
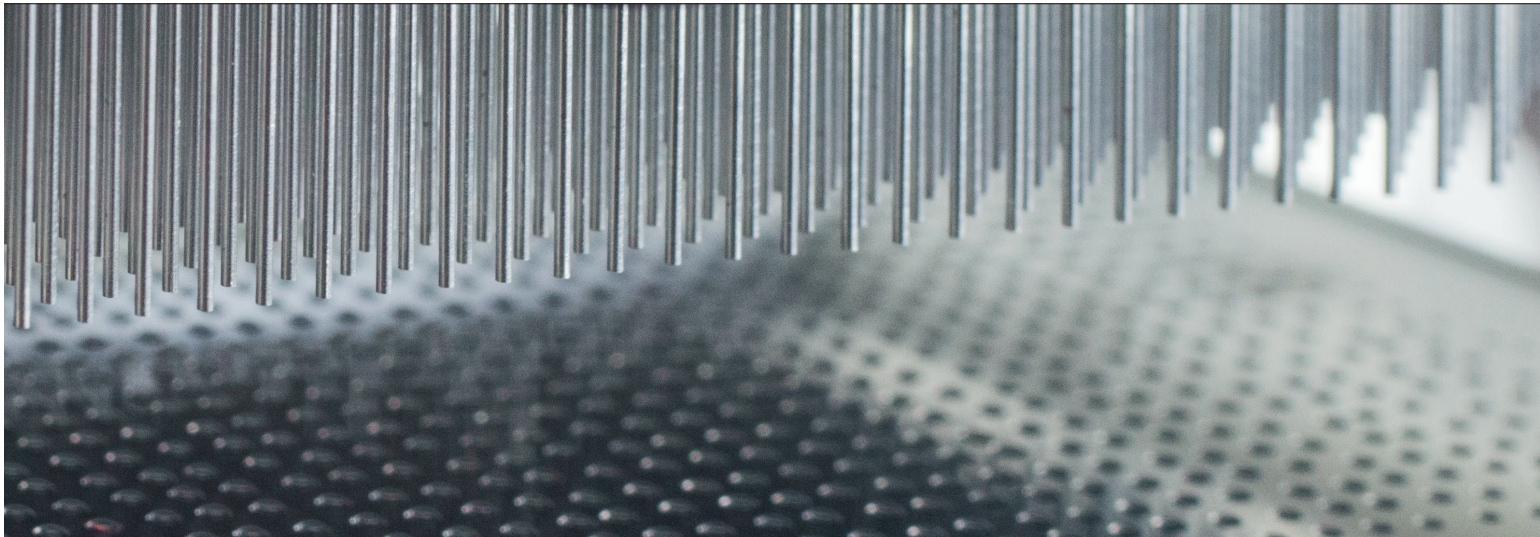


Fast. Reliable. Precise
uHTS MALDI Sample Preparation –
Beyond Spotting

1536/1536

A close-up photograph of a robotic sample preparation head. The head features a dense array of 1536 pins, arranged in a grid. The pins are mounted on a metal plate. The number '1536/1536' is printed in white on a black background above the pins. Below the pins, the number 'OL5021-2' is visible on a metal surface. The image is set against a dark background with a red vertical bar on the left side.

Lab Automation



uHTS MALDI Sample Preparation – Beyond Spotting

Bringing the Analytical Power of MALDI to uHTS

In biopharmaceutical laboratories is a growing need for label free high-throughput screening assays based on mass spectrometry. Analytik Jena in collaboration with Bruker built a bridge between the powerful and unique label free detection capabilities of Mass Spectrometry and automated uHTS MALDI sample preparation. With CyBio® Well vario Analytik Jena offers more than just a spotting device, which works in concert with the new rapifleX from Bruker.

The pipetting robot can prepare MALDI sample plates in 1536 format within the same time as the mass spectrometer can measure them and complies with all the needs of the assay.

From a simple workstation to a complex integration, Analytik Jena supplies all application demands for a reliable MALDI automation.

Fast sample analysis

The combination of a high speed liquid handling workstation with 1536 simultaneous pipetting channels and ultrafast mass spectrometric detection analyze samples at unprecedented speed of less than 10 min. Over a million spots can be analyzed in only a week.

Increased walk away time

The fully automated and integrated system from Analytik Jena and its components for the MALDI application perfectly suites the requirements of mass spectrometry assay automation for ultrahigh throughput screening, requiring no user interventions during run time.

Small assay volume and homogenous spot generation

A tip sealing mat ensures an airtight seal for high precision and uniform tip length, which enables the CyBio® Well vario 1536 to pipette with a CV % less than 2 % and make small spots down to 100 nl.

Not only spotting – pipetting

Unique desalting function for on-target-washing of the matrix-sample-matrix sandwich improves both the measurement conditions and the results of the mass spectrometry.

High flexibility

Analytik Jena can offer a wide range of possible configurations for automating of MALDI assays. Pipetting heads with high quality liquid handling capabilities, different storage and plate movement options, a choice of non-disposable ceramic or stainless steel tips in combination with a high efficient wash station and special reservoirs assure an effective and sustainable workflow.

MALDI-TOF Integration – an Ultra-High Throughput Automation Solution



Bruker rapifleX
MALDI

CyBio® Well vario 1536
Multi-channel pipettor

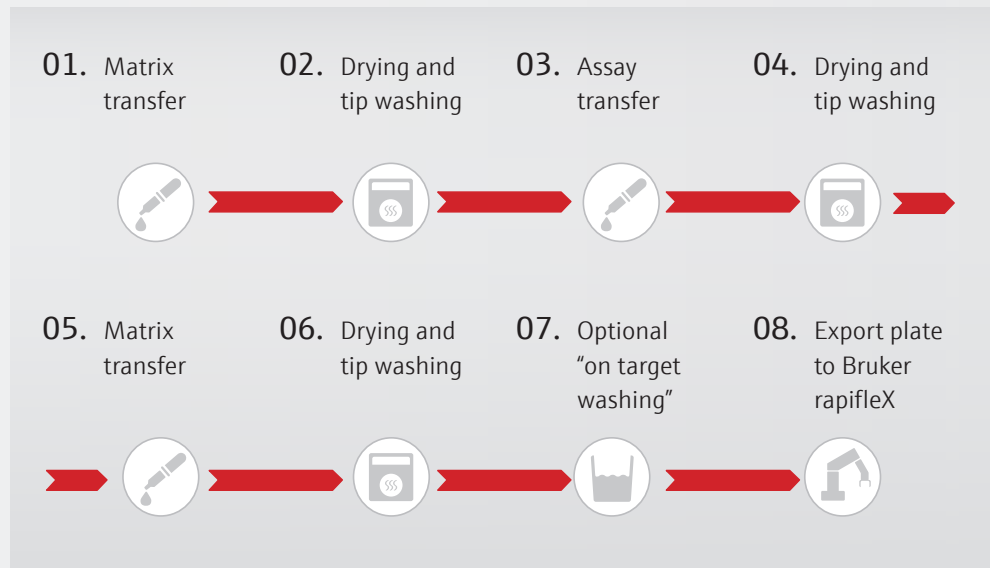
CyBotom C10
Storage Assay Plates

High speed automatic
sample tray

PreciseFlex
Robot

CyBio® QuadStack
Storage MALDI Sample Plates

Example workflow for MALDI sample preparation application



Decklayout for full automatic uHTS MALDI sample preparation, including active drying and on-target-washing



System Configuration Example

Automation of rapifleX MALDI PharmaPulse™ – CyBio® Well vario 1536 with 10-place circular transporting unit, Active Drying, CyBio® QuadStack, PreciseFlex, Thermo Scientific Cytomat 10C hotel, Bruker rapifleX

Order number	Description	Quantity	Operation
Modules			
870-3381-25-355	CyBio® Well vario pipettor (bs, C)	1	Base station without pipetting head; combine with a circular transport system and a pipetting head to form a functional system.
870-3502-100-23	10 position circular transport system CyBio® Well vario	1	Circular transport system with base frame and rotary table with 10 positions.
870-5003-26-001	CyBio® QuadStack M	1	Medium sized stacker with 40 SW plates capacity per stack, MALDI sample plate storage
Pipetting Head			
870-5021-27-588	CyBio® Well vario Pipetting Head 1536/10 µl (fs) with fixed tip magazine 1536/1 µl steel	1	CyBio® Well vario Pipetting Head for 1536-well simultaneous liquid handling with fixed tip magazine 1536/1 µl steel with 1536 individually changeable non-disposable stainless steel tips with 1 µl net volume
Accessories			
870-0017-14-180	CyBio® Well vario and CyBio® Well Barcode Reader NLV 3101; short side	1	For reading barcode labels on the short side of microplates on linear transport system
870-5021-27-600	Tip wash station set 1536	1	Complete tip wash station 1536 set
870-5021-25-710	MALDI sample adapter 1536	1	For optimal dry transfer of small volumes Optimized for Bruker MALDI sample plate/MALDI microplates with 127.7 mm x 85.4 mm footprint
870-5021-25-700	Microplate adapter 1536	1	For use with 1536-well microplates with CyBio® Well vario
870-5021-14-645	Reservoir 1536	2	Optimized for applications with CyBio® Well vario Pipetting Head 1536 with refillable option on request
	Active dryer	1	Park deck and vacuum chamber to reduce the drying time for MALDI sample plate
Third Party			
	Bruker rapifleX		High speed mass spectrometer
	Precise Automation PreciseFlex PF750		4 axis robotic arm and servo gripper
	Thermo Scientific Cytomat 10C hotel		Storage of assay plates (optional with lid) with a capacity for 210 shallow well plates

Headquarters

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Pictures: Analytik Jena AG
Subjects to changes in design and scope of delivery as well as further technical development!

en - 01/2017 - 844-CMA019-2-B
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