Product Overview

- Life Science Mass Spectrometry

Innovation with Integrity

Mass Spectrometry

Empowering Science with Innovation and Integrity

As one of the world's leading analytical instrumentation companies, Bruker offers a broad spectrum of advanced solutions in all fields of research and development. All our systems and instruments are designed to improve product safety, accelerate time-to-market, and support our customers in life science research and industries in successfully enhancing quality of life.

We have been driving innovation in analytical instrumentation for more than 50 years. Today, over 6,000 employees are working worldwide on this challenge in more than 70 locations across all continents.

High Performance, Easy-to-Use, Expertly Supported

Bruker has been committed to providing scientists with the very best in innovative mass spectrometry and analytical solutions. Bruker's systems are expertly designed for performance and utility, and feature a number of unique capabilities and technologies to enhance data quality and facilitate data mining. Bruker's systems are the highest performance instruments in their class. Recent advances in Bruker's mass spectrometry product lines make this analytical power more accessible than ever to both new and expert users.

Bruker's Sales, Service, and Applications teams will assemble your optimal instrument and software package, allowing you to smoothly go from ideas to results.

Bruker's unique mass spectrometry solutions are the measure of innovation

They deliver a standard of performance that sets the new standard. Aspire to tackle the most challenging problems and accelerate scientific discovery.

timsTOF fleX with MALDI-2

Enhanced depth and sensitivity. The SpatialOMx enabled timsTOF fleX with MALDI 2 re-imagines and enhances MALDI to add significant biological context to routine OMICS or pharma studies.

timsTOF Pro 2 and timsTOF SCP

Dig deeper into the proteome with PASEF on the timsTOF Pro 2 and timsTOF SCP. Even with fast nanoLC runs, you will obtain higher sensitivity and better quantification due to the advantages provided by Trapped Ion Mobility (TIMS).

rapifleX

Screen > 1M compounds per week on the rapifleX MALDI PharmaPulse®. With false discovery rates < 1%, this unique label-free approach to uHTS drug discovery saves costs while radically improving productivity.

scimaX

Unleash the power of Isotopic Fine Structure and eXtreme Resolution across the acquired m/z range. With resolution of R > 20 million and parts per billion mass accuracy, scimaX® MRMS will find your formula for success.

MALDI-TOF and TOF/TOF Mass Spectrometry

Bruker's flagship FLEX series is the global leader for MALDI applications

Bruker's FLEX series – well-known for outstanding performance, reliability, convenience, and innovative design – is a market leading technology platform. It is the gold standard for top-down protein sequencing, MALDI Imaging, and polymer analysis. Flex series MALDI systems include a wide range of capabilities enabling beginners and experts to achieve maximum efficiency.

Highly automated workflows enable data acquisition and in-depth analysis from the smallest amounts of samples within seconds. Intuitive and powerful software packages support data visualization and turn-key target characterization.

microflex series

From peptide and protein QC applications to biomarker discovery or the analysis of oligonucleotides, small molecules, polymers and quality control screening, the bench-top microflex® LRF is the perfect choice.
It is easy to use with intuitive operations that are ideal for non-expert users and busy multi-instrument labs.
The oil free vacuum system is fully integrated and noise reduced. Stable ion generation is produced by a 60 Hz fiber-optic laser – this robust design guarantees reliable daily operation.

microflex LRF	
resolution:	15,000
mass range:	up to 300,000
mass accuracy:	15 (int. calib.) [ppm]
laser:	Nitrogen
size [mm]:	530 x 680 x 1350
laser frequency [Hz]:	60 (MS)

autoflex maX series

Innovative MALDI-TOF and TOF/TOF technology optimized for robustness enables reliable and detailed protein/peptide characterization, polymer analysis, MALDI tissue imaging, glycan analysis, and high-throughput biochemical screening. Its smartbeam-II laser technology with up to 2,000 Hz repetition rate is a must for MALDI Imaging and delivers superior performance for proteomics studies. The field-upgradable autoflex® maX instruments are available as linear, high resolution reflectron or TOF/TOF versions. The TOF/TOF configurations enable fast and sensitive MS/MS experiments via LID and high energy CID.

autoflex maX [LIN, LRF and TOF/TOF]		
resolution:	26,000	
mass range:	up to 500,000	
mass accuracy:	2 (int. calib.) [ppm]	
laser:	smartbeam II	
size [mm]:	825 x 1920 x 750	
laser frequency [Hz]:	LRF	TOF/TOF
	2,000 (MS)	2,000 (MS) 200 (TOF/TOF)

MALDI Solutions

rapifleX MALDI PhamaPulse

The rapifleX MALDI PharmaPulse (MPP) enhances label-free HTS, combining the mass detection of enzymes, substrates and products with the required speed to comb through compound libraries containing millions of substances. The use of mass spectrometry allows the measurement of unmodified substrates in primary screens, greatly reducing false positive rates, and minimizes compounds sent to confirmation screens. The system is designed for automatic handling of 1536 well sample plates to screen more than a million compounds in a week in support of drug discovery.

rapifleX MALDI Tissuetyper

The newly developed smartbeam 3D laser fires at a repetition rate of up to 10 kHz and features a laser diameter of 5 µm. The laser can move independently from the (continuously moving) sample stage to scan the full area of each pixel and achieve high pixel rates. This produces truly square pixels, utilizing all of the available sample area for maximum sensitivity and pixel-to-pixel reproducibility for routine imaging at 20 µm spatial resolution.

ultrafleXtreme

With its further enhanced dynamic range and the patented smartbeam-II laser the ultrafleXtreme provides outstanding spectral quality in both MS and MS/MS modes empowering tissue imaging, intact protein analysis, glycoproteomics, biologics or oligo QC, and LC-MALDI workflows. Broadband mass resolving power up to 40,000 enables precision proteomics via Bruker's unique PAN™ technology for highest mass resolution across a very wide mass range. A very long MALDI laser lifetime in combination with automated laser-based source cleaning in just minutes leads to high uptime and low maintenance costs.

ultrafleXtreme TOF/TOF	
resolution:	40,000
mass range:	up to 1,000,000
mass accuracy:	1.5 (int. calib.) [ppm]
laser:	smartbeam II
size [mm]:	784 x 1332 x 2300
laser frequency [Hz]:	2,000 (MS) / 1,000 (TOF/TOF)

rapifleX series

The rapifleX® series is the most advanced and adaptable MALDI TOF(/TOF) system available today. The 10 kHz smartbeam 3D technology allows for up to 20 times faster MALDI tissue imaging in MS and MS/MS modes. With its mass resolving power of up to 50,000 and increased dynamic range, applications such as ultra-high throughput biochemical screening, top-down sequencing (e.g., of biotherapeutics), glycan structure analysis or disulfide/scrambling/trisulfide bond determination are easily addressed. Adaptable ion optics allow for best sensitivity in MS and MS/MS modes.

rapifleX [LRF and TOF/TOF]		
resolution:	45,000	
mass range:	up to 1,000,000	
mass accuracy:	1 (int. calib.) [ppm]	
laser:	smartbeam 3D	
size [mm]:	950 x 800 x 2750	
optional:	autoloader	
laser frequency [Hz]:	TOF	TOF/TOF
	10,000 (MS)	10,000 (MS)& (TOF/TOF)

Trapped Ion Mobility Mass Spectrometry

Next generation ion mobility separation with high sensitivity and robustness

From the trusted family of UHR QTOF systems to the revolutionary separations orthogonality advantage of the timsTOF systems, critical sample details are delivered with speed and sensitivity. Ion mobility is a powerful extension to mass spectrometry that delivers information about the three dimensional structure of an ion, and increases peak capacity and confidence in compound characterization.

timsTOF fleX Solutions

IntelliSlides - Maximize information content per pixel with intelligence

Perfect for SpatialOMx - Bruker's IntelliSlides™ simplify your MALDI Imaging workflows by enabling automated setup of each measurement. IntelliSlides incorporate permanent inscriptions that indicates optimal placement of samples, registration marks (also known as teach marks or fiducials) that make automated sample registration possible, as well as providing a unique slide identifier for software tracking. IntelliSlides are the optimal tool for increasing measurement efficiency and throughput for any MALDI Imaging study. Your effortless time-to-result for MALDI Imaging has never been faster.

timsTOF series

With timsTOF, Bruker introduces the next generation of ion mobility mass spectrometry. Trapped ion mobility spectrometry (TIMS) unlocks an additional dimension of separation and delivers revolutionary improvements in enhanced specificity and high sensitivity. The timsTOF Pro 2 with PASEF technology enables fast scanning speeds, unlocking MS-based proteomics for the identification and quantification of thousands of proteins. The new timsTOF SCP is fully PASEF enabled and maximizes ion transfer with a new source geometry up to five times. Expanding the horizons for single cell proteomics and unbiased immunopeptidomics. The timsTOF fleX, brings Bruker's powerful MALDI technology to the portfolio, adding a high-resolution spatial dimension and enabling the field of SpatialOMx on one platform for the first time.

timsTOF series

NEW

	Basic	Pro 2	fleX	fleX with MALDI-2	timsTOF SCP
resolution:			60,000		
scan speed:	1-50 Hz (MS & MS/MS)	1->100 Hz (MS & PASEF)	1->100 Hz (MS & PASEF)	1->100 Hz (MS & PASEF)	1->100 Hz (MS & PASEF)
acquisition:	CID	PASEF	PASEF	PASEF	PASEF
source:	ESI	ESI	ESI and MALDI smartbeam 3D	ESI and MALDI smartbeam 3D	ESI
size [mm]:	980 x 1400 x 2570	980 x 1400 x 2570	980 x 1400 x 2570	980 x 1400 x 2570	1230 x 750 x 1990
MALDI mode (rel. intensity):			1 (Cholesterol) 1 (Vitamin D)	>200 (Cholesterol) >1000 (Vitamin D)	

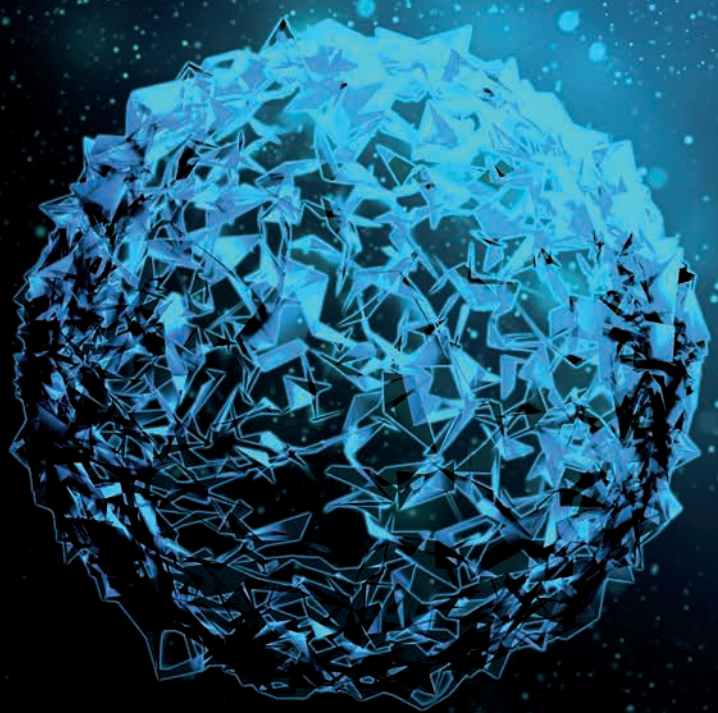
fleXmatrix - The key to success in MALDI MS analyses

fleXmatrix for MALDI Imaging of proteins, peptides, and lipids are especially developed and qualified for use on all of Bruker's MALDI mass spectrometry imaging systems. Pre-portioned and packaged in convenient tubes, fleXmatrix is stable and easy to handle to simplify sample preparation, particularly for standard TM Sprayer methods. Bruker's high quality fleXmatrix was created to fulfill the demanding requirements of today's applications to ensure accurate results and maintain system cleanliness. High quality, high purity matrix avoids the introduction of artifacts and adduct ions that can interfere with data analyses and interpretation. Also introducing fleXmatrix for MALDI-2. Developed especially for high-sensitivity MALDI-2 experiments, fleXmatrix for MALDI-2 is vacuum stable and can be used as a calibrant for low molecular weight measurements.

Ultra-High Resolution QTOF Mass Spectrometry

Outstanding accurate mass capabilities

Obtaining the most complete and true picture of a sample set is a consistent goal. Complex sample matrices demand ever higher levels of sensitivity and speed to truly advance scientific knowledge. However, there are everyday practical realities that are required to be routinely overcome. The outstanding dynamic range, high mass accuracy, and MS/MS performance enable Bruker's UHR QTOF MS systems to deliver confident, reliable results for both targeted analytical testing and broader discovery research applications.



ESI QTOF

Our ESI QTOF mass spectrometers are the showcase instrument platform for life science research, drug discovery and development, and screening applications involving the analysis of both targeted and unknown compounds in complex matrices. The systems provide cutting edge performance in one-shot analysis for identification and quantitation from small molecules up to high MW antibodies, and the dynamic source configuration offers significant analytical versatility.

compact		impact II		maXis II	
resolution:	30,000	resolution:	60,000	resolution:	80,000
scan speed:	1-50 Hz (MS & MS/MS)	scan speed:	1-50 Hz (MS & MS/MS)	scan speed:	1-50 Hz (MS & MS/MS)
fragmentation:	CID	fragmentation:	CID	fragmentation:	CID, ETD
source:	All systems can have ESI, APCI II, APPI II, ionBooster, GC APCI, DirectProbe DIP, CaptiveSpray				
size [mm]:	624 x 510 x 1240	size [mm]:	1200 x 800 x 1980	size [mm]:	1320 x 800 x 2845

QTOF Solution

TargetScreener - Get the Complete Picture

Routine Forensic or Food Safety laboratories are frequently required to perform comprehensive screening of complex samples to identify residues, contaminants or toxicants. This is a very challenging task due to the enormous number of analytes covered, their wide range of concentration and the complexity of sample matrices tested. There is high requirement for analytical certainty in the accuracy and completeness of the results to ensure that they will stand up to any scrutiny.

Magnetic Resonance Mass Spectrometry

Unravel nature´s secrets

The analytical fields of MALDI Imaging and petroleomics are as different as night and day, but they share the requirement for absolute certainty in compound identification. There can be no margin of error in the detection and correct assignment of extremely dangerous byproducts or deadly drug metabolites. With Bruker's MRMS technology, resolution and mass accuracy over a wide mass range reach unrivaled incredible new heights.

scimaX MRMS

Bruker's revolutionary superconducting magnet technology is the basis of the smaller footprint scimaX® MRMS system. This key innovation uses conduction-cooled 7T technology, which removes the requirement of liquid cryogen fills or quench ducts. The instrument comes standard with 2xR and Absorption Mode Processing (AMP) technology which means you have performance rivaling high field MRMS at your fingertips.

solariX MRMS

This workhorse platform for high-field MRMS work (12T and 15T) is useful for ultra-complex mixture analysis requiring larger field strengths, such as petroleomics and dissolved organic materials. These instruments feature long liquid cryogen (LHe) hold time with 1 year fill intervals as regular maintenance.

scimaX MRMS

solariX MRMS

	MRMS		
	scimaX	solarix 7T	solarix 12T and 15T
maximum resolution:	> 20,000,000	> 10,000,000	> 10,000,000
mass accuracy (internal):	600 ppb	600 ppb	300 ppb (12T), 250 ppb (15T)
liquid cryogen annual maintenance:	NO	YES	YES
quench duct requirement:	NO	YES	YES

Ion Trap Mass Spectrometry

Rock solid performance

Bruker's legacy of innovation includes the amaZon family of ion trap mass spectrometers. Robust ETD technology provides unprecedented identification capabilities while advanced ion funnel technologies enable high analytical sensitivity. Detailed peptide and protein characterization are available via bottom-up CID or ETD and top-down ETD/PTR.

Ion Trap series

Modern ion trap systems offer reliably high performance in a rapidly changing world of mass spectrometry. Incredibly easy to use and with outstanding robustness, these systems deliver fastest MS^n results with high sensitivity. The class leader in ion trap technology, Bruker Daltonics offers a comprehensive series of ion trap systems meeting the needs of any user. Structural confirmation and screening applications in routine labs are well covered, as are protein ID and detailed target characterization.

	amaZon		
	speed	**speed ETD**	**SL**
mass range:	50 - 3,000	50 - 3,000	50 - 2,200
mass resolution:	0.3 u	0.3 u	0.35 u
scan rate u/sec:	52,000	52,000	52,000
size [mm]:	890 x 760 x 510	890 x 760 x 510	890 x 760 x 510
source:	ESI and APCI II source (Apollo); CaptiveSpray		
sensitivity:	250 fg reserpine: S/N > 500	250 fg reserpine: S/N > 500	250 fg reserpine: S/N > 50

Ion Trap Solution

Toxtyper

The Toxtyper® was developed by toxicologists for toxicologists. It delivers a very robust and highly automated screening solution for identifying potential toxicants within a few minutes. At the heart of the system is a highly curated library, and together with the patented SmartFrag technology (which removes variability and eliminates the need for complicated, time-consuming MS/MS tuning), which delivers accurate identification of drugs with complete transferability of results from lab to lab.

Triple Quadrupole Mass Spectrometry Systems

Bruker's EVOQ GC and LC systems set new standards of performance

GC and LC triple quadrupole MS systems are the backbone of many analytical and research laboratories. Successful, sensitive screening for diverse compounds across a broad range of applications, including the screening of foodstuffs, potential environmental hazards, forensic toxicology, and drug metabolism studies, requires high performance instrumentation. Bruker's EVOQ systems are designed and built to provide versatile, easy-to-use power on any laboratory benchtop.

EVOQ Gas Chromatography - Triple Quadrupole Mass Spectrometry

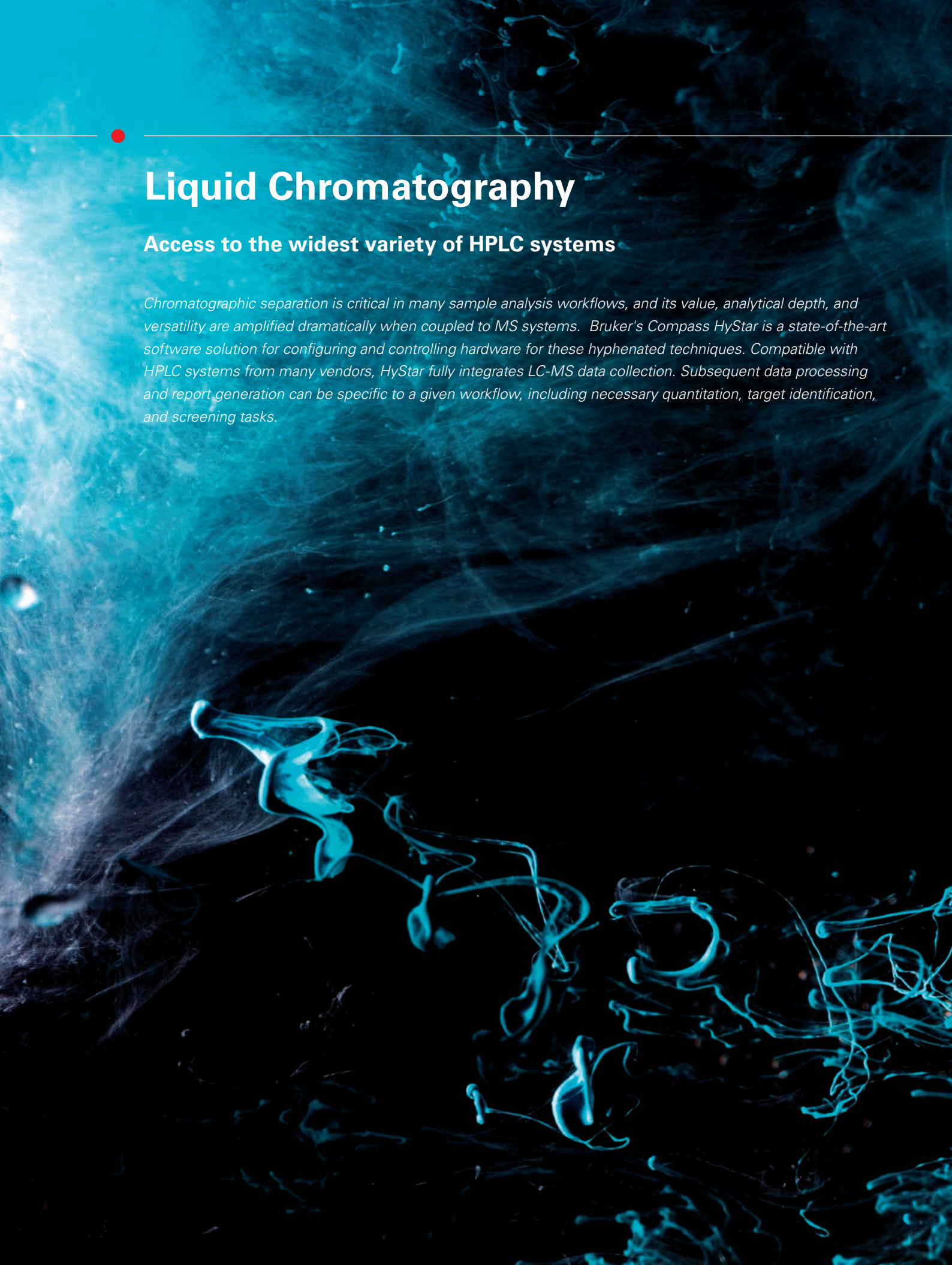
EVOQ GC-TQ MS triple quadrupole systems set a new industry standard for GC-MS. With an innovative 'lens-free', elliptical ion path design, the EVOQ series delivers incredible sensitivity and high stability along with reduced chemical noise. This analytical power is simple to use and comes complete in a space-saving package that makes upgrading to new levels of robust and reliable performance straightforward and cost-effective.

	EVOQ GC-TQ		
	Select	**Premium**	**Premium EI/CI**
mass range:	10 - 1,200	10 - 1,200	10 - 1,200
size [mm]:	450 x 280 x 570	450 x 280 x 570	450 x 280 x 570
mrm per second:	500	600	600
source:	EI	EI (CI optional)	EI/CI

EVOQ Liquid Chromatography - Triple Quadrupole Mass Spectrometry

EVOQ LC-TQ MS triple quadrupole systems provide analysts with a LC-MS platform designed for a singular purpose – to reliably quantify thousands of target analytes from real samples in the fastest sample-to-report time possible. These systems deliver exceptional sensitivity, precision, accuracy, linearity, and a wide dynamic range for your multiple reaction monitoring (MRM) assays. Innovations in software and atmospheric pressure ionization (API) technology make it a game changer for routine high-sensitivity, quantitative analysis. At Bruker today, we are pioneering the migration of technology from research to commercial laboratories. The EVOQ Elite and EVOQ Qube reflect this design philosophy and solve the hardware and software challenges faced by the quantitative analysis community.

	EVOQ LC-TQ		
	Qube	**Elite**	**Elite ER**
mass range:	10 - 1,250	10 - 1,250	10 - 2,000
size [mm]:	530 x 450 x 700	530 x 450 x 700	530 x 450 x 700
source:	HESI, ESI, APCI	HESI, ESI, APCI	HESI, ESI, APCI



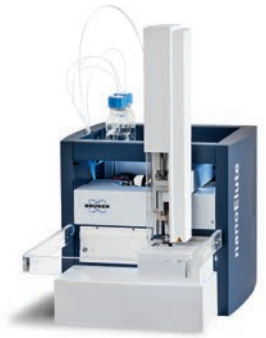
Liquid Chromatography

Access to the widest variety of HPLC systems

Chromatographic separation is critical in many sample analysis workflows, and its value, analytical depth, and versatility are amplified dramatically when coupled to MS systems. Bruker's Compass HyStar is a state-of-the-art software solution for configuring and controlling hardware for these hyphenated techniques. Compatible with HPLC systems from many vendors, HyStar fully integrates LC-MS data collection. Subsequent data processing and report generation can be specific to a given workflow, including necessary quantitation, target identification, and screening tasks.

nanoElute – Simply Connect

The powerful and fully integrated nanoElute® (nanoflow UHPLC) system comes with unique valve design and software controlled flow path architecture for direct loading or pre-concentration of samples. Large volume, single stroke piston pumps deliver accurate gradients at pressures up to 1,000 bar to support a wide range of applications. Instant Expertise methods generate optimal separation gradients to suit proteomics samples. The system has a built-in scheduling of preventative maintenance and precise diagnostics to detect leaks and blockages. Additionally, the automated calibration feature monitors run-to-run consistency in a single mouse click.



	nanoElute
flow range:	50 - 2,000 nL
pressure limit:	1,000 bar
carryover:	0.003%
size [mm]:	790 × 490 × 900
additional information:	Trouble-free operation, ease-of-use along with top performance

Elute LC Series – Ultimate Precision

Elute LC systems are built with intelligent novel flow control algorithms to deliver robust and precise gradients regardless of solvent compressibility, pressure, and flow rates. Elute LC systems incorporate self-priming and self-purging capabilities through the built-in pump, offering a simple and fast exchange of mobile phases and avoiding any leaks associated with manual operations.

The unique feature of automatic solvent compressibility measurement compensates for flow pulsation and flow rate reduction caused by solvent compression. This principle makes it easy to maintain and transfer LC methods. Additionally, the column switch (up to six) option provides great flexibility for routine labs, allowing higher productivity e.g., for the analysis of different sample types for overnight LC-MS runs.

	Elute LC			
	SP	UHPLC	OLE	HT
flow range:	1 - 5,000 µL	1 - 5,000 µL	1 - 5,000 µL	1 - 5,000 µL
pressure limit:	700 bar	1,300 bar	1,300 bar	1,300 bar
carryover:	0.001%	0.001%	0.001%	0.003%
size [mm]:	690 × 500 × 610	690 × 500 × 610	690 × 650 × 610	550 × 1,180 × 500
additional information:	Standard analytical LC for routine applications and moderate throughput	Faster and high resolution separations	Combine the advantages of UHPLC and online liquid exraction	UHPLC combined with PAL3 autosampler for high sample throughput

Surface Plasmon Resonance

High performance, high-throughput SPR Analytical Biosensor for the real-time, label-free characterization of molecular interactions

Surface plasmon resonance is an optical-based, label-free detection technology for real-time monitoring of binding interactions between two or more molecules. A wide range of molecules can be studied, from fragments to small molecules to proteins and viruses. This innovative technology is capable of providing biophysical data such as affinity, kinetics and thermodynamics, in addition to answering basic questions of binding specificity and concentration.

SPR-based analytical biosensors can be extremely powerful tools for the characterization of molecular interactions. The combination of three individual elements, the detector, the sensor surface and the sample delivery system are critical to the performance of the experiment.

Surface Plasmon Resonance

From initial screening to detailed kinetic characterization and thermodynamics measurements, the Sierra Pro series (24 Pro and 32 Pro) enable high-throughput surface plasmon resonance (SPR) analysis of molecular interactions.

	Sierra SPR	
	24 Pro	**32 Pro**
Samples per day:	4400+	3000+
Sensor spots per channel:	3	4
Sample processing:	Simultaneous processing of up to 8 samples over 24 sensor spots	Simultaneous processing of up to 8 samples over 32 sensor spots
Software compatibility:	Genedata compatibility	Genedata compatibility
Automation:	optional plate robot integration for 24/7 operation	optional plate robot integration for 24/7 operation

Ion Sources

Dynamic Source Configuration

Bruker's LC-MS systems support a wide range of source options from both Bruker and from third-party vendors.

Source Type		Description
	**CaptiveSpray nanoBooster**	The CaptiveSpray nanoBooster is the proteomics ion source that brings your MS to the next performance level, and its operation is just as easy as performing electrospray. The nanoBooster enhances glycoanalysis and supercharging and increases ID rates.
	**ionBooster**	The ionBooster offers a 5 – 100x gain in sensitivity for many compounds of interest in the fields of environmental analysis, food testing, and therapeutic drug monitoring research.
	**APCI**	Atmospheric Pressure Chemical Ionization is used in metabolomics, as well as for drug or pesticide screening for less polar molecules where ESI fails to deliver reasonable quantities of ions.
	**APPI**	Atmospheric Pressure Photo Ionization is used for less polar or non-polar molecules that cannot be ionized by ESI or APCI.
	**DIP**	The DirectProbe add-on for the Bruker APCI II and APPI II ion sources allows for direct analysis of liquid and solid samples without tedious sample preparation.
	**GC-APCI II**	The GC-APCI II source with a unique flexible heated transfer line and calibrant delivery enables GC coupling to any Bruker TOF, QTOF, trap, or FTMS system originally designed for LC coupling.
	**VIP-HESI**	The VIP-HESI source used for the EVOQ LC-TQ Mass Spectrometers offers sustained sensitivity with minimal maintenance as well as capability to use higher flow rates, if necessary.
	**VIP-HESI dual source**	This VIP-HESI source is compatible with Bruker's timsTOF and OTOF systems and generates a higher sensitivity for a broad range of components. The vacuum insulated probe enhances ionization efficiency whilst minimizing thermal degradation of analytes. Matrix is rapidly and efficiently removed from the source via an active exhaust maximizing system robustness.

Software Solutions

Compass and Bioinformatics

Bruker Daltonics software solutions provide maximum information via streamlined, easy to use processes

BioPharma Compass® Field of Application: BioPharma	BioPharma Compass provides integrated workflows for biopharmaceutical industry supporting 21 CFR Part 11 requirements. Workflows comprise all aspects from data acquisition to report generation, characterization and comparative quantitative assessments in multiple attribute monitoring (MAM) analyses. MAM peptide analysis as well as host cell protein (HCP) analyses can benefit from the use of CCS-enabled data analysis in terms of sequence coverage and dynamic range. Multi-Target-Screening workflows enable batchwise processing multiple samples.
PaSER Field of Application: Proteomics	PaSER is a Hardware and Software solution, enabling fully integrated real-time database searches with sample queue management. With GPU based searches, PaSER delivers the same results in real-time mode or offline mode. The search speed of PaSER provides results seconds after the acquisition ends, Run & Done! PaSER removes the data analysis bottleneck introduced by large sample cohorts and greater throughput. Real-time LFQ quant can also be performed across pre-acquired datasets making the transition into quantitative proteomics instantaneous. Visualization of mobility offset mass aligned (MOMA) features using TIMS Viz visualizes isobaric peptides only capable by 4D-Omics.
PEAKS® Studio Field of Application: Proteomics	For a complete proteomics data processing and analysis pipeline for the timsTOF Pro, we teamed up with Bioinformatics Solutions Inc. Their PEAKS Studio and PEAKS Online platforms perform LC-MS/MS-based protein identification and statistics for LFQ, TMT, iTRAQ, SILAC and dia-PASEF workflows using CCS-enabled algorithms. PEAKS Online is the solution for high-throughput applications, such as large cohort studies. They also continue to support data from other Bruker instruments as well as from other vendors.
Other solutions Field of Application: Proteomics	Bruker's data formats are open to all, including third-party software vendors. We collaborate intensively with various partners, including the Max-Planck-Institute for Biochemistry on MaxQuant, the University of Michigan on the FragPipe suite, and the University of Washington on Skyline. We work closely with Protein Metrics on Byos® for biopharma-related workflows, and Biognosys on Spectronaut™ for dia-PASEF.

MetaboScape® Field of Application: Metabolomics	MetaboScape is the software for discovery metabolomics and phenomics. Main purpose is to pinpoint and identify compounds that change because of perturbation or disease. Using pathway mapping, data can be visualized in a biological context. For 4D-Metabolomics™, T-ReX 4D uses CCS values as additional criterion for the Annotation Quality Scoring (exact mass, retention time, isotopic pattern, MS/MS spectrum, CCS value). MetaboScape supports spectral libraries like MetaboBASE®, HMDB, MetaboBASE Plant, as well as custom libraries.
MetaboScape® Field of Application: Lipidomics	The 4D-Lipidomics™ workflows integrated in MetaboScape uses rule-based annotation routines for identification of lipids. For timsTOF, timsTOF Pro and timsTOF fleX PASEF data, MetaboScape offers the CCSPredict lipid confirmation tool. Based on machine learning, it predicts CCS values for lipid structures, which further increases the confidence in annotations. CCS and retention time aware Kendrick mass defect plots offer an intuitive 4D visualization tool for investigation of assignments and detection of novel species.
TASQ Field of Application: Screening, Quantitation	TASQ (Target Analysis for Screening and Quantitation) is Bruker's solution for screening, confirmation and quantitation of large sample batches, including hundreds of compounds per analysis. CCS-enabled TASQ allows exploiting the ion mobility separation on timsTOF instruments for further confidence. TASQ takes advantage of both nominal and high resolution, accurate-mass data generated by Bruker's triple quadrupole and OTOF mass spectrometers. TargetScreener HR – driven by TASQ – allows report generation from 'vial to report' in seven clicks.
SCiLS Lab Field of Application: Imaging	SCiLS Lab is the worldwide leading software for analysis of mass spectrometry imaging (MSI) data from all major mass spectrometry vendors. Comparative analysis of multiple samples can be visualized in both 2D and 3D, enabling a multitude of applications in pharmaceutical drug development, in biomarker research, as well as in translational pathology research. The quantitation workflow enables to easily quantify target molecules directly from tissue. SCiLS Lab integrates with the SpatialOMx workflow from MetaboScape.
PolyTools 2.0 Field of Application: Polymer Analysis	PolyTools interprets homopolymer spectra in any mass range. Equidistant signals are automatically found and interpreted as individual polymer distribution. Based on user-defined tables of monomer units and end-groups PolyTools suggests interpretations of the ion series. For each single distribution average molecular weights, dispersity, degree of polymerization and percentage of the individual ion series in the spectrum can be calculated. Results are displayed in the form of several Kendrick mass defect (KMD) plots and in a table format.
Polymerix Field of Application: Polymer Analysis	For interpretation of isotopically resolved homo- and copolymer spectra and polymer distributions separated by liquid chromatography Polymerix calculates characteristic values, corresponding dispersity, and percentage of the individual ion series in the homopolymer spectrum. Additionally, the average values for the complete spectrum are computed. Copolymers are visualized as AB distribution plots. Beside graphical spectrum interpretation detailed numerical data interpretation is available.
MALDI PharmaPulse (MPP) Field of Application: High-Throughput Screening (HTS)	MPP is integrated part of Bruker´s rapifleX MALDI PharmaPulse enabling fully automated MALDI-TOF based label-free screening campaigns allowing for ultrafast primary screening of millions of compounds. It features a method development module supporting assay development. The actual screening software module provides the tools required for seamless setup, execution and result visualization of HTS screens. The new synthesis screening module allows flexible screening of many different target compounds per individual well.

For Research Use Only. Not for use in clinical diagnostic procedures.

Bruker Daltonics GmbH & Co. KG

Bremen · Germany
Phone +49 (0)421-2205-0

Bruker Scientific LLC

Billerica, MA · USA
Phone +1 (978) 663-3660

ms.sales.bdal@bruker.com - www.bruker.com