- Constant throughput with 240 photometric t/h, up to 400 t/h with ISE module
- Large and flexible capacity: up to 100 sample/reagent positions (50 fixed + 50 interchangeable)
- Reduced reagent consumption: 100 µL minimum reaction volume
- Intelligent probe with liquid level detection, V&H collision detection, inventory monitoring, reagent pre-heating and optional clog detection
- Grating photometer with 12 wavelengths, dual-diaphragm and dual-lens
- HbA1c smart-sampling function, automatic hemolysis

## Clinical Chemistry

### Mindray – BS-800M Clinical Chemistry Analyzer



**Sample throughput:** Constant 800 t/h, up to 1,200 t/h with ISE  
**No of parallel samples:** Up to 68 on-board chemistry tests  
**Dimensions:** 1,600 × 1,200 × 1,015 mm (w × h × d)  
**Weight:** ≤ 450 kg for analytical unit, 150 kg for SDM

- Highlights:**
- Modular system: flexible connection
  - HbA1c smart sampling, automatic hemolysis
  - Accurate: high pipetting precision, coolant circulation reagent refrigeration direct solid-heating system, effective mixing unit and intelligent clot detection
  - Innovative: reagent bubble detection, dot light source and water quality monitor
  - Cost-efficient: large capacity with SDM racking system, 100 µl minimum reaction volume, one key STAT, continuous reagent loading and unloading
  - Original calibrators with traceability

### Sarstedt – S-Monovette GlucoExact



- Highlights:**
- The S-Monovette GlucoExact stands for precise determination of glucose and stabilizes the glucose concentration immediately for up to 96 hours at room temperature.
  - It meets the Gestational Diabetes Guidelines of the German Diabetes Association (DDG) and the German National Disease Management Guidelines (NVL) for type 2 diabetes.

### Sarstedt – S-Monovette Lithium Heparin Gel<sup>+</sup>



- Highlights:**
- Laboratory results influence therapy decisions by 70 to 85 percent. For both the doctor and the patient, it is important that laboratory results are incorporated into therapy decisions quickly and without compromise.
  - The S-Monovette Lithium Heparin Gel<sup>+</sup> guarantees reliable sample quality at a reduced TAT: The centrifugation time is reduced by up to 50 percent which enables faster therapy decisions. Also the equipment utilization is optimized at an improved workflow.

### Sentinel – Sentifit 270 (Sysmex)



**Sample throughput:** Up to 270 samples/h  
**Dimensions:** 625 × 870 × 670 mm (h × w × d)  
**Weight:** 120 kg  
**Assays:** Faecal Immunochemical Testing (FIT) and Faecal Calprotectin (fCAL)

- Highlights:**
- The Sentifit 270 is a fully automatic system dedicated to faecal testing
  - Continuous sample loading
  - Automatically detects appropriate buffer level in tube
  - Integrated sensor prevents blocking of the sampling needle
  - Automatically detects prozone and high concentration samples, which can be automatically diluted and rerun
  - High on-board reagent capacity for up to 1,250 tests
  - Refrigerated reagent positions for long storage stability
  - Highly stable latex reagents
  - Integrated barcode reader

## Immunochemistry

### DRG Instruments – DRG:Hybrid-XL



- Sample throughput:** 40 tests per run
- Assays:** Anti-tTG, Anti-DGP, Calprotectin, 17-OH Prog., Free Testo., Renin, Aldosterone, 25-OH Vitamin D, Hcpidin-25, Salivary Cortisol, TM-CA72-4, HbA1c, Cystatin C and more
- Dimensions:** 586 × 608 × 635 mm (h × w × d)
- Highlights:** DRG:Hybrid-XL is a fully-automated bench top analyzer with high flexibility and an intuitive user interface, that simplifies daily work. This unique technology allows the simultaneous determination of immunoassays, immunoturbidimetry, as well as clinical chemistry tests in the same sample. Calibration is provided via barcoded master curve and a two-point re-calibration set. Calibration as well as reagent cartridges offers a long stability.

### Fujirebio – Lumipulse G1200



- Sample throughput:** 120 tests/h
- Time to first result:** 30 min
- Sample capacity:** Up to 100 samples
- Reagent capacity:** 504 tests on board
- Dimensions:** 1,450 × 1,200 × 800 mm (h × w × d)

- Highlights:** A compact, robust and reliable fully automated chemiluminescent enzyme immunoassay analyzer. The Lumipulse G1200 offers optimized reagent and consumables handling, true random access, and a constant throughput regardless of the assay format or combination. The unique mono test cartridge eliminates open reagent bottle stability concerns. It comes with the broad menu of routine and unique Lumipulse G biomarkers and is fully compatible with laboratory automation systems (LIS).

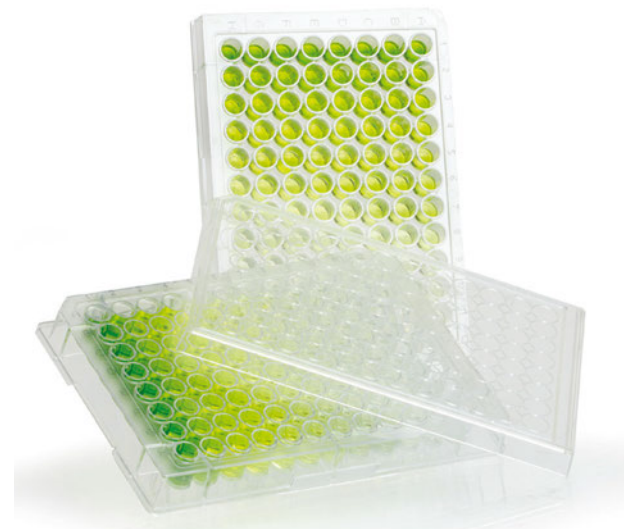
### Fujirebio – Lumipulse G600II



- Sample throughput:** 60 tests/h
- Time to first result:** 35 min
- Sample capacity:** Up to 36 samples (incl. 3 priority specimens)
- Reagent capacity:** 112 tests on board
- Dimensions:** 642 × 890 × 725 mm (h × w × d)

- Highlights:** A fully automated benchtop chemiluminescent enzyme immunoassay analyzer. The Lumipulse G600II offers optimized reagent and consumables handling, true random access, and a constant throughput regardless of the assay format or combination. The unique mono test cartridge eliminates open reagent bottle stability concerns. It comes with the broad menu of routine and unique Lumipulse G biomarkers.

### Sarstedt – ELISA Plates / Micro test plates for immunoanalytics



- Highlights:** One of the analyses most commonly used is the Enzyme-Linked Immunosorbent Assay (ELISA). With this method, even the smallest concentrations of a range of substances (proteins, peptides, antibodies, hormones etc.) can be detected and quantified from complex solutions.

## Immunoassays

### Beckman Coulter – Access Anti-Müllerian Hormone (AMH)



**Highlights:** Beckman Coulter's automated Access AMH assay aids healthcare providers in the assessment of a woman's ovarian reserve, and helps guide the clinical management of women struggling with infertility or planning to become pregnant later in life. Access AMH is the only automated AMH immunoassay to use a recombinant human antigen, giving patients and healthcare providers consistent and dependable results. The measurement of circulating anti-Müllerian hormone (AMH) has been applied to a wide range of clinical applications. Today, its use is mainly based on its ability to reflect the number of antral and pre-antral follicles present in the ovaries (the ovarian reserve).

- The Access AMH assay is a paramagnetic particle chemiluminescent immunoassay for the quantitative determination of AMH levels
- The test is intended for use in conjunction with other clinical and laboratory findings, such as antral follicle count, before starting fertility therapy

### Beckman Coulter – Prostate Health Index (phi)



**Highlights:** The Prostate Health Index (phi) is a calculation that uses a combination of three blood tests to produce a "phi score". The "phi score" provides additional information as to what elevated PSA levels might mean and the probability of finding detectable prostate cancer on biopsy. The phi results are intended to be used as an aid in determination of the risk of prostate cancer from benign prostatic conditions in men 50 years of age and older with total PSA results in the  $\geq 2$  to  $\leq 10$  ng/mL, with a negative DRE findings that is not suspicious for cancer.

When combined with the patients' clinical risk factors and family history, the phi score can help determine individualized patient management decisions. Prostatic biopsy is required for diagnosis of cancer.

### Beckman Coulter – Access 25(OH) Vitamin D Total



**Highlights:** The Access 25(OH) Vitamin D Total assay is part of Beckman Coulter's Bone Metabolism portfolio on the UniCel DxI and Access 2 systems. The assay is standardized to the NIST-Ghent ID-LC-MS/MS Reference Method Procedure (RMP) and provides excellent stability and reproducibility.

- Accurate clinical assessment of vitamin D status provided by measurement of total 25(OH) vitamin D with equimolar measurement of 25(OH) vitamin D2 and 25(OH) vitamin D3
- Excellent stability and reproducibility combined with greater storage convenience from a unique, opaque reagent pack designed to prevent light-induced reagent degradation

### Beckman Coulter – Access Active B12



**Highlights:** The WHO standardized Access Active-B12 assay is Beckman Coulter's newest addition to the most comprehensive anemia testing panel on the market today. Scientific publications demonstrate Active-B12 to be the earlier, more sensitive indicator for B12 deficiency with reduced indeterminate results over current B12 testing methods. Access Active-B12's leading time to first result, wide measuring range and extended calibration stability maximizes laboratory workflow while antibodies specific to the active-form of B12 eliminates interference to intrinsic factor antibodies.

- Access Active-B12 provides industry leading time to first result and no interference from intrinsic factor antibodies
- Widest measuring range on the market and longer time between calibrations to bring efficiency to laboratory workflow



## Beckman Coulter – Access High Sensitivity Troponin I (hsTnI)



**Highlights:** The Access hsTnI assay provides the advanced diagnostic capabilities necessary to aid physicians in diagnosing at risk patients for acute myocardial infarction earlier and discharging non-acute patients faster. In comparison to standard troponin assays, high-sensitivity assays demonstrate significantly improved precision at and below the 99th percentile upper reference limit (URL), allowing better discrimination of small differences in troponin values between serial measurements.

- Aids in rapid diagnosis of AMI and confidently excludes AMI in as little as one hour after patient presentation
- Provides optimal precision at concentrations about 10x lower than previous generation troponin assays. Improved precision at the clinical cutoff reduces chance of misclassifying patients in the Emergency Department

## Beckman Coulter – Access Procalcitonin (PCT)



**Highlights:** Access PCT aids physicians in the risk assessment of critically ill patients for progression to severe sepsis or septic shock. With results you can trust in approximately 20 minutes. Access PCT allows healthcare providers to integrate procalcitonin testing into their routine sepsis workups on core laboratory analyzers as a primary or reflex test programmed through Beckman Coulter's REMISOL Advance middleware. Such integration simplifies laboratory workflow and optimizes institutional sepsis management protocols while reducing the operation expense of maintaining costly dedicated instrumentation.

Access PCT provides confidence in results and improved patient care through:

- >95 percent overall agreement with predicate method for accurate assessment of patients at risk of progression to severe sepsis and septic shock
- State-of-the-art sensitivity and low-end precision
  - 20 percent CV LoQ of 0.02 ng/mL
  - CV ≤ 8 percent at concentrations ≥0.150 ng/mL
- Minimal sample draw of 35 µl pick-up volume

## Beckman Coulter – Access 2 Immunoassay System



**Dimensions:** 500 × 900 × 610 mm (h × w × d)  
**Weight:** 91 kg  
**Sample throughput:** Up to 100/h  
**Assays:** > 50 pre-programmed, bar-coded immunoassay methods

**Highlights:** Designed to have the robustness of a reference-lab immunoassay analyzer in the convenient size of a benchtop instrument, the Access 2 delivers quality, reliability and speed without sacrificing valuable floor space. The Access 2 features an extensive immunoassay diagnostic-testing menu of more than 50 tests including AMH and TSH (3rd IS).

- Standardized reagent and assay testing menus can be used across all immunoassay platforms to drive laboratory efficiency and provide consistent results across healthcare networks

## Beckman Coulter – UniCel Dxl 800 Access Immunoassay System



**Dimensions:** 1,700 × 1,710 × 970 mm (h × w × d)  
**Weight:** 630 kg  
**Sample throughput:** Up to 400 tests/h  
**Assays:** > 50 preprogrammed, bar-coded immunoassay methods

**Highlights:** The UniCel Dxl 800 includes proven chemiluminescent technology and one of the highest throughput systems available on the market. High volume labs can decrease process steps and improve turnaround time by simplifying and automating immunoassay testing to a single platform.

- Beckman Coulter's immunoassay instruments have common software interfaces and consumables across the whole family, enabling operators to train more quickly, minimize inventory, and ensure consistency in results across platforms

## Immunoassays

### Mindray – CL-900i Chemiluminescence Immunoassay System



<b>Sample throughput:</b>	Up to 180 tests/h
<b>No of channels:</b>	15
<b>Assays:</b>	63
<b>Dimensions:</b>	860 × 740 × 560 mm (w × h × d)
<b>Weight:</b>	130 kg

- Highlights:**
- High throughput up to 180 tests per hour
  - One of the smallest benchtop CLIA analyzer
  - Reagent capacity with 15 positions
  - Single cuvette system
  - Dual substrate and automatically switch the empty one
  - Intuitive software interface, easy access to all functions
  - Continuously loading of Intelligent consumables management reagents and consumables

### Mindray – CL-1000i Chemiluminescence Immunoassay System



<b>Sample throughput:</b>	Up to 120 tests/h
<b>No of channels:</b>	25
<b>Assays:</b>	63
<b>Dimensions:</b>	1,300 × 760 × 600 mm (w × h × d)
<b>Weight:</b>	225 kg

- Highlights:**
- High throughput up to 120 tests per hour
  - Benchtop analyzer
  - Large reagent capacity with 25 positions
  - Sample rack system
  - STAT lane
  - Single cuvette system
  - Dual substrate and automatically switch the empty one

### Mindray – CL-1200i Chemiluminescence Immunoassay System



<b>Sample throughput:</b>	Up to 180 tests/h
<b>No of channels:</b>	25
<b>Assays:</b>	63
<b>Dimensions:</b>	1,400 × 760 × 600 mm (w × h × d)
<b>Weight:</b>	225 kg

- Highlights:**
- High throughput up to 180 tests per hour
  - Benchtop analyzer
  - Large reagent capacity with 25 positions
  - Sample rack system
  - STAT lane
  - Single cuvette system
  - Dual substrate and automatically switch the empty one

### Mindray – CL-2000i Chemiluminescence Immunoassay System



<b>Sample throughput:</b>	Up to 240 tests/h
<b>No of channels:</b>	36
<b>Assays:</b>	63
<b>Dimensions:</b>	2,150 × 1,020 × 1,200 mm (w × h × d)
<b>Weight:</b>	750 kg

- Highlights:**
- High throughput: up to 240 tests per hour
  - Measurement principle: enhanced ALP-AMPPD method
  - Reagent carousel: 36 reagent positions with non-stop refrigerating
  - Sample handling: up to 300 samples can be loaded in one batch, sample loading and offloading continuously by sample racks, fast prioritizing STAT samples
  - Continuously loading of reagents, substrate, cuvettes, wash buffer and waste bags

# Fast, Accurate True High- Sensitivity Troponin I Results

They're counting on you

Visit us  
at AACC  
Booth  
#1039



## Powered by Atellica® Solution

When every minute counts for cardiac patients, you can be confident in the Siemens Healthineers true High-Sensitivity Troponin I assay to provide results with improved sensitivity and precision at the low end of the assay range.

Combined with the revolutionary STAT capabilities of the Atellica Solution, this 10-minute assay enables clinicians to quickly triage chest pain patients.

See our website or ask your sales representative for more information.

[siemens-healthineers.com/TrueTroponin](https://www.siemens-healthineers.com/TrueTroponin)

**SIEMENS**  
Healthineers

A91DX-9634-A3-A00 © Siemens Healthcare Diagnostics Inc., 2019  
Atellica is a trademark of Siemens Healthcare Diagnostics Inc.  
Product availability may vary from country to country and is  
subject to varying regulatory requirements.

## Immunoassays

### Mindray – CL-6000i Chemiluminescence Immunoassay System



**Sample throughput:** Up to 480 tests/h  
**No of channels:** 36  
**Assays:** 63  
**Dimensions:** 2,150 × 1,166 × 1,300 mm (w × h × d)  
**Weight:** 580 kg

- Highlights:**
- Industrial highest throughput: up to 480 tests per hour
  - Measurement principle: enhanced ALP-AMPPD method
  - Reagent carousel: 36 reagent positions with non-stop refrigerating
  - Sample handling: up to 300 samples can be loaded in one batch, sample loading and offloading continuously by sample racks, fast prioritizing STAT samples
  - Continuously loading of reagents, substrate, cuvettes, wash buffer and waste bags
  - Zero daily maintenance

### Snibe – Maglumi 800



**Sample throughput:** 180 tests/h  
**Dimensions:** 1,020 × 720 × 560 mm (h × w × d)

- Highlights:**
- On board capability: up to 40 samples
  - Reagent position: 9
  - Refrigerated sample and reagent area
  - Clot detection
  - Liquid level detection
  - Auto dilution for high concentration sample
  - Color touch screen
  - Bi-communication with LIS via ASTM protocol

### Snibe – Maglumi 1000



**Sample throughput:** 120 tests/hour  
**Dimensions:** 1,350 × 760 × 1,580 mm (h × w × d)

- Highlights:**
- On board capability: up to 144 samples
  - Reagent position: 15
  - Refrigerated reagent area
  - Clot detection
  - Liquid level detection
  - Auto dilution for high concentration sample
  - Color touch screen
  - Bi-communication with LIS via ASTM protocol

### Snibe – Maglumi 2000



**Sample throughput:** 180 tests/h  
**Dimensions:** 1,350 × 760 × 1,580 mm (h × w × d)

- Highlights:**
- On board capability: up to 144 samples
  - Reagent position: 15
  - Refrigerated reagent area
  - Clot detection
  - Liquid level detection
  - Auto dilution for high concentration sample
  - Color touch screen
  - Bi-communication with LIS via ASTM protocol

## Snibe – Maglumi 2000 Plus



**Sample throughput :** 180 tests/h  
**Dimensions:** 1,440 × 760 × 1,520 mm (h × w × d)

- Highlights:**
- On board capability: up to 144 samples
  - Reagent position: 25
  - Refrigerated sample and reagent area
  - Clot detection
  - Liquid level detection
  - Auto dilution for high concentration sample
  - Color touch screen
  - Bi-communication with LIS via ASTM protocol

## Snibe – Maglumi 4000 Plus



**Sample throughput:** 280 tests/h  
**Dimensions:** 1,380 × 890 × 1,600 mm (h × w × d)

- Highlights:**
- On board capability: up to 144 samples
  - Reagent position: 25
  - Refrigerated sample and reagent area
  - Clot detection
  - Liquid level detection
  - Auto dilution for high concentration sample
  - Color touch screen
  - Bi-communication with LIS via ASTM protocol

## Integrated Systems

### Mindray – SAL 6000 Modular System



**Sample throughput:** Chemistry 1,200 tests/h,  
 Immunology up to 240 tests/h  
**No of channels:** 36  
**Assays:** 63  
**Dimensions:** 3,935 × 1,016 × 1,145 mm (w × h × d)  
**Weight:** 1,078 kg

- Highlights:** The SAL 6000 Modular System is a high-performance integrated system connecting seamlessly the BS-800M Chemistry Analyzer with the CL-2000i Chemiluminescence Immunoassay Analyzer, with a throughput of up to 800 photometric tests per hour and 240 tests per hour respectively. The system offers a large capacity of 300 sample positions and 36 reagent positions, and supports non-stop continuous sample loading.

### Mindray – SAL 9000 Modular System



- Highlights:**
- Consist of clinical chemistry analyzer BS-2000M and chemiluminescence immunoassay analyzer CL-6000i
  - Large capacity: new rack system with up to 30 racks (300 samples), continuous loading supported
  - Easy operation: Intuitive interface for ONE integrated system operation software, real-time indication of cuvettes, real-time QC status monitoring, waste and wash buffer status, reflex and re-run function, step-by-step maintenance guide, etc
  - New SDM achieves effective distribution, quick response, fast STAT



Author: *Tiphaine Robin, PhD, Centre Hospitalier Universitaire Limoges  
(Member of Shimadzu European Innovation Center)*

# 5-FluoroUracil: Curing or killing the patient?

Solution for screening of dihydropyrimidine dehydrogenase deficiency (DPD) to decrease the risk of severe toxicities related to fluoropyrimidines known as 5-fluorouracil (5-FU) or capecitabine.

Fluoropyrimidine-based chemotherapies are widely used, at least in the European area, for treating various types of cancer including digestive, breast, throat and brain cancer. Fluoropyrimidines are a group of anticancer drugs including the well-known 5-FluoroUracil (5-FU) and the prodrug capecitabine. Fluoropyrimidine-based treatment can lead to severe toxicities or even lethal toxicity, but this is a rarely occurring state unless the patient suffers from a deficiency in the activity of the related enzyme involved in its metabolization, the so-called DPD or

dihydropyrimidine dehydrogenase. Administered intravenously, the Fluoropyrimidine molecule immediately undergoes intensive hepatic metabolism due to the action of the dihydropyrimidine dehydrogenase enzyme (DPD). Thus, only 10 percent of the administered dose is active. Since the active proportion is very low, doses administered are much greater than the usual dosages. It is therefore highly recommended to screen for partial or full deficiency of DPD to adjust the dose of 5-FU administered to patients.



In this context, beginning in 2018, the French agency regulating medicinal product safety ruled in favor of routine screening for DPD deficiency before treatment with fluoropyrimidine.

Several technologies are available on the market:

- Genotyping of the DPD gene has the advantage of producing a fast, relatively inexpensive and unambiguous response using automated techniques. Specificity is very good but sensitivity is relatively poor.
- Phenotyping is much more time-consuming with more complicated methods, difficulty of automation and a lower level of evidence.
  - The indirect phenotypic technique, currently the most used, is the determination of overall DPD activity based on monitoring of the  $UH_2/U$  ratio in plasma. This analysis uses sample extraction followed by separation in high performance liquid chromatography coupled with mass spectrometry detection. This technique is faster and cheaper than the direct assay of activity in peripheral blood mononuclear cells.

Following an observation period, Haute Autorité de Santé (France) and INCa (Institute National du Cancer) recommend testing for DPD deficiency by determination of uracil plasma concentration [uracilemia] where fluoropyrimidine treatment is planned. The INCa statistics database estimated around 100 000 patients receiving fluoropyrimidine-based chemotherapy each year in France, increasing the need for

a quick solution. This monitoring can be done by checking the ratio of dihydrouracil ( $UH_2$ ) to Uracil (U) and/or uracilemia using LC-MS/MS technology as mentioned earlier, and the criteria below are recommended.

Ratio U/ $UH_2$	Prescription
Between 3 and 4	Standard dosage
Between 2 and 3	Warning: Dosage reduction not systematic
Between 1 and 2	Dosage reduced from 15 to 20 percent
0,5 to 1	Dosage reduced by 30 percent
< 0,5	Use not recommended

Uracilemia	Prescription
Below <16 ng/ml	Standard dosage
$\geq 16$ ng/mL	Dosage reduced from 15 to 50 percent
>100 ng/ml	Use not recommended

There have been numerous method developments around the world to analyze the  $UH_2/U$  ratio by LC-MS/MS but all of them include complex sample preparation such as LLE (liquid-liquid extraction), centrifugation or SPE (solid phase extraction), making sample preparation both time-consuming and tedious.

The recent urge for systematic screening of all patients undergoing 5-FU treatment in France has placed laboratories under much pressure due to the low throughput of existing methods.

To cope with the situation, we propose a new solution based on the use of the CLAM-2030, a novel fully automated sample preparation system by Shimadzu, coupling a high-pressure liquid chromatography (NEXERA-X2, Shimadzu) and a triple quadrupole mass spectrometer (LCMS-8060, Shimadzu).

Launched in April 2016, the CLAM-2000 has already demonstrated its capabilities for automation prior to LC-MS/MS analysis in various fields such as clinical chemistry and toxicology. The new CLAM-2030 version improves reproducibility and accuracy of quantitation by implementation of new closed reagent vials as well as several hardware and software functionalities. The ability of the CLAM-2030 to draw sample from primary or secondary tube, and the capability for sample treatment with overlapping prior to analysis, allow quick sample pretreatment of less than 10 min including protein precipitation and fast LCMS quantitation of U and  $UH_2$  in 15 min. In addition, sample volume is low when compared to existing LCMS methods involving several extraction steps, reducing the burden for large blood sampling.

The methods developed (details currently under confidentiality agreement) easily reach an LOQ of 2,5 ng/ml for both U and  $UH_2$  compounds in plasma with good linearity for quantitation ( $r^2 > 0,995$ ). The method was developed with the aim of reaching the requirements of ISO 15189 in the department of Pharmacology and Toxicology of the Limoges University Hospital (France). In particular, the capability to quantify below or above the decision threshold (uracilemia at 16 ng/ml) was evaluated. ■

ISBN number: 978-2-37219-416-7, link to full report in French: [https://www.hassante.fr/portail/jcms/c\\_2891090/fr/methodes-de-recherche-d-un-deficit-en-dihydropyrimidine-deshydrogenaseisant-a-prevenir-certaines-toxicites-severes-associees-aux-traitements-incluant-une-fluoropyrimidine-5-fluorouracileou-capecitabine](https://www.hassante.fr/portail/jcms/c_2891090/fr/methodes-de-recherche-d-un-deficit-en-dihydropyrimidine-deshydrogenaseisant-a-prevenir-certaines-toxicites-severes-associees-aux-traitements-incluant-une-fluoropyrimidine-5-fluorouracileou-capecitabine)

Document from GPCO-Uncancer: Dépistage du déficit en dihydropyrimidinedehydrogénase (DPD) et sécurisation des chimiothérapies à base de 5FU (fluorouracile) ou de capécitabine (XéloDa)

Loriot M-A, et al. Dépistage du déficit en dihydropyrimidine deshydrogénase (DPD) et sécurisation des chimiothérapies à base de fluoropyrimidines : mise au point et recommandations nationales du GPCO-Uncancer et du RNPgX. Bull Cancer (2018), <https://doi.org/10.1016/j.bulcan.2018.02.001>



## CONTACT

**Shimadzu Europa GmbH**  
 Albert-Hahn-Str. 6-10, 47269 Duisburg, Germany  
 phone: +49-203-76 87 0 · Ffx: +49-203-76 66 25  
[shimadzu@shimadzu.eu](mailto:shimadzu@shimadzu.eu) · [www.shimadzu.eu](http://www.shimadzu.eu)

## Integrated Systems

### Siemens Healthineers – Dimension EXL Chemistry System



**Sample throughput:** Up to 440 photometric chemistry tests/h and 187 electrolyte tests/h  
Up to 167 heterogeneous immunoassay tests/h

**Highlights:** Siemens Healthineers was the first company to integrate chemistry and immunoassay testing in one instrument, simultaneously processing tests from one sample tube to improve workflow efficiency. The Dimension EXL integrated system includes our patented LOCI homogeneous chemiluminescent technology, offering fast immunoassay reactions with high sensitivity and low sample volumes.

Product availability varies by country.

### Siemens Healthineers – Atellica Solution



**Highlights:** Atellica Solution: Flexible, scalable, automation-ready immunoassay and chemistry analyzers engineered to deliver control and simplicity so you can drive better outcomes. Experience the power of the Atellica Solution, featuring patented bidirectional magnetic sample transport technology, the flexibility to create over 300 customizable configurations, and a broad assay menu with proven detection technologies.

Product availability will vary by country.

## Mass Spectrometry

### Sciex – Citrine LC-MS/MS: the most sensitive MD mass spectrometer



## One solution for every challenge

**What couldn't be seen. Until now. What couldn't be done. Until now.**

- Leverage the ultimate sensitivity of the Citrine MS/MS system to reliably measure at picomole levels for clinically relevant biomarkers and metabolites
- Monitor 100's of analytes simultaneously with uncompromised accuracy, precision and sensitivity
- Analyse a wider range of compounds in a single injection with 5 msec polarity switching
- Enhance the capabilities of your analyses with QTRAP technology

**Tell us what you can't do**

- Can the sensitivity of Citrine MS/MS simplify your extraction and reduce your laboratory's consumables costs?
- Can the Citrine fast polarity switching allow you to get more information from a single injection?
- Can the QTRAP technology inside Citrine allow you to consider alternative matrices and analytes?
- Can Citrine give your laboratory a competitive edge?

*You know what you can do today. Come and see what you can do tomorrow. Contact your local SCIEX representative today to arrange your introduction.*



## Shimadzu – LCMS-8050 CL



**Dimensions:** 1,180 × 540 × 610 mm (w × d × h)

**Weight:** 140 kg

**Highlights:** Triple Quadrupole Mass Spectrometry is the method of choice for quantification of trace-level analytes in complex samples for a variety of applications including clinical research, forensic, toxicology, pharmacokinetics. Combined with our world-leading UHPLC systems, and maintaining Shimadzu's proprietary ultrafast technologies (UFMS), which include high-speed MRM transitions, MS/MS acquisition, and ultra-high speed polarity switching, the LCMS-8050 can dramatically improve analytical throughput.

## Shimadzu – LCMS-8045 CL



**Dimensions:** 1,180 × 540 × 610 mm (w × d × h)

**Weight:** 140 kg

**Highlights:** The LCMS-8045 offers the proven high sensitivity, high speed and robustness of Shimadzu's UFMS series to provide highly reliable data for applications that demand the sensitivity and speed of a mass spectrometer, such as for simultaneous analysis used in the clinical research field. Due to the heated-ESI probe and UFSweeper II collision cell, it offers the highest sensitivity in the middle-range class (UFsensitivity).

## Shimadzu – LCMS-8060 CL



**Dimensions:** 1,180 × 540 × 610 mm (w × d × h)

**Weight:** 140 kg

**Highlights:** The LCMS-8060 delivers the highest sensitivity and fastest analysis speed of any LCMS on the market today. A newly developed UF-Qarray boosts ion intensity but suppresses noise. By improving the ion sampling device, the ion guide, and vacuum efficiency, Shimadzu has achieved an unprecedented sensitivity in quantitative analysis by LC/MS/MS while keeping high robustness for daily analysis.

## Shimadzu – nSMOL Antibody BA Kit



**Assays:** 100

**Highlights:** nSMOL is a proprietary, innovative technique from Shimadzu, enabling selective proteolysis of the Fab region of monoclonal antibodies. The nSMOL Antibody BA Kit is a ready-to-use reagent kit for collecting monoclonal antibodies from blood or other biological samples using immunoglobulin collection resin, and then performing selective proteolysis of the Fab region of these antibodies via FG beads Trypsin DART. Fab-derived peptide fragments produced by limited digestion can then be quantified via LC-MS/MS.

## Introducing the **SCIEX Citrine MS/MS** your Medical Diagnostic (MD) mass spectrometer

**Do everything. See everything.  
One solution for every challenge.**

In the modern diagnostic lab, analytical challenges demand increased sensitivity, speed, robustness and reliability of any diagnostic system, and mass spectrometry is no different. Designed and manufactured with industry-leading technologies, Citrine meets these challenges head on, giving you confidence in your results and the best possible service to your patients.

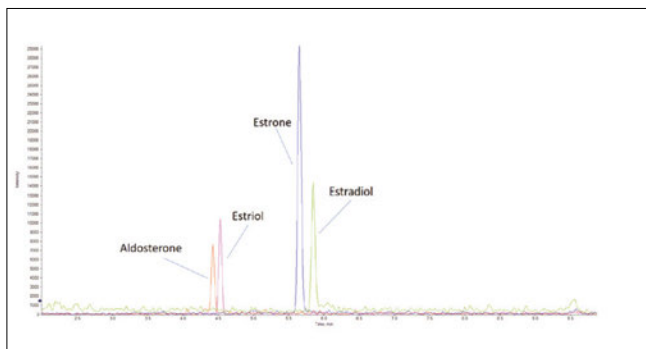
Citrine® MS/MS from SCIEX provides you with the ultimate performance and reliability to tackle today's difficult assays, and the versatility to address tomorrow's challenges.

Delivering the legendary robustness and reliability of a SCIEX mass spectrometry solution, the Citrine MS/MS system is specifically designed to meet the demands of clinical labs that require maximum sensitivity, high throughput, a wide dynamic range, and simplified sample preparation.



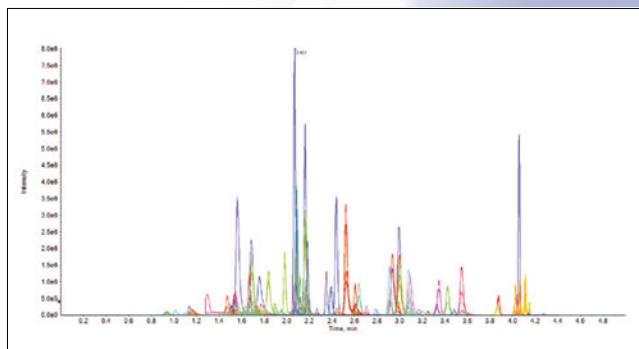
### Sensitivity

The Citrine MS/MS – our most sensitive tandem mass spectrometer ever – provides the lowest possible limits of quantification, enabling the measurement of trace levels of biomarkers and metabolites at single-unit pmol/L concentrations. While sensitivity is key for accurate quantification, the enhanced sensitivity of Citrine can also allow streamlining of sample preparation, reducing consumables and reagent costs.



### Flexibility

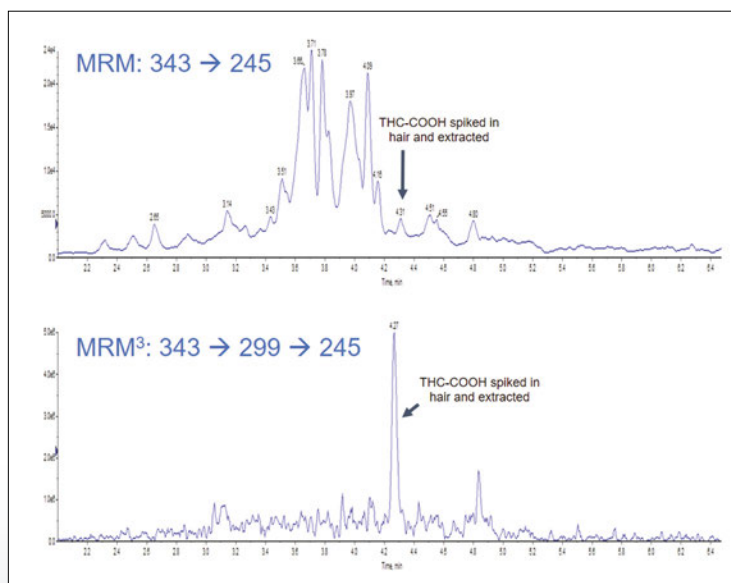
Getting the most from a single extraction and injection is clearly paramount to achieving increased efficiencies with any mass spectrometry analysis, and diagnostics is no different. With its fast MRM scanning (1 msec dwell times) and fast polarity switching (5 msec) between positive and negative ionization modes, the ability to analyse very large panels of compounds, across multiple compound classes is in your hands.



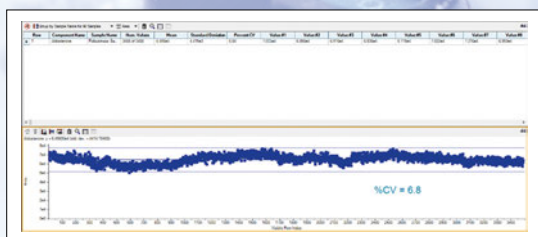
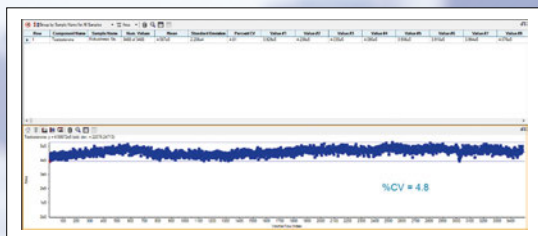
## A quantitative instrument... but so much more

The versatile Citrine MS/MS system offers ESI and APCI ionization options, an extended mass range up to  $m/z$  2000, and a large linear dynamic range, making this the perfect tool for the measurement of a large variety of polar and non-polar biomarkers and metabolites in biological fluids, over a large range of concentrations. Also available with SCIEX's Triple Quadrupole Linear Ion Traps (QTRAP) technology, Citrine becomes a hybrid triple quadrupole/linear ion trap mass spectrometer – a unique, flexible MS/MS system that can accommodate a wide variety of both quantitative and qualitative LC-MS/MS workflows.

It is the ability to use both triple quadrupole and linear ion trap scan functions on a single platform – and even within a single LC-MS/MS run – that makes the QTRAP system adaptable to a wide variety of both screening and quantitative tests. On the quantitation side, in some cases isobaric interferences cannot be differentiated by MRM alone, since the interferences may have the same exact mass as the target compound. In these cases, the ability to use second-order



fragmentation (MS/MS/MS, or MRM3) provides highly specific measurements and can remove chromatographic interferences caused by isomers and background ions, without the need for extended chromatography and reduced throughput.



## Legendary robustness and reliability

In the busy diagnostic lab, samples come in all flavours! Whatever matrix, whatever extraction – Citrine gives you accurate and reliable results, day after day, time after time. Unadjusted Peak Area (no internal standard correction) of 3,500 spiked plasma samples, extracted by protein precipitation/direct injection (without filtration) and analysed on the Citrine system for Testosterone (left) and Aldosterone (right), with 6-day 24/7 operation with no intervention.

The technologies within Citrine puts powerful diagnostic mass spectrometer directly into your hands.

## Citrine MS/MS

truly the one solution for your every challenge

- Leverage the ultimate sensitivity of the Citrine MS/MS system to reliably measure at picomole levels for clinically relevant biomarkers and metabolites
- Monitor 100's of MRM transitions per analysis with uncompromised accuracy, precision and sensitivity
- Experience faster than ever data acquisition with 5 msec polarity switching
- Perform qualitative and quantitative analysis in a single injection with QTRAP technology
- Enjoy the confidence of a medical device that meets the high quality and safety standards required by FDA regulations



### CONTACT

SCIEX Diagnostics  
500 Old Connecticut Path · Framingham, MA 01701, USA  
phone: +1 508 383 7700  
clinical@sciex.com · sciex.com/diagnostics

## Mass Spectrometry

### Thermo Fisher Scientific – Cascadion SM



**Highlights:** The Thermo Scientific Cascadion SM Clinical Analyzer represents a new class of fully automated, random access, liquid chromatography-mass spectrometry (LC-MS) systems with assay kits designed for clinical laboratory workflows. The Cascadion SM Clinical Analyzer can be operated by any laboratory professional.

The Product is IVD/CE-marked but not 510(k) cleared and not available for sale in the U.S. Availability of product in each country depends on local regulatory marketing authorization status.

### Thermo Fisher Scientific – TSQ Altis MD



**Highlights:** The Thermo Scientific TSQ Altis MD Series Mass Spectrometer offers enhanced sensitivity for demanding quantitative analyses together with remarkable speed and robustness.

The TSQ Altis MD Series will be used by clinical diagnostic laboratories to address their more sensitive requirements for laboratory developed tests.

*For in-vitro diagnostic use. Specifications subject to change. Availability of product in each country depends on local regulatory marketing authorization status.*

### Thermo Fisher Scientific – TSQ Quantis MD



**Highlights:** The Thermo Scientific TSQ Quantis MD Series Mass Spectrometer offers the sensitivity needed for routine quantitative analyses together with remarkable speed and robustness.

The TSQ Quantis MD Series mass spectrometer will be used by clinical diagnostic laboratories to meet their routine requirements for laboratory developed tests.

*For in-vitro diagnostic use. Specifications subject to change. Availability of product in each country depends on local regulatory marketing authorization status.*

## Electrophoresis / Chromatography

### Shimadzu – HPLC/UHPLC (RUO or CE-IVD)



**Highlights:** Shimadzu is offering a wide range of solutions in liquid chromatography starting from standard HPLC systems to high end UHPLC systems including compact configurations. Available with several options for columns switching, pre-concentration, online SPE, etc, the systems are also well recognized for coupling with highly sensitive detectors like fluorescence, radio-activity, electrochemical, or mass spectrometry. To increase throughput with mass spectrometers, Shimadzu offers the Nexera-MX configuration.

# ALSA CHIM

a Shimadzu Group Company



## Label Your Life

Best choice of

- highly pure stable labeled reference standards
- isotopically labeled advanced building blocks
- TDM Starter Reagent Kits for HPLC-MS-MS



## Electrophoresis/Chromatography

### Thermo Fisher Scientific – Vanquish MD HPLC



**Highlights:** The Thermo Scientific Vanquish MD HPLC provides exemplary solvent flow and retention time precision plus seamlessly couples to Thermo Scientific MD Series Mass Spectrometers.

The Vanquish MD HPLC will be used by clinical diagnostic laboratories to meet their precision and resolution requirements as a component of laboratory developed tests.

*For in-vitro diagnostic use. Specifications subject to change. Availability of product in each country depends on local regulatory marketing authorization status.*

## Plasma Protein Testing

### Siemens Healthineers – BN II System



**Sample throughput:** Effective: Approx. 130 tests/h  
depending on the assay mix  
Nominal: 225 tests/h

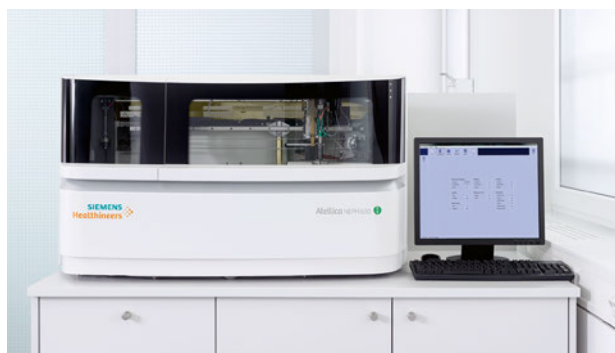
**Assays:** More than 60 programmed assay protocols

**Weight:** Analyzer: 150 kg

**Highlights:** The BN II System is an easy-to-use, reliable nephelometric analyzer that offers a broad range of protein assays.

- Connectivity options to Aptio Automation and FlexLab Automation solutions
- Fully automated assay processing: from reading of sample tube bar codes to reporting of results
- Routine and specialty assay consolidation
- Innovative markers including monoclonal kappa and lambda free light chains (FLC), cystatin C, beta-trace protein (BTP), and carbohydrate-deficient transferrin (CDT)

### Siemens Healthineers – Atellica NEPH 630 System



**Sample throughput:** Effective: Approx. 65 tests/h  
depending on the assay mix  
Nominal: 100 tests/h

**Assays:** More than 60 programmed assay protocols

**Weight:** Analyzer: 115 kg

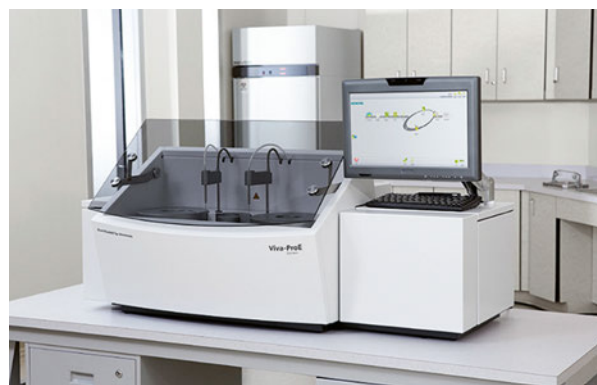
**Highlights:** The Atellica NEPH 630 System is a mid-volume dedicated nephelometric analyzer that simplifies lab operations in specialty protein testing.

- Innovative assays including free light chains (FLC), carbohydrate-deficient transferrin (CDT), and beta-trace protein (BTP)
- Sophisticated antigen-excess pre-reaction protocols provide more accurate results and fewer repeats

*Not available for sale in the US. Product availability may vary from country to country and is subject to varying regulatory requirements*

## Drug Testing

### Siemens Healthineers – Viva-ProE System



**Sample throughput:** Up to 133 EMIT tests per hour with two reagents;  
Up to 65 EMIT tests per hour with three reagents

**Weight:** Approx. 93 kg / 205 lbs  
(excl. monitor arm and panel PC)

**Highlights:** A flexible approach to dedicated drug-testing analysis, the Viva-ProE System provides greater ease of use, workstation efficiency, and a full drug-testing menu, all in one powerful benchtop system that is supported by unrivaled Syva experts. The system offers peltier cooling for efficient reagent use, can run up to 133 Emit tests per hour and 12 Emit assays simultaneously; 120 tests can be programmed with 10 open test channels. Results available within 10 minutes of processing.

## Urine Screening

### Analyticon Biotechnologies – Urilyzer Flex

#### Sample throughput:

Chemistry: Up to 500 samples/h

Sediment: Up to 90 samples/h



#### Highlights:

- Ideal for labs with max. 150 sediment and max. 250 chemistry samples per day
- The automated sediment analysis leads to a standardization and consequently to an improved comparability of the results
- Consolidated report and/or connection to LIS
- Reduces the number of manual working steps and thus sources of error are minimized
- Efficient workflow decreases hands-on

### BD Vacutainer Urine Collection System



#### Dimensions:

13 × 75 mm / 4 mL volume  
 13 × 100 mm / 6 mL volume  
 16 × 100 mm / 8 – 11 mL volume

#### Highlights:

- This closed system offers a range of solutions for collection, transport and preservation of urine samples to meet the needs of each patient according to their age, health and mobility.
- A wide range of tube volumes for microbiology and urinalysis determinations, with or without preservatives is available.
- BD collection devices include specimen cups, 24 hour 3 L containers and transfer straws for all patient collection methods.

### Greiner – Vacuette Urine CCM Tube



#### Highlights:

- For use in microbiology testing
- Stabilizes sample for up to 48 hours at room temperature
- High solubility of additive in powder form
- Immediate stabilization of sample after gentle mixing

## Urine Screening

### Sarstedt – Urine V-Monovette, Monovette, tubes & containers



- Highlights:**
- The diverse, user-friendly products for urine collection offer pre-analytical and post-analytical solutions thanks to their simple, hygienic use. Our range of conical urine tubes is ideally suited for sediment recovery and subsequent microscopic analysis.
  - Urine-Monovette: For hygienic and needle-free urine collection, transport and analysis.
  - V-Monovette Urine: For enclosed urine transfer. Optimal hygienic and convenient handling.

### Sysmex – UC-3500



- Sample throughput:** Up to 276 samples/h  
**Dimensions:** 829 × 638 × 709 mm (w × h × d)  
**Weight:** 75 kg

- Highlights:**
- Fully automated urine chemistry analysis
  - High throughput
  - Up to 16 parameters
  - mALB + CRE on a routine test strip
  - Combination with the UF-5000 and the UD-10 for an optimal, fully automated urinalysis workflow

### Sysmex – UF-5000



- Sample throughput:** Up to 105 (urine), 20 (body fluids) samples/h  
**Dimensions:** 855 × 760 × 754 mm (w × h × d)  
**Weight:** 90 kg

- Highlights:**
- Fully automated urine particle analysis
  - 28 clinically relevant parameters for urinalysis
  - Bacteria quantification and indication of gram typing
  - Subclassification of EC and CAST
  - Body fluid mode integrated as standard
  - Nine parameters incl. bacteria count and WBC differentiation
  - Daily external quality control via SNCS

### Sysmex – UN-Series



- Dimensions:** 872 × 1,918 × 901 mm (w × h × d)  
**Weight:** 269 kg

- Highlights:**
- Fully automated urinalysis workflow solution
  - Combines digital imaging, particle and chemistry analysis (UD-10 / UF-5000 / UC-3500)
  - Modular and scalable – connect up to nine devices
  - Maximum flexibility – set up the workflow you need
  - Intelligent data management with rule-based workflow control by U-WAM (Urinalysis Work Area Information Management)



## Rapid Testing

### Greiner – Saliva Collection System



- Highlights:**
- Simple reproducible saliva collection
  - Internal standard (tartrazine) enables donor-specific quantification
  - No absorption of analytes
  - Sufficient sample volume for A and B sample splitting
  - Determination of biomarker ( $\alpha$ -amylase, cortisol) possible to enable indication of sample adulteration
  - No detergents which interfere with analysis

### Sarstedt – Blood gas Monovette and capillaries



- Highlights:**
- Blood gas collection systems for arterial, venous and capillary sampling with the smallest sample volumes and  $\text{Ca}^{2+}$  balanced heparin.
  - The  $\text{Ca}^{2+}$  balanced heparin in spray-dosed droplet form enables rapid and optimal mixing of blood and anticoagulants.
- The Blood gas Monovette is available in 1 and 2 ml options and has been designed for venous and arterial blood collection. The blood gas capillaries offer a nominal volume range of 100 – 175  $\mu\text{l}$ .

## Research Use Only (RUO)

### Shimadzu – CLAM-2030

**Dimensions:**

670 × 700 × 1,190 mm (w × d × h)

**Weight:**

185 kg

**Assays:**

Immunosuppressants, Vitamin D, Steroids, Antiepileptics, Antiarrhythmics drugs, Amiodarone, Drugs of Abuse, Antidepressants, Neuroleptics



- Highlights:** CLAM-2030 provides users seamless integration of automated sample preparation with LC-MS/MS to improve data quality, sample throughput, laboratory efficiency and safety. Simple workflows allow users to go from blood collection tubes to results without any additional sample handling. Each sample is processed successively in parallel, to optimize instrument usage. Easy to access software for management of reagents, calibration curves, control samples and maintenance ensure reliability and quality of results.

# Hematology & Pathology

 **AB MEDICAL**

  
**analyticon**

 **BD**

Blood Cell Counter  
Integrated Hematology  
Automation  
Microscopy  
Hemostaseology  
Scanner  
Printer  
Histology Equipment  
Information Technology

 **BECKMAN  
COULTER**

**diatron** ● ●

**DTM**  
  
**medical**

**Genru**

  
**greiner**  
BIO-ONE

**HAMAMATSU**  
PHOTON IS OUR BUSINESS

**HORIBA**  
Medical

**hund**  
WETZLAR

 **KABE**  
LABORTECHNIK

**mindray**

**OLYMPUS**  
Your Vision, Our Future

 **SARSTEDT**

**SIEMENS**  
Healthineers 

 **sysmex**

**TECO**  
Innovation in Coagulation

**VMSCOPE**

## Blood Cell Counter

### Analyticon Biotechnologies– Hemolyzer 3 NG / Hemolyzer 5 NG

**Dimensions:**

216 × 280 × 320 mm (w × h × d)

**Weight:**

9 kg

**Sample throughput:**

Up to 60 samples/h

**Power consumption:**

0.045 kW

**Highlights:**

- Microfluidic 3-part and 5-part WBC DIFF hematology analyzers
- Gesture-driven interface via touchscreen
- Open and closed vial mode
- Low sample volume and small footprint offer numerous applications
- Autoloader available
- Proven reliability with ecological and economical performance



## BC-6000/6200

Auto Hematology Analyzer

High Performance for All

**mindray**  
healthcare within reach

- ▶ Unique **SF Cube** 3D cellular analysis technology for WBC 6-part diff count including IMG
- ▶ **NRBC** in every CBC+DIFF result
- ▶ Up to **110 t/h** throughput, low aspiration volume of **80µl**
- ▶ **Smaller** footprint with improved performance
- ▶ **4** types of body fluid analysis with up to **7** reportable parameters
- ▶ Simplified workflow with **labXpert** analysis software
- ▶ Automatic **rerun & reflex** measurement in case of abnormal results
- ▶ BC-6200 with **RET** channel can provide optional Reticulocytes and **PLT-O** parameters and perform automatic 8x PLT-O counting for thrombocytopenia samples



BC-6000



BC-6200

## Blood Cell Counter

### AB Medical – V-Tube EDTA K2, K3



#### Dimensions:

13 × 75 mm – 3.0/4.0 ml volume  
 13 × 100 mm – 6.0 ml volume  
 16 × 100 mm – 9.0 ml volume

#### Highlights:

- EDTA K2/K3 reagents sprayed
- Accurate reagent spraying technology
- EDTA K3 with Gel tube available
- Paper or transparent label available
- Stable and efficient Push-fit Safety Cap: Six-Crown Rib Grip (Korea Patent)
- Made in South Korea

### Beckman Coulter – DxH 520 Hematology Analyzer

#### Dimensions:

270 × 404 × 430 mm (w × h × d)

#### Weight:

11.4 kg

#### Sample throughput:

60 samples/h Open vial;  
 55 samples/h Cap pierce

#### Power consumption:

< 120 W



#### Highlights:

- Designed for low-volume laboratories, the DxH 520 features dynamic gating technology that improves sample flagging by 40 percent, ensuring better first-pass yield and differentials with minimal sample volume requirements. Delivering rapid and reliable results, the DxH 520 is ideal for neonatal and critical-care patients.
- 5-part differential testing in a compact and cost-effective configuration (27 × 43 cm, A3-paper size)
  - Well suited for limited sample volumes, aspirating only 17 µl

### Beckman Coulter – Early Sepsis Indicator



#### Highlights:

A first-of-its-kind, hematology-based cellular biomarker, the FDA cleared Early Sepsis Indicator is designed to help emergency department physicians identify patients with sepsis or at risk of developing sepsis within 12 hours of ED presentation.

- Results are automatically reported as part of a routine complete blood count (CBC) with differential for adult emergency department patients
- Combined with clinical signs and symptoms and WBC results, the Early Sepsis Indicator can inform critical decision making in adults in the emergency care setting

### Diatron – Complete Blood Count Versatility with the Aquila



#### Sample throughput:

60 tests/h

#### Parameters:

22

#### Dimensions:

323 × 272 × 366 mm (h × w × d)

#### Weight:

~16 kg inc reagent pack

#### Highlights:

- Compact size and unique on-board reagent pack requires little storage and work space
- Three part diff hematology results requiring around 20 µl of blood
- Closed or open tube mode
- Portable with an optional battery pack

## Genrui – 5-Part Auto Hematology Analyzer KT-6610



**Sample throughput:** 60 tests/h  
**Dimensions:** 597 × 470 × 590 mm (w × d × h)

- Highlights:** KT-6610 is a compact yet powerful hematology analyzer. It is an all-in-one solution for small and medium labs and clinics with real 5-Part results.
- Tri-angle laser scattering, flow cytometry for WBC differentiation and counting
  - 29 parameters + four scattergrams + two histograms
  - Three reagents for one test, Two Lyses are placed in the analyzer
  - 10.4 inch touch screen
  - Built-in barcode scanner (Optional)
  - Built-in printer, also support external printer
  - One click solution for basic trouble shooting
  - Powerful flag information

## Greiner – Vacuette EDTA Tube



- Highlights:**
- EDTA tubes are offered as either K2EDTA or K3EDTA tubes
  - Contain (besides the K2EDTA) an inert barrier gel that is present in the bottom of the tube.
  - Plasma may be aspirated directly from the collection tube, eliminating the need for transfer to another container
  - Vacuette EDTA tubes with separator gel improve the plasma yield and enable plasma to be left in the primary tube
  - This allows stability of certain parameters, when kept under specified conditions.
  - Also available with pre-attached barcode

## Horiba Medical – Yumizen H550



**Dimensions:** 530 × 620 × 670 mm (w × h × d)  
**Weight:** 36 kg

**Highlights:** The Yumizen H550 is a compact 6-Diff hematology analyzer for small-mid size laboratories. It provides safe sample management and combines:

- Auto sampling system with full walk away capability
- One hour autonomy of 40 samples in rack
- Continuous loading
- Manual mode for STAT samples
- Innovative "three reagents use" technology with low consumption

The Yumizen H550 incorporates flexible connectivity with both ASTM and HL7 communication standards and overlapping Quality Controls.

## Mindray – BC-6800Plus Auto Hematology Analyzer



**Sample throughput:** CBC+DIFF 200 t/h, RET 120 t/h, BF 40 t/h

- Highlights:** BC-6800Plus is currently the fastest standalone hematology analyzer in the world, which can process 200 CBC+DIFF samples/h and 120 RET samples/h. Notably, the ERP channel can provide more research parameters such as MChr and HDW, which can help early diagnosis of various types of anemia

## Blood Cell Counter

### Siemens Healthineers – Advia 360, 560, and 560 AL Systems



**Dimensions:** 360 × 316 × 492 mm (h × w × d)  
520 × 410 × 490 mm (h × w × d)

**Sample throughput:** Approx. 60 tests/h

**Parameters:** 22–26 parameters;\*  
3- or 5-part white cell differential

**Highlights:** The Advia 360, 560, and 560 AL Systems provide laboratories with intuitive, easy-to-use, and scalable hematology solutions designed to offer the right fit for every lab. Each system delivers fast, reliable, and accurate CBC and white cell differential testing with the performance and adaptability that low- and mid-volume labs need. The optional autoloader on the ADVIA 560 AL streamlines automatic sampling for even greater workflow efficiency.

\*Not all parameters are available in the U.S.

### Siemens Healthineers – Advia 2120i System



**Dimensions:** 860 × 1,410 × 680 mm (h × w × d)

**Sample throughput:** Up to 120 samples/h

**Parameters:** CBC incl. NRBC, 6-part white cell differential, reticulocytes, body fluids, and comprehensive morphology results

**Highlights:** The Advia 2120i System with Autoslide streamlines workflow by eliminating the majority of manual steps commonly performed to maximize productivity. Its unique testing methodology optimizes results while offering the simplicity and flexibility you need for easy integration into your lab. With connectivity to Aptio Automation and CentralLink Data Management System, it supports accurate, fast, sample processing with fully customizable, user-defined features.

### Sysmex – XN-1500 (Count. Smear. Stain. All-in-one haematology)



**Sample throughput:** XN-module  
CBC+DIFF: up to 100 samples/h,  
up to 40 samples/h in BF mode  
SP-50 module  
SP-50: up to 30 slides/h in S mode,  
up to 75 slides/h in H mode

**Dimensions:** 1,006 × 1,053 × 855 mm (w × h × d)

**Weight:** 211 kg

**Highlights:**

- Fully integrated slide maker & stainer SP-50
- Flexible throughput depending on the workload
- Automatic Reflex measurement in case of unreliable results
- Reduced time for the preparation of the slides
- Minimum need for manual tasks and less biohazard procedures
- Small footprint
- Optional integration of digital imaging module DI-60
- Reduced sample volume (for the smear preparation)
- Staining protocols (SP-50):  
May Grünwald – Giemsa, Wright – Giemsa, Wright

### Sysmex – XN-L Series



**Sample throughput:** CBC + DIFF up to 70 samples/h  
with the optional Speed-up licence  
CBC + DIFF up to 60 samples/h on XN-L Pure

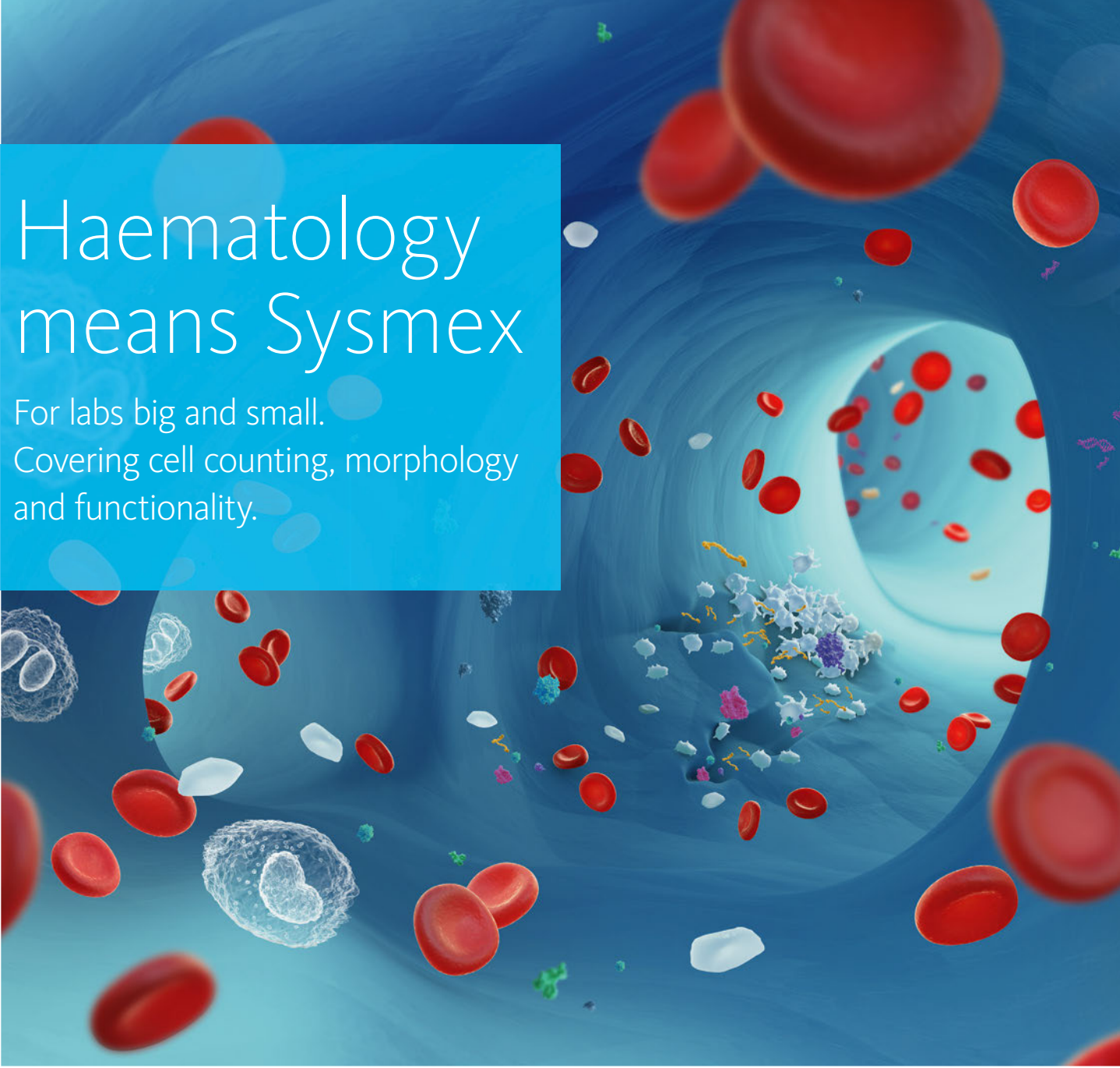
**Dimensions:** 440 × 440 – 510 × 460 – 660 mm (w × h × d)  
(depending on model)

**Weight:** 35 kg (XN-L Pure, XN-350, XN-450);  
53 kg (XN-550 incl. sampler);  
3 kg (XN-550 monitor)

**Highlights:**

- XN-L Pure, XN-350: Single sample analysis in open mode
- XN-450: Single sample analysis in closed or open mode
- XN-550: Automated sampler analysis for increased workflow productivity: Rerun & Reflex and continuous loading
- XN quality. Cost-effective. Plus full support
- Upgrade from Three-part to Five-part differential at a price you can afford
- WBC differential includes immature granulocyte count
- Add reticulocyte and body fluid analysis as needed\*
- A perfect secondary analyser\*

\*excluding XN-L Pure



# Haematology means Sysmex

For labs big and small.  
Covering cell counting, morphology  
and functionality.

## *Productivity*

From benchtop to automation  
models: enhance your workflow

## *Clinical insight*

More information from your  
routine testing: know more, decide  
with confidence, act faster

## *Intelligence*

Optimise your EDTA tube  
management: greater efficiency  
and time-saving

For more information on our solutions, check out the  
product entries in this magazine and/or visit our website

[www.sysmex-europe.com](http://www.sysmex-europe.com)

## Integrated Hematology

### Beckman Coulter – DxH 900 Hematology Analyzer

**Dimensions:**

755.7 × 1,740 × 828 mm (w × h × d)

**Weight:**

254 kg

**Sample throughput:**

Up to 100 samples/h

**Power consumption:**

520 W



**Highlights:**

The DxH 900 hematology analyzer is ideal for mid- to high-volume clinical laboratories performing complete blood count and white blood cell differential tests while minimizing repeat testing, allowing you to deliver the right results the first time.

- Achieve superb RBC, PLT and WBC differentials through near native-state cellular characterization and precise flagging
- Optimized processes help your laboratory maximize staff time through fewer slide reviews, automated QC, and longer walkaway and system uptime
- Most reportable results per square meter with industry-leading 93 percent first-pass yield and a > 40 percent smaller footprint than competitive instruments
- Exclusive Early Sepsis Indicator: a one-of-a-kind FDA cleared hematology biomarker designed to help emergency department physicians identify sepsis sooner

### Mindray – CAL 6000 New Generation Cellular Analysis Line



**Sample throughput:** CBC+DIFF 220 t/h, 120 slides/h

**Highlights:** CAL 6000 is a fixed configuration of Mindray's high-end hematology cellular analysis line, which can connect either two units of BC-6000 or two units of BC-6200 plus SC-120 automatic slide maker. The design of the sample processing line combined with labXpert can perform automatic re-run & re-flex check and smartly control the sample load between two units, which is extremely user friendly and intelligent.

### Mindray – CAL 8000 New Generation Cellular Analysis Line



**Sample throughput:** CBC+DIFF 200-800 t/h, 0-240 slides/h

**Highlights:** Compared with old product, new CAL 8000 is equipped with more powerful BC-6800Plus analyzers and upgraded sample processing line. There are totally 8 configurations of the new CAL 8000 including 110, 200, 300, 400, 210, 310, 410, 420, where the first digit and second digit mean the amount of BC-6800plus & SC-120 in the line. Besides, buffer module, start/stock yard and turn module also cater to labs with special needs.





# THE DIFFERENCE IS 70 YEARS OF TRUST IN ACCURATE DIAGNOSTICS

**THANK YOU FOR YOUR PARTNERSHIP IN PURSUIT OF THE HIGHEST SAMPLE QUALITY AND INTEGRITY.** It's because of you, the specialists behind the scenes in healthcare who choose to work with us every day, that BD Vacutainer® products and solutions have been able to so profoundly impact the diagnostic process. With every result that guided care, we helped change the course of treatment for the person behind that sample, together. It's our honor to be your ongoing partner as we deliver tomorrow's innovations, while setting even higher standards in diagnostic accuracy and the patient experience in the years to come. **We look forward to an even brighter future *advancing the world of health, together.***

Learn more at [bd.com/70YrsHealthy](https://bd.com/70YrsHealthy)



Advancing the  
world of health

## Integrated Hematology

### Sysmex – XN-3100 DI



**Sample throughput:** CBC+DIFF:  
Up to 200 samples/h,  
Up to 40 samples/h in BF mode per module  
SP-50:  
Up to 30 samples/h with standard model,  
Up to 75 samples/h with high throughput model

**Dimensions:** 3,000 × 1,626 × 1,150 mm (w × h × d)

**Weight:** 1,020 kg

- Highlights:**
- Fully integrated slide maker & stainer
  - Choose Advanced Clinical Parameters as needed
  - Flexible throughput
  - Automatic Rerun & Reflex measurement for challenging samples
  - Integrated backup concept
  - Digital Imaging (DI) module:
    - Seamless integrated morphology analysis of slides
    - Efficient, detailed review and validation for greater accuracy
    - Faster, improved workflow
    - Long-term storage and archiving of cell images
    - Consistency in analysis quality

### Sysmex – XN-9100 Sorting & Archiving



**Sample throughput:** CBC+DIFF:  
From 200 samples/h,  
From 40 samples/h in BF mode per module

**Dimensions:** Depending on configuration

**Weight:** Depending on configuration

- Highlights:**
- Scalable and modular haematology automation line
  - Flexible configuration of XN analysis modules and rack entry and exit positions
  - Discrete rack management
  - Uninhibited workflow from routine to specialised testing
  - Automatic reflex measurement in case of unreliable results
  - Choose Advanced Clinical Parameters as needed
  - Advanced sample management with TS-10: sorting for subsequent destinations and automated archiving of samples
  - Optional integration of ESR and HbA1C analysis

## Automation

### BD Microtainer MAP Microtube for Automated Process



**Dimensions:**  
13 × 75 mm / 250 – 500 µL volume

- Highlights:**
- Designed to help the laboratory running a capillary blood sample as efficiently and effectively as possible by enabling:
- Automated processing
  - Piercable cap
  - One piece standard tube with integrated collector
  - Clearly visible fill lines to ensure proper collection volume
  - Number of inversions illustrated on the tube
  - Patient identification with standard tube label to avoid potential labelling errors

## Microscopy

### Hund – H 600 AFL 100



- Highlights:**
- H 600 AFL 100 is a versatile laboratory microscope for use in immunology and microbiology.
- User can easily switch between transmitted-light brightfield and incident-light fluorescence – and can also employ both contrasting techniques simultaneously
  - HBO excitation lamp allows installation of full range of fluorescence filter sets for all kinds of fluorophores
  - Filter slides available for 2/4 filter sets
  - Objectives 10:1/40:1/100:1 Oil
  - Trinocular tubes with adapters for C-Mount cameras available

## Olympus – SC180



- Highlights:**
- 18-megapixel camera with fast 4K Live image
  - Dedicated to precise sample documentation even at low magnifications
  - Assisted sample focusing and image noise cancellation

The high-resolution, 18-megapixel SC180 color camera reveals your sample's fine details and structures. The 18 million pixel count exploits the full optical resolution of the objectives, enabling you to make observations exclusively on-screen without using the eyepieces and fostering effective collaboration and audience engagement during full-screen presentations. With a fast 4K Live image, the SC180 camera accelerates routine work, increases throughput in various applications through fast assisted focusing and noise cancellation, and makes the screen the new standard for documentation, evaluation, and discussion.

## Olympus – BX53LED



- Highlights:**
- Dedicated LED light source for microscopy (Olympus True Color LED)
  - Ergonomic design for intensive daily usage
  - Highly expandable frame to follow evolving application needs

The BX53 microscope's ergonomic design helps you stay comfortable during extended periods of use while the intuitive control layout enables fast, efficient observation and imaging. Optimized for laboratory applications, Olympus exclusive True Color LED illumination has a high luminosity and color rendering index so you can see samples in real-to-life colors avoiding color casts of generic LED light sources.

## Hemostaseology

### AB Medical – V-Tube Trisodium Citrate 9:1



**Dimensions:**  
13 × 75 mm – 2.7 / 1.8 ml volume

- Highlights:**
- The ratio of blood to anticoagulant is 9:1
  - Perfectly maintain the ratio (9NC) with double layered tubes
    - External PET tube: maintain vacuum
    - Internal PP tube: minimize additive evaporation
  - Paper or transparent label available
  - Stable and efficient Push-fit Safety Cap: Six-Crown Rib Grip (Korea Patent)
  - Made in South Korea

### Greiner – Vacuette Coagulation Tube



- Highlights:**
- With safety twist cap for an easy manual opening as well as automated opening using decapping instruments
  - Correct mixing ratio of venous blood a sodium citrate is ensured during blood collection, so that the tube contains one part sodium citrate solution to nine parts blood
  - Double-walled technology: the inner tube is made out of polypropylene (PP) and prevents the citrate solution from evaporating; the outer tube is made of polyethylene terephthalate (PET) and ensures a long shelf-life for the vacuum

## Hemostaseology

### Horiba Medical – Yumizen G1550



**Dimensions:** 1,000 × 600 × 900 mm (w × h × d)

**Weight:** 85 kg

**Highlights:** The Yumizen G1550 is a fully automated, high-capacity coagulation analyzer. Thanks to its unique features, it manages the diagnostic requirements of clinical laboratories with mid to high workload:

- Clotting, immunologic and chromogenic assays
- Continuous loading
- Full quality record for traceability
- Pre calibrated tests
- Liquid format reagents

Combined with the complete range of HORIBA Medical Yumizen G reagents, the Yumizen G1550 provides a high quality and cost optimized solution.

### Sarstedt – S-Monovette ThromboExact – Pseudothrombocytopenia



**Highlights:** The S-Monovette ThromboExact has been developed especially for anticoagulant-induced pseudothrombocytopenia. Generally, pseudothrombocytopenia is caused by thrombocyte aggregation. Early detection avoids the consequences of a thrombocytopenia misdiagnosis.

This blood collection tube is validated internally by Sarstedt and externally at the University Hospital Rostock, Germany.

### Sarstedt – S-Monovette Hirudin – Thrombocyte function



**Highlights:** The S-Monovette Hirudin was developed together with the company Verum Diagnostica, today Roche Diagnostics (bought), for measuring thrombocyte activity using the Multiplate multiple platelet function analyser. Unlike citrate or heparin, hirudin works via direct thrombin inhibition, and thus allows thrombocyte function diagnostics in its native state. It is used for monitoring platelet-inhibiting medications during treatment, as well as for detecting or ruling out thrombocyte function disorders.

### Siemens Healthineers – Atellica COAG 360 System



**Sample throughput** PT and APTT: 350 (simultaneous analysis)

**Dimensions:** 1858 × 1,042 × 1,415 mm (w × h × d), without LAS connection  
2,156 × 1,042 × 1,415 mm (w × h × d), with LAS connection

**Weight:** 600 kg (without LAS connection)  
617 kg (with LAS connection)

**Highlights:** The Atellica COAG 360 System\* offers high-volume specialty hemostasis labs a transformative array of capabilities to streamline and unify hemostasis testing:

- Five methodologies—clotting, chromogenic, immunologic, platelet aggregation and high-sensitivity immunoassay (LOCI) testing
- Primary-tube sample-volume checks, advanced assay-specific sample quality checks for hemolysis, icterus and lipemia (HIL) interference.
- Intelligent reagent and consumable management

\*Not available for sale in the US

## Siemens Healthineers – Sysmex CA-600 Systems



**Dimensions:** Approx. 490 × 566 × 490 mm (h × w × d)  
**Sample throughput:** Approx. 60 PT tests/h  
**Weight:** Approx. 43 kg

**Highlights:** The Sysmex CA-600 Systems – with the smallest footprint in their class – are built on a history of proven reliability and provide scalable options for routine and specialty\* coagulation testing.

- Features clotting, chromogenic,\* and immunologic\* measurements with true random access
- Enables critical tests to be processed at any time via STAT sample processing
- Offers the most frequently requested routine and specialty tests, including INNOVANCE D-Dimer\*

\*Sysmex CA-660 System only.

## Siemens Healthineers – Sysmex CS-2500 System



**Dimensions:** Approx. 685 × 1,113 × 895 mm (h × w × d)  
**Sample throughput:** Approx. 180 simultaneous PT/APTT tests/h  
**Weight:** Approx. 140 kg

**Highlights:** The Sysmex CS-2500 System offers mid-volume and multisite hemostasis labs smartly designed technologies for improved efficiency, exceptional accuracy, and reliable first-run results. Equipped with next-generation PSI technologies, the system takes hemostasis testing to the next level. The Sysmex CS-2500 System offers an expansive test menu of routine and specialty hemostasis assays (including several INNOVANCE assays), all on a single instrument.

## Siemens Healthineers – Sysmex CS-5100 System



**Dimensions:** Approx. 1,280 × 1,576 × 1,150 mm (h × w × d)  
**Sample throughput:** Approx. 400 simultaneous PT/APTT tests/h  
**Weight:** Approx. 362 kg

**Highlights:** The Sysmex CS-5100 System offers high-volume and multisite labs smartly designed PSI technology and automation connectivity for streamlined workflow and high-quality test results on the first run. Simultaneous, multiwavelength PSI technology helps labs to identify and manage unsuitable test specimens prior to analysis. The Sysmex CS-5100 System offers an expansive test menu of routine and specialty hemostasis assays (including several INNOVANCE assays).

## Sysmex – CS-1600



**Sample throughput:** Up to 120 tests/h (PT)  
**Dimensions:** 540 × 760 × 690 mm (h × w × d)  
**Weight:** Approx. 85 kg  
**Assays:** 18 simultaneously

**Highlights:**

- Optimised solution for medium-size labs with needs for specialty testing
- Proven, reliable technical performance with advanced CS-technology
- High-quality results based on advanced multi-wavelength technology
- Traceability for operation history and results
- System shares the same reagents, controls, calibrators, and sample reference ranges with Sysmex CS and CA systems
- Minimal needs for hands-on maintenance

## Hemostasisology

### Sysmex – CS-2400/2500



**Sample throughput:** Up to 180 tests/h (PT)  
**Dimensions:** 685 × 775 × 895 mm (h × w × d)  
**Weight:** Approx. 110 kg  
**Assays:** 60 simultaneously

- Highlights:**
- A fully-automated haemostasis system to optimise workflow for medium to high volume labs
  - CS-2400: open tube model, CS-2500: cap-piercing model
  - Consolidates routine and specialised testing in a single analysis system
  - High-quality results based on advanced multi-wavelength technology
  - Advanced inhibitor testing with automated mixing studies, automated platelet aggregation, and extended analytical parameter with Clot waveform analysis (CWA) for simplified, cost-effective, and standardised assay

### Teco – Coatron A6 Plus



**Dimensions:** 500 × 950 × 800 mm (w × h × d)  
**Power Consumption:** 90 – 240 Vac, 50 – 60 Hz  
**Number Of Channels:** 6  
**Weight:** 52 kg

- Highlights:**
- Fully automated 6-channel Hemostasis Analyser for routine Coagulation tests
  - Clotting, chromogenic, immunological
  - Quarter test volume (75 µL)
  - High speed testing
  - Biphasic waveform analysis
  - Inclusive multifunctional, reliable Management Software
  - Preset for nine different profiles
  - PT, APTT, TT, FIB, all major Standard Coagulation tests
  - AT, PC special chromogenic Coagulation tests

### Teco – Coatron X



**Dimensions:** 230 × 140 × 90 mm (w × h × d)  
**Power Consumption:** 110 – 240 Vac, 50 – 60 Hz / 5 Vdc, 3.3 A  
**Number Of Channels:** 1 – 4

- Highlights:**
- Highest optical resolution, enlarged optic range, smallest sample and reagent volume 0,1 mOD – 3,500 mOD, just with 75 µL sample and reagent volume
  - Complete optical analysis
  - No further parts required, like balls, stirrers etc.
  - Adaptation of the light level
  - Automatic light level adjustment of the optic channels to each sample
  - Exclusion of disturbance
  - Stray light reduction, exact temperature control, all parameter are preset

### Teco – Hemostasis reagents



- Highlights:** A complete range of Hemostasis reagents for routine and for differentiated coagulation analysis (chromogenic and immun-turbidimetric tests). Our reagents comply with our high quality standards.
- Prothrombin Time (PT), Activated Partial Thromboplastin Time (aPTT), Fibrinogen (FIB), Thrombin Time (TT), Protein S (PS), Lupus Anticoagulant (LA), Factor V Leiden (PCA), Chromogenic Tests (AT), Protein C (PC), D-Dimer, Dimex D-Dimer, Red D-Dimer, Blue D-Dimer, Deficient Plasma, Reference Plasma, Control Plasma

## Scanner

### Hamamatsu Photonics – NanoZoomer S60



**Highlights:** NanoZoomer S60: The most flexible slide scanner for any histology lab – The best of Hamamatsu's know-how, combining flexibility and outstanding image quality.

**Features:**

- High-speed and sensitivity in fluorescence
- Best image quality both in brightfield and fluorescence
- Double-size slides scan
- Ideal for all research and pathology laboratories

### Hamamatsu Photonics – NanoZoomer S360



- Highlights:**
- Real high throughput: Greatly improved throughput (more than 80 slides/h at 40 × mode for 15 × 15 mm sample sizes) and slide capacity of 360 for high workload laboratories.
  - Hassle free: Simple operation and hassle free scanning. New, powerful scan software for fast and easy operation
  - Error free: Robust and stable scanning. Automatic system calibration.
  - Blur free: Sharp focus on entire specimen. Dynamic Pre-Focusing (DPF) method and advanced focus scoring with automated rescan option for higher success rate.

### Hamamatsu Photonics – NanoZoomer S210



**Highlights:** With over a decade of experience in digital pathology, Hamamatsu presents the NanoZoomer S210.

**Features:**

- 210 slide scanning capability
- Batch scanning or continuous loading of slides
- High performance
- Cost-effective
- Simple operation
- New sleek design and small footprint

## Printer

### DTM Medical – Primera Signature Cassette Printer



**Highlights:** The Signature Cassette Printer is designed for printing text, graphics or bar codes directly onto cassettes, helping to reduce the risk of misidentification of specimens. It is available as a stand-alone, manual printer or as a completely automated system consisting of a printer and a robotic picking system called Autoloader.

- On-demand or batch mode printing
- Black or colour printing
- Cost reduction by inventorying only white cassettes
- Chemical-resistant ink – ensures reliable identification of cassettes
- USB interface – ability to integrate with LIS
- Two years warranty (After product registration within six months of purchase)

## Printer

### DTM Medical – Primera Signature Slide Printer



**Highlights:** The Signature Slide Printer can significantly increase the efficiency of labs while helping to reduce the risk of misidentification of specimens.

- On-demand, full-colour printing – prints only the number of slides needed
- Prints directly onto slides – eliminates handwriting that is hard to read and labels that are hard to apply
- Cost reduction by inventorying only white-frosted slides
- Xylene-, alcohol-, heat- and chemical-resistant ink – ensures reliable identification of slides
- PTSlide Software allows connection to LIS systems
- Compact design
- Two years warranty (After product registration within six months of purchase)

## Microscopy

### Olympus – BX53LED



- Highlights:**
- Dedicated LED light source for microscopy (Olympus True Color LED)
  - Ergonomic design for intensive daily usage
  - Highly expandable frame to follow evolving application needs

The BX53 microscope's ergonomic design helps you stay comfortable during extended periods of use while the intuitive control layout enables fast, efficient observation and imaging. Optimized for laboratory applications, Olympus exclusive True Color LED illumination has a high luminosity and color rendering index so you can see samples in real-to-life colors avoiding color casts of generic LED light sources.

### Olympus – UC90 4K Microscopy



- Highlights:**
- Up to 4K UHD image capturing
  - One Camera for Multiple Applications
  - 9-megapixel CCD camera

The 9-megapixel UC90 camera captures it all: brightfield images of superior quality, and up to 4K UHD imaging. Whatever your imaging needs are, expect no less than exceptional results in image quality, sensitivity, dynamic range, and color fidelity. The UC90 offers fluid sample navigation and focusing, making it effortless and convenient to locate regions of interest right on your screen. Excellent microscope imaging has never been as easy and versatile as with the UC90.

## Histology Equipment

### KABE Labortechnik – Consumables for pathology / histology



**Highlights:**

- Tissue embedding cassettes
- Five variants: standard, universal, biopsy, bionet and laser
  - Available in different colours
  - Without, with separate or with pre-attached hinged lid
  - Available pre-stacked – ready for use in cassette printers
  - High quality material is resistant to solvents, guarantees dimensional stability and offers good writing and printability
  - Comprehensive range of accessories
- Test tubes with formalin solution
- Prefilled with four percent formalin solution
  - Available in different sizes
  - Individual labelling possible



## Information Technology

### Hamamatsu Photonics – NDP.serve3 Image Server Software

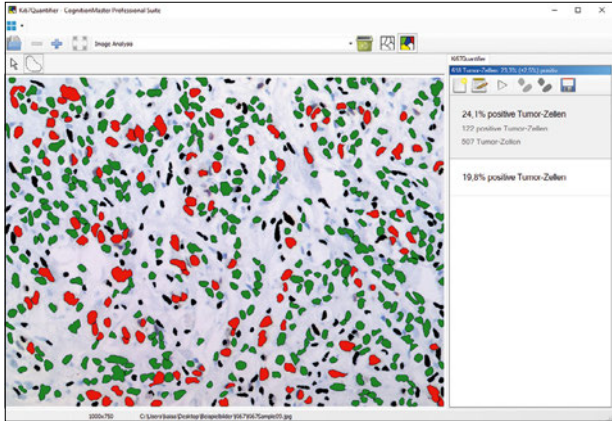


**Highlights:** NDP.serve3 is the next generation of our established image server software. It is a power solution to share and manage whole slide images (WSI) across a network, either as a stand-alone solution or integrated with your LIS/LIMS software.

**Key Benefits / Features:**

- Secure database with enhanced security functionality
- Intuitive, simple to use graphical user interface
- Easy to share whole slide images
- Seamless integration with NDP.view2 – the fastest Mac and Windows WSI viewer on the market

### VMscope – CMPS: Ki67, ER, PR, CD3



**Highlights:**

- Fully automatic quantification of Ki67, ER, PR, CD3 and further stains
- Analysis in less than one second, no user interaction necessary
- Analysis of WSIs, still images or live images from the microscope camera
- Ki67 quantification clinically validated
- Multiple regions per case to take into account the tumor heterogeneity
- Export of the results into images, MS Excel or other systems
- Integration into any LIMS system via open interfaces

# Your Partner in Medicine and Science Worldwide



[www.sarstedt.com](http://www.sarstedt.com) · [info@sarstedt.com](mailto:info@sarstedt.com)



SARSTEDT AG & Co. KG · P.O. Box 12 20 · D-51582 Nümbrecht · Phone +49 2293 305-0 · Fax +49 2293 305-3992

# REFERENCE INSTITUTE FOR BIOANALYTICS

## EQAS MADE IN GERMANY

We develop and provide  
proficiency tests compliant  
with German guidelines  
(Rili-BÄK)

Accredited in accordance with  
DIN ISO 17043 and DIN ISO 17025

[www.rfb.bio](http://www.rfb.bio)



# DNA

Amplification  
Extraction  
Infectious Disease  
Infectious Disease/  
Hepatitis  
Liquid Biopsy  
Research Use Only



## Amplification

### Orion Diagnostica Oy – Orion GenRead



**Assays:** C difficile, campylobacter

**Highlights:** Orion GenRead system is a small benchtop system for molecular pathogen detection, based on proprietary technology SIBA (Strand Invasion Based Amplification).

- Flexibility with 1 – 12 samples in one run
- Fast test results are available in less than one hour
- Ready to use kits contain all needed reagents
- Bi-directional HIS/LIS connectivity
- Portable and robust instrument suitable for various laboratory settings
- CE marked test kits for C difficile and campylobacter. Next: RSV and Influenza A&B

### Sarstedt – White Multiply PCR Plates



**Highlights:**

- White wells for improved fluorescence reflection
- Thin-walled reaction tubes for quick temperature transfer
- Free from DNA, DNase, RNase and PCR inhibitors
- Barcode labeling on plates with half or full skirt is available on request

## Extraction

### Molzym – SelectNA plus: Pathogen Enrichment & DNA Extraction



**Highlights:** SelectNA plus is Molzym's unique platform for the automated enrichment and isolation of bacterial and fungal DNA from various specimens.

- Walk-away pathogen DNA isolation
- Human DNA removal (MoLYsis technology)
- Flexible extraction: 1 to 12 samples
- Sterile body fluids and tissue biopsies
- Internal UV decontamination
- DNA-free consumables & reagents

Kits for the robot are the MoLYsis-SelectNA plus and the CE IVD marked Micro-Dx for the culture-independent routine pathogen diagnosis.

### Promega – Maxwell CSC Instrument



**Dimensions:** 330 × 395 × 300 mm (w × h × d)  
**Weight:** 12 kg  
**Sample throughput:** up to 16 samples/40 minutes  
**Handheld/Stationary:** Very small benchtop instrument

**Highlights:** Nucleic Acid Extraction for In Vitro Diagnostic Use

- Designed and manufactured under cGMP
- Provides many of the required technical elements of a 21 CFR Part 11 compliant system for electronic records
- Generates consistent, high-quality nucleic acid for use in downstream diagnostic amplification assays
- Instrument for walk away DNA and RNA purification and quantitation
- One-way cartridges, no cross contamination
- Works with multiple sample types, e.g. blood, FFPE.

**Promega – Maxwell RSC 48 Instrument**



**Dimensions:** 530 × 510 × 220 mm (w × h × d)  
**Weight:** 31 kg  
**Sample throughput:** Up to 48 samples / 22 minutes  
**Assays:** Blood, Whole Blood, RNA Blood, RNA Cells, RNA Tissue, DNA FFPE, RNA FFPE, ccfDNA, miRNA, Viral total NA

- Highlights:**
- High-quality nucleic acid purification with minimal steps and less hands-on time
  - Purifies 1–48 samples in a single run
  - Process a variety of sample types for downstream applications in molecular diagnostic and for other clinical applications
  - UV decontamination and barcode scanner
  - CE IVD registered
  - Pre filled cartridges, no cross contamination
  - For tissue, stool, blood, buffy coat, swabs, plasma, serum and other human sample types
  - Intuitive software and integrated vision system for detecting and preventing errors

**Infectious Disease**

**Siemens Healthineers – Fast Track Diagnostics Real-time PCR assays**

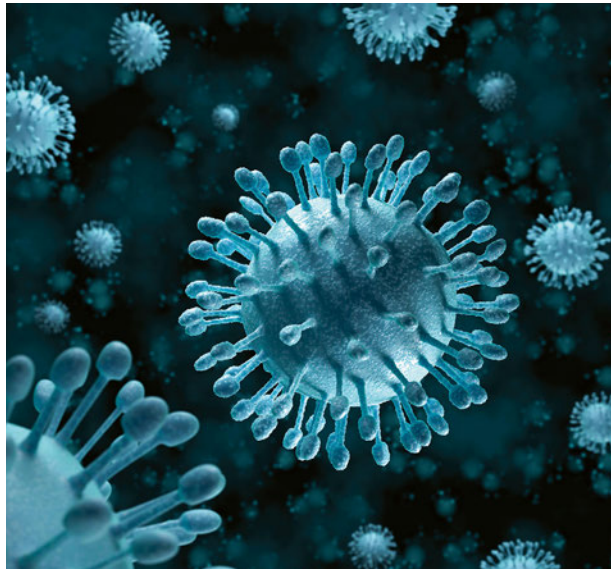


- Highlights:** Siemens Healthineers offers one of the largest ranges of syndromically grouped real-time PCR multiplex assays\* covering the major disease groups such as respiratory infections, gastroenteritis, sexually transmitted infections, childhood infections, meningitis, eye infections, immunosuppression, hepatitis, and tropical fever.

\*Fast Track Diagnostics assays are CE-marked for IVD use in the EU. Product availability will vary by country.

**Infectious Disease / Hepatitis**

**Siemens Healthineers – Versant HCV Genotype 2.0 Assay (LiPA)**



- Highlights:** Optimize your laboratory's testing with the widely used Versant HCV Genotype 2.0 Assay (LiPA)\*.
- LiPA utilizes reverse-hybridization technology to detect HCV genotypes 1–6 and subtypes 1a and 1b.
  - LiPA provides highly accurate identification of HCV genotypes and subtypes for optimal and personalized patient therapy.

\*LiPA assay is FDA-approved in the U.S. and CE-marked in the EU for IVD use.

**Liquid Biopsy**

**BD/Qiagen PAXgene Blood ccfDNA Tube**



**Dimensions:** 16 × 100 mm / 10 mL volume

- Highlights:** A complete, integrated preanalytical workflow solution for circulating cell-free DNA
- Non-crosslinking preservation of ccfDNA levels
  - Seamless integration with proven ccfDNA isolation kits
  - Streamlined with primary tube sampling during automated processing
  - Designed for sensitive research assays, including analysis of circulating tumor DNA and non-invasive prenatal testing
  - Sample transport and storage at room temperature for up to seven days

## Research Use Only (RUO)

### Eppendorf – BioSpectrometer fluorescence



**Dimensions:** 50 × 295 × 400 mm (h × w × d)  
**Weight:** 5.4 kg  
**Power consumption:** 15 W (during operation),  
 5 W (dimmed display)

- Highlights:**
- Absorbance measurement for one or more wavelengths, recording of wavelength scans
  - Sensitive nucleic acid and protein quantification via fluorescence intensity
  - Integrated application and results memory
  - Compatible with microliter measuring cells, such as the Eppendorf  $\mu$ Cuvette G1.0, and standard cuvettes

### Eppendorf – Mastercycler nexus X2



**Dimensions:** 321 × 250 × 412 mm (h × w × d)  
**Weight:** 11 kg  
**No of parallel samples:** 64/32 \* 0.2ml PCR tubes,  
 up to 64 \* 0.5ml PCR tubes  
**Temperature range:** 4 – 99°C

- Highlights:**
- Large block for large assays – small block for small assays
  - Optional gradient for PCR optimization
  - E-mail notification
  - Flexlid concept allows use of all types of consumables with automatic height adjustment of the lid

### Eppendorf – $\mu$ Cuvette G1.0



**Dimensions:** 48 × 12.5 × 12.5 mm (h × w × d)  
**Height of light beam:** 8.5 mm  
**Volume:** ≥ 1.5  $\mu$ L (dsDNA)

- Highlights:**
- Microvolume measuring cell for photometric measurements
  - Measurement of small sample volumes (1.5 – 10  $\mu$ L)
  - Measurement of high sample concentrations without prior dilution
  - Exclusively available for Eppendorf BioPhotometer and Eppendorf BioSpectrometer

### Sarstedt – Low DNA Binding Micro Tubes



- Highlights:** As the trend towards decreasing sample volumes continues, it is increasingly important to minimize potential interaction between the analyte and tube. Our low protein and new low DNA binding micro tubes are specifically designed to meet the requirements in protein and DNA analytics while maximizing recovery rates.

# Microbiology

Mass Spectrometry  
Identification /  
Susceptibility  
Microscopy  
Other



## Mass Spectrometry

### Shimadzu – Axima iDplus Assurance



**Dimensions:** 700 × 1,920 × 850 mm (w × h × d)  
**Weight:** 330 kg, excluding data system

**Highlights:** Axima Assurance – Flexibility and Quality:  
 The Axima Assurance is designed with the general analytical and life science laboratory in mind. Incorporating a variable repetition rate 50 Hz N<sub>2</sub> laser, the system provides high quality and high sensitivity rapid MALDI mass spectra and is particularly suited to identification in the microbiology field. Positive and negative ion modes are included as standard, allowing greater flexibility and extending the compound categories that may be analysed.

### Shimadzu – Axima iDplus Confidence



**Dimensions:** 700 × 1,920 × 850 mm (w × h × d)  
**Weight:** 330 kg, excluding data system

**Highlights:** iDplus Confidence – Sensitivity and Flexibility:

- Rapid microbial identification for research use
- Identifies and classifies strains based on phenotype characteristics
- SuperSpectra reduce the incidence of false positives and ensure robustness and reproducibility
- Open system allows addition of new species / entries to the database or the creation of new databases
- Clustering allows molecular profiling and tracking of change or evolution
- High performance MS for large molecule analysis
- MS/M

### Shimadzu – Axima iDplus Performance

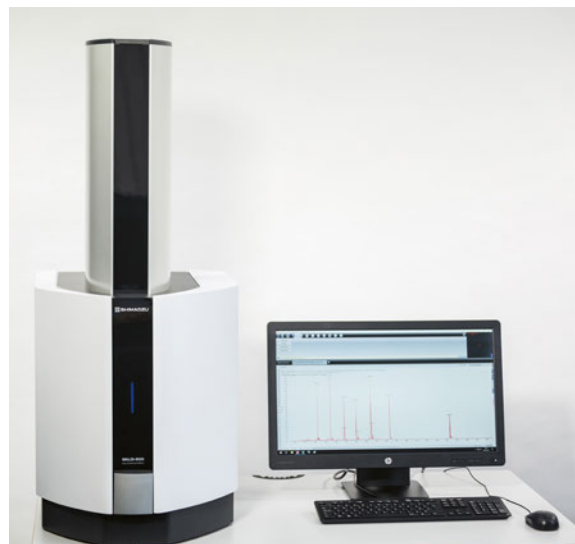


**Dimensions:** 700 × 1,920 × 850 mm (w × h × d)  
**Weight:** 375 kg, excluding data system

**Highlights:** iDplus Performance – application-centric solutions:

- Rapid microbial identification for research use
- Identifies and classifies strains based on phenotype characteristics
- SuperSpectra reduce the incidence of false positives and ensure robustness and reproducibility
- Open system allows addition of new species / entries to the database or the creation of new databases
- Clustering allows molecular profiling and tracking of change or evolution
- High performance MS for large molecule analysis
- MS/MS

### Shimadzu – Maldi-8020



**Dimensions:** 450 × 1,055 × 745 mm (w × h × d)  
**Weight:** 86 kg

**Highlights:** The Maldi-8020 is a benchtop, linear-only MALDI-TOF mass spectrometer designed to meet the needs of laboratories requiring a cost-effective MALDI-TOF platform. This newly designed MALDI-TOF mass spectrometer is functionally simple but provides outstanding MS performance in a compact footprint.



## Identification/Susceptibility

### Sysmex – UF-5000



**Sample throughput:** Up to 105 (urine), 20 (body fluids) samples/h

**Dimensions:** 855 × 760 × 754 mm (h × w × d)

**Weight:** 90 kg

- Highlights:**
- Fully automated urine particle analysis
  - Exclude negative UTI samples in less than a minute
  - Bacteria quantification and indication of gram typing
  - 28 clinically relevant parameters for urinalysis
  - Subclassification of EC and CAST
  - Body fluid mode integrated as standard
  - Nine parameters incl. bacteria count and WBC differentiation
  - Daily external quality control via SNCS

## Microscopy

### Hund – medicus plus Myko



**Highlights:** With the medicus plus Myko, an easy and reliable detection of mycoses in native preparations becomes possible. The dedicated fluorochrome, Mykoyal, is easy to use and very cost efficient.

- High contrast and resolution
- No cultivation necessary
- Easy operation of the microscope
- Long lifetime of LED fluorescence illuminator
- Retrofit of existing medicus plus microscopes possible

### Olympus – CX33



- Highlights:**
- Maintenance free Koehler illumination with LED
  - Fully ergonomic design

The CX33 microscopes enable users to remain comfortable during long periods of routine microscopy observations. The microscope frame conforms to the user's hands and the location of the control knobs maximize ergonomics to improve work efficiency. Users can quickly set a specimen with one hand, while adjusting the focus and operating the stage with the other hand with minimal movement. A fixed Koehler illumination system provides detailed images while minimizing the need for maintenance and the possibility of operator errors. The microscope also features an optional camera port for digital imaging.

## Other

### BD Vacutainer Urine Tubes for Microbiology



**Dimensions:**  
13 × 75 mm / 4 mL volume  
16 × 100 mm / 10 mL volume

- Highlights:**
- BD offers a range of tube types with boric acid based preservatives all clinically validated to provide 48 hour specimen stability at room temperature.
  - BD Urine System has been proven to have a three times greater chance of achieving accurate urinary tract infection results over an open system.
  - Introduction of closed system has been shown to decrease contamination rates by 19 percent.
  - Research has shown a ten percent lower incidence of bacterial overgrowth and thus reduces the possibility of false positive results.

# POCT



Blood Glucose  
Immunoassays  
Cardiology  
Blood Gases,  
Electrolytes, Oximetry  
Urinalysis  
Information Technology  
Other



Blood Glucose

**Lifotronic – H8 Hemoglobin Analyzer**



- Highlights:**
- Reliable partner for diabetes test
  - Ion-Exchange HPLC
  - Gold standard methodology for HbA1C
  - 130 seconds/test (Variant mode)
  - High precision, CV ≤ 1.5%
  - 10 sample positions
  - Variant hemoglobin detection
  - HbA1a/b, LA1c, HbF, A1c, A0
  - No sample preparation required
  - NGSP and IFCC certified

**Lifotronic – H9 Hemoglobin Analyzer**



- Highlights:**
- Reliable partner for diabetes test
  - Ion-Exchange HPLC
  - Gold standard methodology for HbA1C
  - 72 seconds/test (Fast mode)
  - High precision, CV ≤ 1.5%
  - 110 sample positions
  - Variant hemoglobin detection
  - HbA1a/b, LA1c, HbF, A1c, A0
  - No sample preparation required
  - NGSP and IFCC certified

**Siemens Healthineers – DCA Vantage Analyzer**



**Dimensions:** 287 × 254 × 277 mm (w × h × d)  
**Weight:** 3.88 kg

- Highlights:** The DCA Vantage Analyzer makes in-office diabetes testing easy, with accurate, clinically trusted results shown to improve decision making, patient compliance, and outcomes. Get precise HbA1c, albumin, creatinine, and A:C ratio results in minutes with good correlation to laboratory methods and simplify management for POC coordinators with advanced operator, data-management, and security capabilities.
- Product availability varies by country.

Immunoassays

**Genrui – Automatic Specific Protein Analyzer FA50**



**Sample throughput:** 4 to 20 samples/h  
**Assays:** Up to 20 parameters  
**Weight:** Less than 5 kg

- Highlights:** FA50 is a powerful POCT immunofluorescence analyzer, which is proved with FDA certificate. it is designed to be very easy to use with smart card calibration and 5.6 inch touch screen.
- Support whole blood, serum and plasma
  - Room temperature for test kits storage
  - Easy to use: three steps to report
  - Up to 20 parameters, including HbA1c, cTnI, PCT, T3, T4, TSH, etc

## Immunoassays

### Genrui – Automatic Specific Protein Analyzer PA120

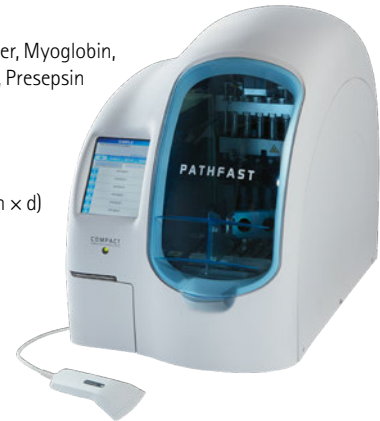


**Sample throughput:** 60 samples/h  
**Assays:** Up to 20 parameters  
**Dimensions:** 620 × 520 × 620 mm (w × h × d)  
**Weight:** 60 kg

- Highlights:**
- Fully-automatic specific protein analyzer;
  - Latex Nephelometry
  - 1-click, multi-results
  - Efficient and less cost
  - User-friendly software and UI design
  - Whole blood samples accepted
  - NGSP certified for HbA1c testin
  - Your right hand in daily laboratory work

## Cardiology

### Mitsubishi – Pathfast



**Assays:** hs-cTnI, NT-proBNP, D-Dimer, Myoglobin, CK-MB mass, hs-CRP, HCG, Presepsin

**No of parallel samples:** 6

**Dimensions:** 343 × 475 × 569 mm (w × h × d)

**Weight:** 28 kg

- Highlights:**
- Worldwide unique POC device with high-sensitivity Troponin I
  - Fulfills all recommendations from ESC and IFCC for high sensitivity Troponin
  - Troponin I validated for diagnosis of AMI at 0/1/3 hour after admission
  - Chemiluminescent enzyme immunoassay
  - All in one cartridge
  - Reagents for single unit use
  - Results in less than 17 minutes
  - Excellent correlation with laboratory analysers
  - Sample material whole blood or plasma
  - No interference with Biotin
  - Sepsis biomarker presepsin available

### Siemens Healthineers – Stratus CS 200 Acute Care Diagnostic System



**Assays:** Troponin I, D-dimer, NT-proBNP, CKMB, hsCRP, Myoglobin, bhCG  
**Dimensions:** 460 × 580 × 710 mm (w × h × d)  
**Weight:** 68 kg

- Highlights:** The Stratus CS 200 Acute Care Diagnostic System delivers lab-quality results at the point of care with the speed that is needed for cardiac patients. Its broad menu of tests helps physicians to make more timely assessments, enabling rapid decision making for better patient care.
- Not available for sale in the U.S. Product availability varies from country to country and is subject to local regulatory requirement.

## Blood Gases, Electrolytes, Oximetry

### Exias Medical – e|1 Analyzer



**Dimensions:** 270 × 320 × 200 mm (h × w × d)  
**Weight:** 4.7 kg

- Highlights:** The e|1 analyzer is an electrolyte system intended for in-vitro measurements of Na<sup>+</sup>, K<sup>+</sup>, Cl<sup>-</sup>, Ca<sup>2+</sup> as well as pH and Hct, in whole blood, serum and plasma. With a robust design and a compact footprint the e|1 analyzer is well suited for both the POC environment and laboratory.

- 25 s: Fastest system on the market
- 20 µl: Lowest sample volume on the market
- Automated three level on-board QC
- All-in-one cartridge: Maintenance and service free
- Full connectivity: Data exchange with LIS according to LIS2-A2 protocol

**KABE Labortechnik – Consumables for blood gas analysis**



**Highlights:** The best sampling system in every situation

Plastic blood gas capillary:

- Unbreakable plastic
- Fast drawing
- Crystal clear
- Numerous drawing volumes and diameters available
- Minimum gas permeability for oxygen and carbon dioxide
- Comprehensive range of accessories

Blood gas tube:

- Rapid anticoagulation thanks to liquid preparation
- Optimal filling with special piston geometry
- In individual sterile packing

Both sampling systems are prepared with Ca-balanced heparin and are ideal for blood gas and electrolyte analyses on all common blood gas systems.

**KABE Labortechnik – Pipette-Adapter for Capillaries (PAC)**



**Highlights:** Assists in the handling of capillaries and their targeted and dropwise draining on POCT-test strips or into vessels

- Suitable for different capillaries
- The transparent tip provides the entire visibility of the capillary: easy and complete filling

Handling:

- Fix capillary in the PAC while using oneway gloves
- The capillary is filled as usual – afterwards the thump is put gently on the upper mouth of the PAC
- The (dropwise) draining is carried out by generating a slight gauge pressure with the thumb

**Siemens Healthineers – epoc Blood Analysis System**



**Assays:** pH, pCO<sub>2</sub>, pO<sub>2</sub>, TCO<sub>2</sub>, Na<sup>+</sup>, K<sup>+</sup>, Ca<sup>++</sup>, Cl<sup>-</sup>, Hct, Glu, Lacm Crea, BUN

**Dimensions:** Host: 77 × 27 × 147 mm (w × h × d)  
Reader: 85 × 50 × 215 mm (w × h × d)

**Weight:** Host: 0.359 kg / Reader: <0.5 kg

**Highlights:** The epoc Blood Analysis System is a handheld, wireless solution that provides blood gas, electrolyte and metabolite results at the patient's side in less than one minute. Deliver pH, pCO<sub>2</sub>, pO<sub>2</sub>, TCO<sub>2</sub>, Na<sup>+</sup>, K<sup>+</sup>, Ca<sup>++</sup>, Cl<sup>-</sup>, Hct, Glu, Lacm Crea, BUN while empowering clinicians to make faster decisions with lab-quality results to improve patient outcomes.

Product availability varies by country.

**Siemens Healthineers – RapidLab 1200 Blood Gas System**



**Assays:** pH, pCO<sub>2</sub>, pO<sub>2</sub>, Na<sup>+</sup>, K<sup>+</sup>, Ca<sup>++</sup>, Cl<sup>-</sup>, Glu, Lac, Neonatal Total Bilirubin, CO-oximetry

**Dimensions:** 230 × 240 × 610 mm (w × h × d)

**Weight:** 2.5 kg

**Highlights:** Siemens RapidLab 1200 Blood Gas System is uniquely designed to meet high-volume critical-care testing needs. The system has an ultra-fast sample processing and microsample capability, with results in 60 seconds. Cartridge-based reagent system simplifies operation, and Ready Sensor technology offers reliability with minimal maintenance.

Product availability varies by country.

## Blood Gases, Electrolytes, Oximetry

### Siemens Healthineers – RapidLab 348EX Blood Gas System



**Assays:** pH, pCO<sub>2</sub>, pO<sub>2</sub>, Na<sup>+</sup>, K<sup>+</sup>, Ca<sup>++</sup>, Cl<sup>-</sup>, Hct  
**Dimensions:** 385 × 382 × 353 mm (w × h × d)  
**Weight:** 9.4 kg

**Highlights:** The RapidLab 348EX Blood Gas System is a cost-effective solution for low-volume laboratory settings. Report accurate patient results from a whole-blood sample in 60 seconds, with minimal operator interaction. Increase operator efficiency with bar-code data entry of patient and operator IDs, automatic sample aspiration and calibrations.

Not available for sale in the U.S.  
 Product availability varies by country.

### Siemens Healthineers – RapidPoint 500 Blood Gas System



**Assays:** pH, pCO<sub>2</sub>, pO<sub>2</sub>, Na<sup>+</sup>, K<sup>+</sup>, Ca<sup>++</sup>, Cl<sup>-</sup>, Glu, CO-oximetry, Lac  
**Dimensions:** 300 × 550 × 420 mm (w × h × d)  
**Weight:** 16.55 kg

**Highlights:** RapidPoint 500 Blood Gas System delivers the accuracy and reliability you've come to trust in an easy-to-use, maintenance-free solution designed for the point of care. Gain a comprehensive critical-care menu for multiple sample types in 60 seconds. Siemens Healthineers long-lasting cartridges, integrated AQC, and proven technologies maximize uptime.

Product availability varies by country to country.

### Siemens Healthineers – Clinitek Status Connect System



**Assays:** Albumin, Bilirubin, Creatinine, Glucose, Ketone, Leukocytes, Nitrite, pH, Protein, Specific gravity, Urobilinogen, Albumin-to-creatinine, hCG

**Dimensions:** 171 × 185 × 272 mm (w × h × d)  
**Weight:** 2.3 kg

**Highlights:** The Clinitek Status Connect System provides flexible connectivity solutions, data integration, and operational control to improve risk management at the point of care. Latest software includes WPA2-PSK wireless security and encryption. Auto-checks help to eliminate errors, mitigate risks, and support compliance. The automated analyzer is faster than manual testing, and helps reduce the chance of human error.

Product availability varies by country.

## Urinalysis

### Siemens Healthineers – Atellica 1500 Automated Urinalysis System



**Sample Throughput:** 106 – 240 samples/h  
**Assays:** Bilirubin, Clarity, Color, Glucose, Ketone, Leukocyte esterase, Nitrite, Occult blood, pH, Protein, Specific gravity, Urobilinogen, Albumin, Albumin-to-creatinine ratio, Creatinine, Protein-to-creatinine ratio  
**Dimensions:** 1,260 × 625 × 680 mm (w × h × d)  
**Weight:** 114 kg

**Highlights:** Combining the Clinitek Novus Analyzer and the new Atellica UAS 800 Analyzer\* into one completely automated unit, the Atellica 1500 Automated Urinalysis System sets the new standard for accuracy and efficiency. It is a truly digital automated urinalysis system, and lets you manage more samples with less staff in shorter time, while never compromising on high-quality results.

Not available for sale in the U.S. Product availability varies by country.

**Sysmex – UC-1000**

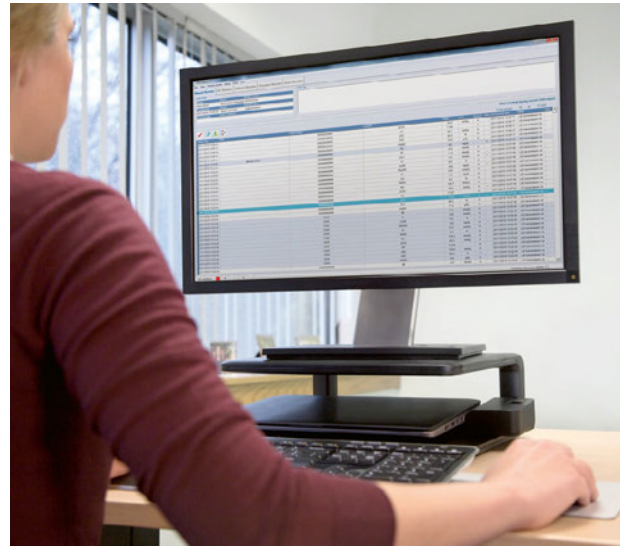


**Sample throughput:** Up to 480 samples/h  
**Dimensions:** 315 x 135 x 215 mm (h x w x d)  
**Weight:** 2.6 kg

- Highlights:**
- Semi-automated urine chemistry analysis
  - Up to 16 parameters
  - Complete online training available
  - mALB + CRE on a routine test strip
  - Can be connected to POCT middleware

**Information Technology**

**Siemens Healthineers – POCcelerator Data Management System**



- Highlights:** Connect securely with an open, reliable POC informatics platform. Gain vendor independence and free choice in selecting the appropriate POCT device to meet your clinical requirements. Create a long-term solution that saves time and money by simplifying the complexity and cost of maintaining multiple IT systems.
- Product availability varies by country.

**Other**

**Jadak – HS-1R Handheld HF RFID Reader**



**Dimensions:** 33.4 x 51.3 x 108.2 mm (h x w x d)  
**Weight:** 98 grams  
**Handheld/Stationary:** Handheld 1D & 2D barcode scanner with HF RFID reading & writing functionality

- Highlights:** The flexpoint HS-1R from JADAK integrates 1D & 2D barcode scanning with HF RFID reading & writing functionality. Sure to be an integral part of many medical and clinical applications, the HS-1R enables patient ID via wristband scanning, clinician security login via badge scanning, pharmaceutical applications incl. drug inventory tracking & digital signature capture using built in camera modes, and much more. JADAK products can be tailored to meet specific customer requirements.

**Sarstedt – Minivette POCT / Capillary Blood Collection**



- Highlights:**
- Collection devices for Point-of-Care tests
  - Easy sample recovery
  - Precise and dispensing of small whole blood volumes
  - Prevents spillage during transfer
  - Volume range: 10µl – 200µl
  - Preparations: Neutral, Heparin and EDTA

# Information Technology

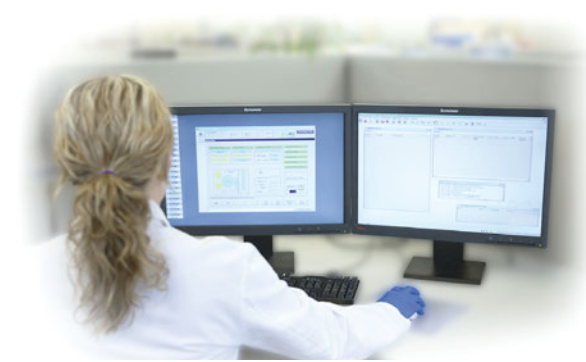
LIS, Middleware, POCT  
Inventory Management  
Specialties





## LIS, Middleware, POCT

### Beckman Coulter – DxONE Command Central Workstation



**Highlights:** Beckman Coulter's DxONE Command Central remote monitoring system helps manage lab workflow and improve decision-making steps. The system can connect up to 18 instruments or automation systems, and up to five networked DxONE Command Central workstations within a single laboratory, allowing the operator to place DxONE Command Central workstations in prime laboratory locations for increased flexibility.

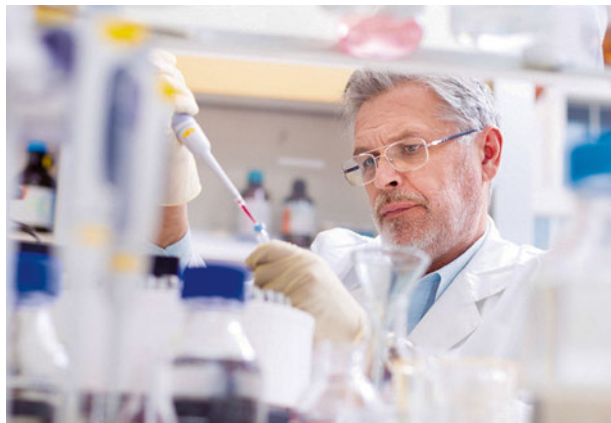
DxONE Command Central maximizes workflow efficiencies by providing lab technicians with a real-time view of laboratory systems from a single point of control. DxONE Command Central works with data managers such as REMISOL Advance to achieve workflow efficiencies, or can serve as a stand-alone product for users to monitor automation and/or multiple analyzers and quickly respond to any instrument issues.

### Beckman Coulter – Remisol Advance



**Highlights:** Remisol Advance is an enterprise data management solution that can help improve sample workflow through consolidated management, drive consistency through network standardization across multiple sites, create efficiency through autoverification, and improve reliability by integrating quality control management. It is a unique software product that consolidates patient test information from multiple instruments in the lab or from multiple labs in the hospital network. REMISOL Advance features virtualization capability to help reduce failure points and increase uptime.

### i-Solutions Health – LabCentre

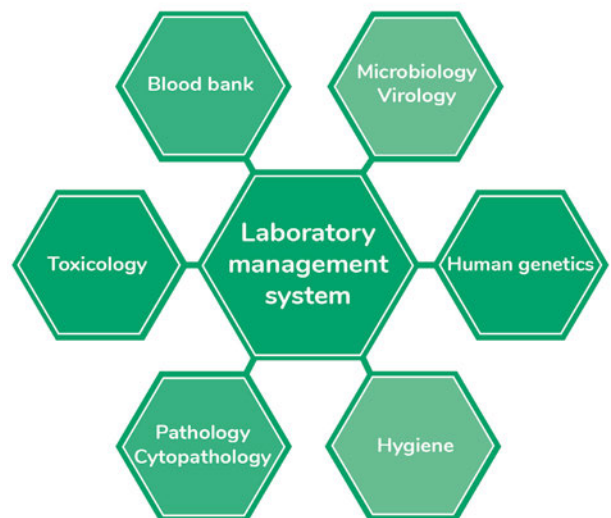


**Highlights:** LabCentre is a market-leading laboratory and pathology information management system. It helps doctors, scientists, technologists and management staff to track samples and testing processes, communicate results to other health professionals, and monitor costs and reporting.

LabCentre supports the following disciplines:

- Blood Sciences
- Microbiology
- Hygiene
- Transfusion Medicine
- Pathology
- Billing

### Medat – Laboratory Information System



**Highlights:**

- Flexible, private company with 50 employees.
- Complete solution from order entry to billing.
- Highly customisable modules for microbiology, virology, environmental hygiene, cytopathology, histopathology, clinical chemistry, serology / toxicology, blood bank and human genetics.
- Single, integrated system for all divisions and sites.
- Reliable operation in some of Europe's biggest laboratories.

# Old software makes old mistakes ...



**PROFILE:**

*After having obtained a degree in analytical chemistry, Dr Markus Neumann has had different roles in software development for laboratory information systems. After founding the company Labcore together with Heiko Kindler in 2006, the software specialist has also been focusing on quality management and process optimisation in medical laboratories.*

Since the microprocessor entered the medical laboratory we have watched how those responsible also have been confronted with the errors in the software supplied with it. Obviously, such errors are to be avoided or found and corrected before use. Nonetheless complete error-free software remains a dream. ISO 15189:2012 makes it obligatory for the manufacturer to identify errors in the form of validation and for the user in the form of verification.

ISO 9000:2015 defines an error as failure, incorrect behaviour or incorrect performance (the desired action is not performed) by a person. Origins of human errors are ignorance, incompetence or refusal. A human error leads to a (even unrecognised) defect that can cause a failure. For example, the program instruction "x = a/b": ignoring the case of "b = 0" has the effect of a defective program and leads to a collapse of the system when b reaches the value 0.

**Software development as complex process (Cynefin Framework)**

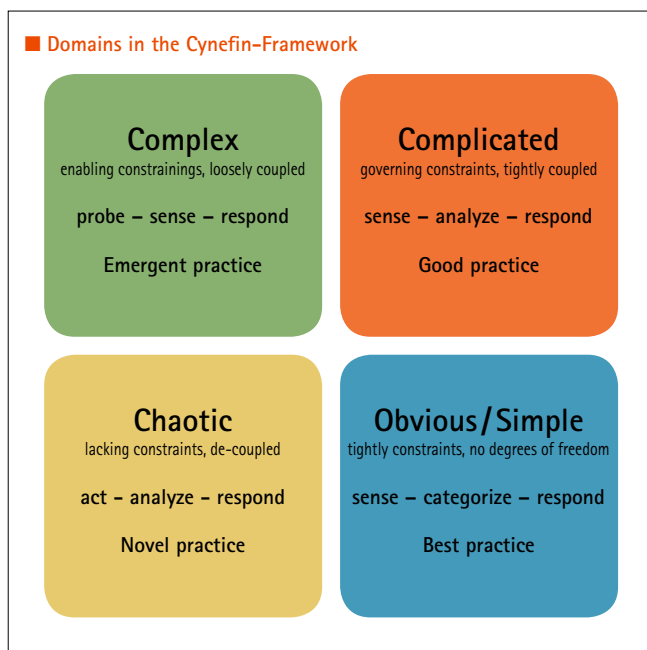
Why is that? A good tool for phenomenological tracking of software errors is the Cynefin Framework<sup>1</sup>. This is a knowledge management module used to describe problems, situations and systems. It delivers a typology of domains that offer an approach for which kind of explanations and/or solutions could be correct. The point is to expose in a clear manner the evolutionary structure of complex systems, including an inherent uncertainty. The Welsh word "Cynefin" – inadequately translated as habitat, haunt, acquainted, familiar- points to the fact that

human interaction is heavily influenced by experiences (personal as well as collective), if not in fact defined by them.

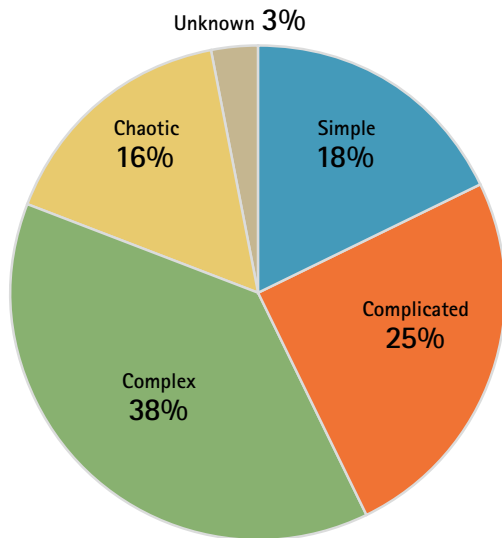
Image 1 shows the four domains (contexts) of the framework: these are distinguished by the different degree of perception of causality/ coupling between cause and effect in the system under examination. Starting with "obvious" and a strict coupling, it changes anti-clockwise until there is a chaotic system where no cause and effect relationship is recognisable.

Depending on how a situation is classified in one of these domains, there are options for action available. Thus, for the medical laboratory analysis and diagnostics are usually characterised as complicated whereas medical research is considered complex. To understand error avoidance and identification in medical software the effect of one's own perception of the respective context is decisive: by learning and training it is possible to arrive at a deeper understanding of causality in a specific context and thus to move in a clockwise sense within the domain. For the software manufacturer in the laboratory the opposite direction is also familiar: the depletion of knowledge by the loss of experienced employees has brought some enterprises on the brink of chaos recently.

Given that according to their own estimate, people employed in software development see more than 50 per cent of their time as spent with complex and chaotic scenario, the situation for a laboratory that is supposed to judge the quality of software used, seems rather hopeless. Fortunately, the Framework also offers indicators here: so best and good practices are not necessarily helpful; rather in this environment emergent and utterly new practices can be applied here. Also, the



■ Typical activities in software development referring to the domains of the Cynefin-Framework<sup>2</sup>



"chaotic" context is not to be understood as static—rather it opens the possibility for predicting reactions in the entire system by application of strict and formal rules to thus attain the "obvious" context.

### Assistance for the user

The following procedures can be considered:

- **Supplier audit:** before entering a longer-term contractual relationship with a software supplier<sup>3</sup>, there should at least be a check to see if this supplier really fits. It can be determined then whether the manufacturer is aware of the complexity of his assignment and how he has mastered this.
- **Verification:** In the context ranges complex and chaotic, emergent and novel practices ought to be applied. In other words, things ought to be "tested" or "just done". The aim is to create conditions by means of program entries that will force a system failure and thus expose a defect in the program code. It has been shown that software products tend to reproduce certain error types due to the programming language, tools used, persons involved and last but not least intended functions. A detailed record and categorisation of errors found in the past is an aid not to be underestimated for the verification.
- **Statistics:** Another indicator of software stability is the quantitative analysis of the number of errors found during verification. As is the case with every engineering product there is also a similar course (bathtub curve) followed through the product lifetime and this enables the user to estimate the "software age" and thus predict whether the software used will soon reach a condition in which the number of errors renders further use inefficient.

### Outlook for new software... and new errors

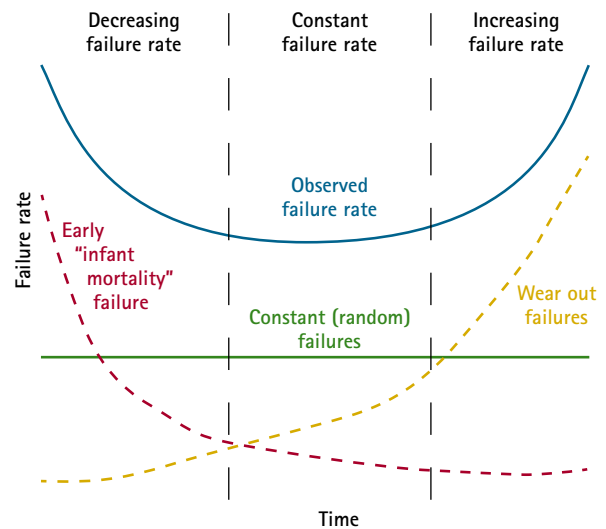
New demands on software in laboratories are increasingly met by new technologies in operations and the development of this software. The therapy decision is oriented more and more toward the individual patient with his complex biological profile. Identification and assessment of the profile requires a steady growth in the processing capacity of IT systems. They also require application of new paradigms and

algorithms for pattern recognition and machine learning—often known collectively by the term "artificial intelligence".

The new software and hardware paradigms lead to a new type of complexity and thus to new errors. "People" create in machine learning only the foundation for learning. Learning itself is determined by the machine's "learning environment" and its training data sets, the quality of which again influence the system's capability of distinguishing between the healthy and ill. An error in this categorisation can originate at any level of the overall system — in extreme cases; the system has learned the wrong selector. Hence the task of validation, as before, is to measure the impact of this "defect" to derive the necessary actions (to eliminate the error).

Also, the definition of errors in the field of AI algorithms leads to sharpening of the concept of human responsibility: as stated by the norm, errors are always due to human acts, since AI cannot make any mistakes on its own. If it acts unpredictably for human reasoning, this creates an incomparably greater ethical responsibility for the construction of IT systems, training and particularly the training data. If health professionals are to authorize the use of AI on a patient, every referring activity must be recorded in detail to show at any time to patients, inspection authorities and the public that due diligence has been exercised. ■

■ "Bathtub-Curve" as an estimate for the failure rate of software during its life



1 D. Snowden. (2000) "Cynefin, A Sense of Time and Place: An Ecological Approach to Sense Making and Learning in Formal and Informal Communities" conference proceedings of KMAC at the University of Aston, July 2000 and D. Snowden.

(2000) "Cynefin: a sense of time and space, the social ecology of knowledge management". In Knowledge Horizons: The Present and the Promise of Knowledge Management ed. C Despres & D Chauvel Butterworth Heinemann Oktober 2000

2 <https://www.butterflying.de/cynefin-lego-game/>

3 Marry in haste, repent at leisure (2018); by Markus Neumann Harald Maier & Gabriele Egert; Labbook 2018; published by European Hospital Verlags GmbH, page 76 ff.

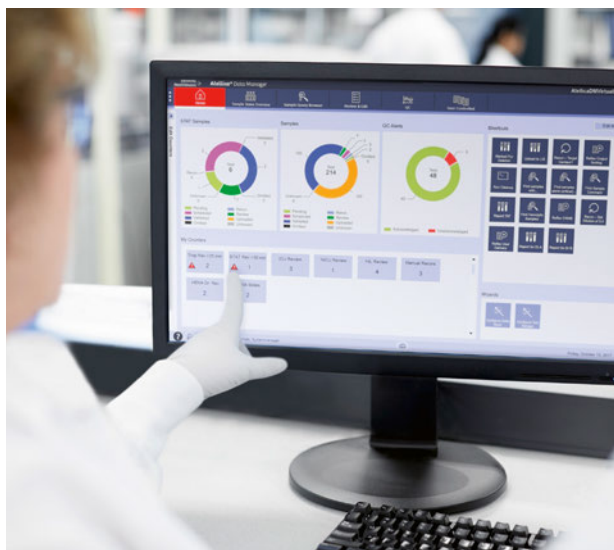


### CONTACT

**Dr. Neumann & Kindler GmbH & Co. KG**  
 Herner Straße 324 · 44807 Bochum, Germany  
 phone: +49 234 957 1969 – 0  
 info@labcore.de · www.labcore.de

## LIS, Middleware, POCT

### Siemens Healthineers – Atellica Data Manager



**Highlights:** Open, scalable, easy-to-use solution with powerful rules to standardize testing, enhance QC and streamline result management. Enhance visibility, automate processes, autoverify results and centralize management of analyzers, automation, sites and networks to increase productivity. Reduce errors and process variation with consistent review/reporting. Sharpen clinical focus with details needed to make informed, accurate decisions.  
Product availability varies by country.

### Siemens Healthineers – Atellica Process Manager



**Highlights:** Uncover inefficiencies and optimize clinical operations with built-in analytics and business intelligence. Identify and resolve pre-analytic, analytic and post-analytic problems with advanced performance metrics. Increase productivity with centralized oversight to control systems\*, view reagent levels and review exceptions from one screen. Deliver transparent, predictable TAT using rules and at-risk sample alerts.  
\*Instruments require VNC or Remote Desktop capability. Not available on all systems.

## Inventory Management

### Siemens Healthineers – Atellica Inventory Manager



**Highlights:** Get the right materials at the right time – Atellica Inventory Manager\* provides automated, real-time control of reagents and consumables across multiple locations to reduce costs, save time, and improve lab quality.  
\*Product availability varies by country.

## Specialties

### COMED – RMS / SHS-WEB / SHS Mobile App / E-Commerce (B2B)



- Highlights:**
- RMS – Reagent Management System is the leading inventory management, supply chain, laboratory controlling and e-commerce solution for labs.
  - SHS-WEB 3.2 is the browser-based healthcare ERP front-end for RMS or as a stand-alone-solution.
  - COMED "Scan & Go" with SHS Mobile App – the universal solution for scanning every barcode-types (1D, 2D, QR, RFID...) in laboratories, clinics and surgeries
  - Universal & independent B2B-e-commerce for orders, delivery notes and lot control: COMED-customer remains „DATA OWNER"

COMED was founded in 1986 and evolved to an international solution provider for material management and lab controlling. The unique fusion of IT, consulting and extensive industry know how, combined with a broad personal network, nowadays serves > 22,000 physicians, > 500 hospitals and > 400 laboratories in 18 countries worldwide with one goal: Enable laboratories, hospitals and rehab clinics to focus on their core business and gain their value-added chain.

# Peripheral Devices

Blood Collection  
Pipette Tips  
Centrifuges  
Incubators  
Compressors  
Specialties



# Peripheral Devices

## Blood Collection

### BD Vacutainer UltraTouch Push Button Blood Collection Set



- Highlights:**
- This wingset for standardized blood collection reduces accidental needle sticks up to 88 percent
  - Single-handed, in-vein safety activation instantly retracts needle after use
  - Minimizes patient discomfort  
PentaPoint bevel requires 32 percent less penetration force
  - Improved venepuncture Ultra-thin RightGauge cannula allows a better flow due to the needle's larger inner diameter. Therefore the use of a smaller gauge is suitable for more veins, without compromising filling times or sample quality

### Greiner – Vacuette Safety Blood Collection Sets



- Highlights:**
- Specially developed for blood collection from patients with difficult vein conditions
  - Protection from the risk of needlestick injuries
  - Simple activation of safety mechanism
  - Transparent view window provides clear vein entry indication
  - Particularly safe due to activation of the safety mechanism while the needle is still in the vein
  - More flexibility due to assorted tube lengths for blood collection
  - Optional use as an infusion set

### KABE Labortechnik – Capillary Blood Collection GK



- Highlights:** Capillary Blood Collection GK –for small amounts of blood
- The system offers special advantages for the collection of blood samples from new-borns, children, elderly people and emergency patients, thus everywhere, where only small amounts of blood are available
- The test vessel is prepared on the entire inner surface. Besides it can be used as centrifugal vessel
  - The capillary is coated on the entire inner surface and guarantees an exact filling volume
  - The attached stopper, which is optionally available with an integrated elastically re-deforming rubber membran, offers perfect tightness
  - Different measurements and preparations are available

### KABE Labortechnik – Primavette S and V



- Highlights:** The safe and variable blood collection system
- Gentle – Aspiration technique suitable for all vein conditions
  - Safe – Unbreakable, high quality plastic ensures maximum user and patient safety
  - Clean – The high grade rubber membrane closure guarantees absolute tightness
  - Flexible – Vacuum technique possible
  - Versatile – Available in different tube sizes and preparations
  - Comprehensive – Offered with a broad range of accessories

## Sarstedt – Microvette – Capillary Blood Collection



- Highlights:**
- Flexible capillary blood collection systems such as the Microvette – tailor-made to the individual needs of each patient group.
  - Different patient groups and collection techniques require different collection systems.
  - With a nominal volume range from 100 – 500 µl, the capillary blood collection systems product range is one of the most extensive in the entire market.
  - Depending on the requirements, our portfolio includes Microvettes with conical or round bottom inner tubes and the option for various different collection techniques, end-to-end or with a collection rim.

## Sarstedt – Multi-Safe Disposal boxes



- Highlights:**
- Our wide, tailor-made range of Multi-Safe disposal boxes corresponds to the current European directive on the prevention of needle stick injuries.
  - With our extensive product range of Multi-Safe boxes we are able to meet any disposal need in the field of medicine and laboratory.
  - With the various options, from the convenient 200 ml format to the autoclavable 60 l disposal box for clinical waste, we offer an optimal solution for every need.

## Sarstedt – S-Monovette – Venous Blood Collection



- Highlights:**
- S-Monovette – The Revolution in Blood Collection. A blood collection system that combines two blood collection techniques – the aspiration technique and the vacuum technique.
  - The S-Monovette is suitable for all vein conditions and achieves an optimal sample quality, thereby producing the best results.
  - The aspiration technique is a gentle technique for routine blood collection. Using the vacuum technique, a “fresh” vacuum is always available.
  - Suitable for all ages, from young to old, the S-Monovette is as individual as your patients.

## Pipette Tips

### Sarstedt – Low Retention Pipette Tips



- Highlights:**
- Minimising sample loss
  - Optimised surface for enhanced dispensing behavior
  - Improved sample recovery
  - Minimal sample loss of highly viscous liquids or samples containing detergents
  - Cost savings in valuable reagents

# Peripheral Devices

## Centrifuges

### Hettich – Mikro 220 | 220 R

**Dimensions:**

330 × 420 × 313 mm (w × h × d)

**Weight:**

21 kg / 42 kg

**Rotational frequency:**

18,000 min<sup>-1</sup>

**Relative centrifugal force:**

31,514



**Highlights:**

- Compact, high-performance microlitre centrifuge
- Choice of seven rotors
- IVD-conform according to directive 98/79/EC
- Impulse key for short cycle mode
- Easy operation with keypad and control knob
- Impulse key for short cycle mode
- Nine program memories for more individuality
- Nine individual acceleration and deceleration stages
- Model 220 R coolable from -20 to +40 °C with pre-cooling function
- Max. number of tubes: 60 × 2.0 ml

### Hettich – Universal 320 | 320 R

**Dimensions:**

401 × 529 × 346 mm (w × h × d)

**Weight:**

31 kg / 52 kg

**Rotational frequency:**

16,000 min<sup>-1</sup>

**Relative centrifugal force:**

24,900



**Highlights:**

- The universal choice among the benchtop centrifuges
- Choice of 18 rotors
- IVD-conform according to directive 98/79/EC
- Impulse button for short centrifugation
- Easy operation with keypad and control knob
- Impulse key for short cycle mode
- Nine program memories
- Nine individual acceleration and ten deceleration stages
- Model 320 R coolable from -20 to +40 °C with pre-cooling function
- Max. number of tubes: 4 × 200 ml / 6 × 94 ml

## Incubators

### Hettich – HettCube 600 R

**Dimensions:**

710 × 825 × 1,990 mm (w × h × d)

**Weight:**

175 kg

**Temperature range:**

0 °C to +65 °C

**Internal volume:**

520 l

**Energy consumption at 37°:**

0.056 kWh / h



**Highlights:**

- Only 0.6 m<sup>2</sup> footprint
- Up to 67 percent of usable volume
- Fast and easy access, one-hand operation door
- Perfect conditions with unique temperature regulation
- 4.3 inch touchscreen
- Real-time calendar
- Week programming with holiday function
- Flexible alarm settings
- Wide range of program functions (Start after time, start after temperature etc.)
- Up to four shelves included in standard
- Automatic door closure with magnetic seals
- Low noise level of ≤ 44 dB(A)

## Compressors

### Dürr Technik – Sicolab – compressor stations



**Air flow:**

Up to 145 l / min at 5 bar

**Compressed air quality:**

Up to 1:3:1 (according to ISO 8573-1)

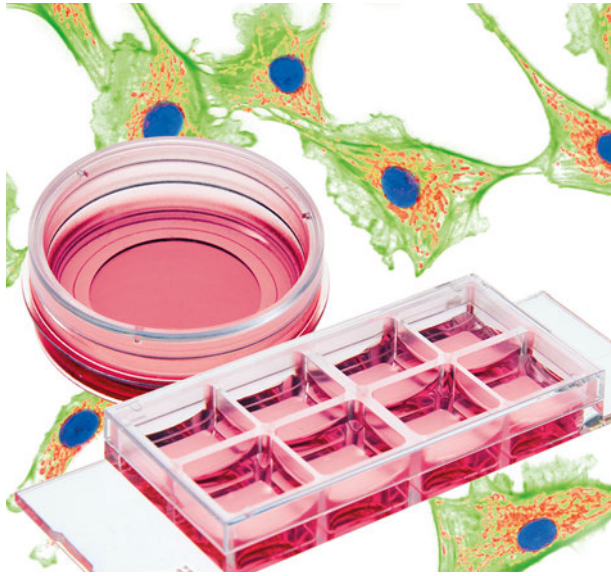
**Highlights:**

- Oilfree compressed air for many applications
- Silent – thanks to excellent soundproofing (48 – 54 db [A])
- Compact – fits under the laboratory bench
- Mobile – with wheels or handling grips
- Wide variety of versions
- Membrane dryer and filters as options



## Specialities

### ibidi – Solutions for microscopy and cell-based assays



- Highlights:**
- Investigate angiogenesis, chemotaxis, wound healing, and cells under flow
  - Cultivate your cells and perform high-resolution microscopy
  - Benefit from excellent cell culture conditions on the unique ibidi Polymer Coverslip
  - Available in various open formats or channel slides
  - Test with a free sample

### Sarstedt – Cell Culture Products



- Highlights:** For over 25 years Sarstedt has produced a wide range of high quality cell culture products which are distributed worldwide. These many years of experience and knowledge of the needs of users have allowed us to optimise and continually expand the product range.

### Sarstedt – Sediplus Sedimentation System



- Highlights:**
- Venous and capillary blood collection systems for blood sedimentation with matching accessories and devices for automatic detection are available.
  - The automatic blood sedimentation system Sediplus S 200 with 10 measurement positions, and the Sediplus S 2000 with 40 positions (can optionally be extended to 160 positions) for a high sample throughput, optimise ESR measurement.
  - The S-Sedivette venous blood collection system enables hygienic, easy handling in an enclosed system. The Microvette CB 200 ESR blood collection system is designed for 200 µl of blood only and ensures minimal patient discomfort when collecting blood. Both systems are proven to perform well in comparison with the Westergren method.



Integrated  
solution management  
for your laboratory

dr. neumann&kindler







[www.labcore.de](http://www.labcore.de)

# Companies & Suppliers

## Page Index

	Automation	Sample Processing	Chemistry & Immunochemistry	Mass Spectrometry	Hematology	Pathology	DNA	Microbiology	POCT	Information Technology	Peripheral Devices
<p><b>AB Medical, Inc.</b> C#1516, SKV1 Metrocity, 128, Beobwon-ro Songpa-gu, Seoul, 05854, Korea phone: +82 2 6928 5060 fax: +82 62 710 5007 abm@abmedical.co.kr www.v-tube.com</p> 			14		42 49						
<p><b>Alsachim, a Shimadzu Group Company</b> 160 rue Tobias Stimmer 67400 Illkirch, France phone: +33 390 402 200 contact@alsachim.com www.alsachim.com</p> 			14								
<p><b>Analyticon Biotechnologies AG</b> Am Mühlenberg 10 35104 Lichtenfels, Germany phone: +49 6454 7991-0 fax: +49 6454 7991-30 info@analyticon-diagnostics.com www.analyticon-diagnostics.com</p> 			37		41						
<p><b>ASP Lab Automation AG</b> Rugenranzel 4 25373 Ellerhoop, Germany phone: +49 4120 70679-27 info@asplabauto.com www.asplabauto.com</p> 		4									
<p><b>BD</b> European Headquarter Terre Bonne Park - A4, Route de Crassier 17 1262 Eysins, Switzerland phone: +41 21 556 30 00 pas_info@bd.com - www.bd.com</p> 			14 37		48		59	63			76
<p><b>Beckman Coulter, Inc.</b> 250 S. Kramer Boulevard Brea, CA 92822, USA phone: +1 714 993 53 21 PANEUMarketing@beckman.com www.beckmancoulter.com</p> 	11		14 15 22 23		42 46					71	
<p><b>BIOSYSTEMS S.A.</b> Costa Brava 30 08030 Barcelona, Spain phone: +34 93 311 00 00 biosystems@biosystems.es www.biosystems.es</p> 			15 18								
<p><b>COMED</b> Computerorganisation in der Medizin GmbH Köttersweg 11 59494 Soest, Germany phone: +49 2921 9630-0 comed@comed-com.de www.comed-com.de</p> 										74	
<p><b>Diatron MI Zrt.</b> Táblás u. 39 1097 Budapest, Hungary phone: +36 1 436 9800 marketing@diatron.com www.diatron.com</p> 			18		42						
<p><b>DRG Instruments GmbH</b> Frauenbergstraße 18 35039 Marburg, Germany phone: +49 6421 1700-0 raeder@drg-diagnostics.de www.drg-diagnostics.de</p> 			21								

## Page Index











	Automation	Sample Processing	Chemistry & Immunochemistry	Mass Spectrometry	Hematology	Pathology	DNA	Microbiology	POCT	Information Technology	Peripheral Devices
<p><b>DTM Medical</b> Mainzer Straße 131 65187 Wiesbaden, Germany phone: +49 611 92777-0 info@dtm-medical.eu www.dtm-medical.eu</p> 						53 54					
<p><b>Dürr Technik GmbH &amp; Co. KG</b> Pleidelsheimer Straße 30 74321 Bietigheim-Bissingen, Germany phone: +49 7142 9022-0 fax: +49 7142 9022-99 office@duerr-technik.de www.duerr-technik.com</p> 											78
<p><b>Eppendorf AG</b> Barkhausenweg 1 22339 Hamburg, Germany phone: +49 40 53801-0 fax: +49 40 53801-556 eppendorf@eppendorf.de www.eppendorf.de</p> 							60				
<p><b>EXIAS Medical GmbH</b> Kratkyastraße 2 8020 Graz, Austria phone: +43 316 922953 office@exias-medical.com www.exias-medical.com</p> 									66		
<p><b>Fujirebio Europe NV</b> Technologiepark 6 9052 Gent, Belgium phone: +32 9 329 1329 www.fujirebio-europe.com</p> 			21								
<p><b>Genrui Biotech Inc.</b> 4-10F, Building 3, Geya Technology Park Guangming District 518106 Shenzhen, China phone: +86 755 26 83 55 60-1 (-2) international@genrui-bio.com www.genrui-bio.com</p> 					18 19	43			65 66		
<p><b>Greiner Bio-One GmbH</b> Bad Haller Straße 32 4550 Kremsmünster, Austria phone: +43 7583 6791-0 office@at.gbo.com www.gbo.com</p> 				19 37 39	43 49						76
<p><b>Hamamatsu Photonics Deutschland GmbH</b> Arzbergerstraße 10 82211 Herrsching, Germany phone: +49 8152 375-203 marketing@hamamatsu.de www.nanozoomer.com</p> 						53 55					
<p><b>Andreas Hettich GmbH &amp; Co. KG</b> Föhrenstraße 12 78532 Tuttlingen, Germany phone: +49 7461 705-0 info@hettichlab.com www.hettichlab.com</p> 											78
<p><b>HORIBA Medical</b> Parc Euromédecine - Rue du Caducée - BP7290 34184 Montpellier, France phone: +33 467 141516 webmaster.med@horiba.com www.horiba.com</p> 	11				43 50						

# Companies & Suppliers

## Page Index

	Automation	Sample Processing	Chemistry & Immunochemistry	Mass Spectrometry	Hematology	Pathology	DNA	Microbiology	POCT	Information Technology	Peripheral Devices
<b>Helmut HUND GmbH</b> Artur-Herzog-Straße 2 35580 Wetzlar, Germany phone: +49 6441 2004 0 info@hund.de www.hund.de					48			63			
<b>ibidi GmbH</b> Am Klopferspitz 19 82152 Martinsried, Germany phone: +49 89 5204617-0 info@ibidi.de www.ibidi.com											79
<b>INPECO SA</b> Via Torraccia 26 6883 Novazzano, Switzerland annalisa.leonardo@inpeco.com www.inpeco.com	11										
<b>i-SOLUTIONS Health GmbH</b> Am Exerzierplatz 14 68167 Mannheim, Germany phone: +49 621 3928-0 fax: +49 621 3928-527 info@i-solutions.de www.i-solutions.de										71	
<b>JADAK Europe</b> Emmastraat 16 4811 AG Breda, The Netherlands phone: +31 76 522 5588 info@jadak.eu www.jadak.eu									69		
<b>KABE LABORTECHNIK GmbH</b> Jägerhofstraße 17 51588 Nümbrecht-Eisenroth, Germany phone: +49 2293 9132-0 info@kabe-labortechnik.de www.kabe-labortechnik.de						54			67		76
<b>Lifotronic Technology Co., Ltd</b> 4th Floor, Building 15, 1008 Songbai Road Nanshan District 518055, Shenzhen, China phone: +86 755-2906 00 26 inter-marketing@lifotronic.com en.lifotronic.com									65		
<b>Medat Computersysteme GmbH</b> Albrechtstraße 14 80636 München, Germany phone: +49 89 126808-0 vertrieb@medat.de www.medat.de										71	
<b>SHENZHEN MINDRAY Bio-Medical Electronics Co., LTD.</b> Mindray Building, Keji 12th Road South, High-tech Industrial Park, Nanshan 518057 Shenzhen, China intl-market@mindray.com www.mindray.com			19 20 24 26 27		43 46						
<b>Mitsubishi Chemical Europe GmbH</b> Willstätter Straße 30 40549 Düsseldorf, Germany phone: +49 211 5 23 92-0 pathfast@mc-e.de www.mitsubishi-chemical.de									66		

## Page Index

	Automation	Sample Processing	Chemistry & Immunochemistry	Mass Spectrometry	Hematology	Pathology	DNA	Microbiology	POCT	Information Technology	Peripheral Devices
<p><b>Molzym GmbH &amp; Co. KG</b> Mary-Astell-Straße 10 28359 Bremen, Germany phone: +49 421 696 162-17 info@molzym.com www.molzym.com</p> 							58				
<p><b>Olympus Europa SE &amp; Co. KG</b> Amsinckstraße 63 20097 Hamburg, Germany phone: +49 40 23773-0 ScientificSolutions@olympus-europa.com www.olympus-lifescience.com</p> 					49	54		63			
<p><b>Orion Diagnostica Oy</b> Koivu-Mankkaantie 6 B 02200 Espoo, Finland phone: +358 10 4261 orion.diagnostica@oriondiagnostica.fi www.oriondiagnostica.com</p> 							58				
<p><b>Promega GmbH</b> Schildkrötstraße 15 68199 Mannheim, Germany phone: +49 621 8501-0 de_custserv@promega.com www.promega.com</p> 	12						58 59				
<p><b>SampIision</b> Limesstraße 17 61273 Wehrheim, Germany phone: +49 6081 982550 info@sampIision.de www.sampIision.de</p> 		4									
<p><b>SARSTEDT AG &amp; Co.</b> Sarstedtstraße 1 51588 Nümbrecht, Germany phone: +49 2293 305-0 fax: +49 2293 305-122 info@sarstedt.com www.sarstedt.com</p> 		6 7	20 21 38 39		50		58 60		69		77 79
<p><b>Sentinel CH. SpA</b> Via Robert Koch, 2 20152 Milano, Italy phone +39 02 3455141 sentinel@sentinel.it www.sentinel diagnostics.com</p> 			20								
<p><b>SCIEX Diagnostics</b> 500 Old Connecticut Path Framingham, MA 01701, USA phone: +1 508 383 7700 sciex.com/about-us/contact-us sciex.com/diagnostics</p> 				30							
<p><b>SHIMADZU Europa GmbH</b> Albert-Hahn-Straße 6-10 47269 Duisburg, Germany phone: +49 203 7687-0 shimadzu@shimadzu.eu www.shimadzu.eu</p> 			34 39	31				62			
<p><b>Siemens Healthineers</b> Laboratory Diagnostics 511 Benedict Avenue 10591 Tarrytown, NY, USA phone: +1 914 631 8000 www.healthcare.siemens.com</p> 	12	7	30 36		44 50 51		59		65 66 67 68 69	74	

# Companies & Suppliers

## Page Index

	Automation	Sample Processing	Chemistry & Immunochemistry	Mass Spectrometry	Hematology	Pathology	DNA	Microbiology	POCT	Information Technology	Peripheral Devices
<p><b>Shenzhen New Industries Biomedical Engineering Co., Ltd.</b>            21st Floor, Block A, Building 1, Shenzhen Software Industry Base, No. 1008, Keyuan Road, Nanshan District 518000 Shenzhen, China            phone: +86 755 26501514            sales@snibe.com            www.snibe.com</p> 	12		26 27								
<p><b>Sysmex Europe GmbH</b>            Bornbarch 1            22848 Norderstedt, Germany            phone: +49 40 527 26-0            info@sysmex-europe.com            www.sysmex-europe.com</p> 			38		44 48 51 52			63	69		
<p><b>TECO Medical Instruments</b>            Dieselstraße 1            84088 Neufahrn, Germany            phone: +49 8773 70780-0            info@teco-gmbh.com            www.teco-medical.com</p> 					52						
<p><b>Thermo Fisher Scientific</b>            168 Third Avenue            Waltham, MA 02451, USA            www.thermofisher.com</p> 			36	34							
<p><b>T&amp;O LabSystems GmbH &amp; Co. KG</b>            Leibnizstraße 7            24568 Kaltenkirchen, Germany            phone: +49 4191 9913883            info@to-labsystems.com            www.atras-sorter.com</p> 		7									
<p><b>VMscope GmbH</b>            Chariteplatz 1            10117 Berlin, Germany            phone: +49 30 450 53 61 88            kai.saeger@vmscope.de            www.vmscope.de</p> 						55					

# The accuracy of LC-MS/MS technology with the convenience of automation



## Launch your lab into the future with the IVD/CE-marked Thermo Scientific™ Cascadion™ SM Clinical Analyzer

A fully automated clinical analyzer using liquid chromatography-tandem mass spectrometry (LC-MS/MS) technology:

- Designed for the clinical lab as a random access system
- Easy to use without specialized knowledge or experience
- Dedicated Cascadion assays for a complete system solution



**Cascadion SM 25-Hydroxy Vitamin D Assay**  
Quantitative measurement of 25-Hydroxy Vitamin D<sub>3</sub>  
and 25-Hydroxy Vitamin D<sub>2</sub> while excluding C3 epimers

Find out more at [thermofisher.com/cascadion](http://thermofisher.com/cascadion)

*\*Product not 510(k) cleared and not yet available for sale in the U.S.*

© 2018 Thermo Fisher Scientific Inc. All rights reserved. All trademarks are the property of Thermo Fisher Scientific and its subsidiaries unless otherwise specified. 0718

# It's Time to Embrace the Future of Diagnostic Accuracy

You're on a mission to provide accurate data that clinicians can rely on. At SCIEX Diagnostics we share your passion.

We understand that delivering accurate and timely patient test results, under increasing regulatory and financial pressure, is of paramount importance.

Our *in vitro* diagnostic mass spec solutions help you deliver data quickly and adhere to current compliance standards. With the added flexibility to expand your test menu, be confident you can support clinicians with the right results so they may make reliable patient diagnosis and treatment decisions for years to come.

It's time to see the future differently.

[sciexdiagnostics.com](http://sciexdiagnostics.com)

