Product Highlights 2024

PEOPLE
YOU
CAN
TRUST

Metrohm

Dear customer

What's new at Metrohm?

This year we are once again proud of a whole series of highlights in our program. OMNIS, our universal platform for laboratory analysis, can now also do spectroscopy and brings good vibes into the laboratory. Discover our new near-infrared spectrometers for measuring your most important quality parameters within a few seconds!

We show you this and much more on the following pages; let yourself be inspired and get in touch with us – we look forward to hearing from you.

GOOD VIBES WITH OMNIS NIRS

Vibrational spectroscopy faster, easier, and more efficient

With OMNIS NIRS, our universal platform for chemical analysis is growing.

In addition to all forms of titration, near-infrared spectroscopy with all its advantages (fast, easy-to-use, non-destructive, no need for reagents) is now also available in OMNIS.

Faster – multi-parameter analysis for results in seconds

NEW!

- Measure liquid and solid samples in less than 10 seconds
- Liquid samples are adjusted quickly, reliably, and precisely to any desired temperature between 25 and 80°C thanks to state-of-the-art sensor technology
- One device for liquid, viscous, and solid samples

Easier – OMNIS NIRS is there for everyone

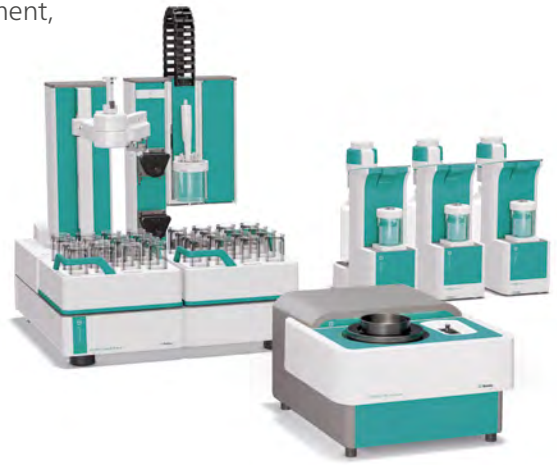
NEW!

- Smart algorithms create prediction models automatically
- Easy data transfer between laboratory and process devices thanks to the same hard- and software
- No risk of errors: The OMNIS NIR Analyzer recognizes the sample vessel and starts measuring automatically

More efficient – use the synergies of a modular platform

NEW!

- Volumetric titration, coulometry, photometry, and near-infrared spectroscopy: Configure a modular system with OMNIS to precisely meet your individual requirements
- System control, results management, and data handling are carried out the same software: OMNIS
- Automate your analysis with an OMNIS Sample Robot and leave the analysis of more than 200 liquid or solid samples to the OMNIS platform



Titration

OMNIS Coulometer

The new OMNIS Coulometer and OMNIS Coulometer Module expand the OMNIS instrument range for coulometric water determination and determination of the Bromine Index.

NEW!

- Water determination from 10 µg to 10 mg absolute water content in solids, liquids, and gases
- Bromine Index according to ASTM D1492
- Automatic titration start after sample injection
- Expandable with an additional OMNIS Coulometer Module for parallel applications

OMNIS Coulometer Module

NEW!

- Expand your OMNIS Coulometer with an OMNIS Coulometer Module for parallel coulometric applications
- Expand your OMNIS Titrator with an OMNIS Coulometer Module for coulometric applications

OMNIS Sample Robot Oven

The new OMNIS Sample Robot Oven combines the modular concept of the OMNIS Sample Robot with the gas extraction technique for water determination in samples that cannot be directly injected into the titration cell.

NEW!

- Up to two OMNIS Oven Modules with flexible vial sizes from 2R to 30R vials
- Two different vial sizes possible on the same system
- Parallel measurements for higher sample throughput
- Two sample racks for 100 samples (6 mL standard vials) in one run
- Maximum oven temperature: 300 °C

Eco Coulometer

Swiss quality does not have to be expensive. The new Eco Coulometer is the ideal instrument to perform routine determinations of the water content fast, safely, and reliably without compromising on quality.

- Maximum performance in a small footprint
- Meets all GLP requirements regarding reporting and documentation
- Preinstalled methods for a quick and easy start
- Automatic titration start after sample injection
- Connects to 860 KF Thermoprep or 885 Compact Oven Sample Changer for gas extraction technique, e.g., according to ASTM D6304

949 pH Meter

Discover our new benchtop pH meter for accurate pH measurements

NEW!

The 949 pH meter offers the basic functions for getting started with pH measurement. It is easy to use, and enables fast calibration thanks to predefined buffer tables. All pH electrodes from the extensive Metrohm portfolio are available for measurements.

- Stored buffer tables for reliable calibration
- Export of measurement data with time and date to printer
- Connection of all analog Metrohm pH electrodes possible

Thermometric titration with OMNIS

NEW!

Any OMNIS Titrator with an OMNIS Measuring Module Digital can now be upgraded to perform thermometric titrations. No sensor maintenance and calibration are needed – just start measuring!

- Petroleum products: Acid number/ TAN as per ASTM D8045 and Base number/TBN
- Sodium determination in food products and other matrices
- Sulfate and phosphate in fertilizers

Laboratory robotics with Metrohm

An example

NEW!

With a fully automated robotic system for the analysis of petroleum products, we present an example of state-of-the-art, collaborative robotic systems using proven Metrohm analytical technology.

- Completely traceable workflow thanks to integrated sample identification
- Comprehensive automatic sample preparation including removal of lids, pipetting, and weighing
- High-end analysis performance based on the OMNIS titration system
- Control of the complete system via OMNIS software
- High level of safety thanks to self-contained system in a safety cabinet
- High sample throughput as a result of sample preparation and analysis in parallel on a fully integrated platform

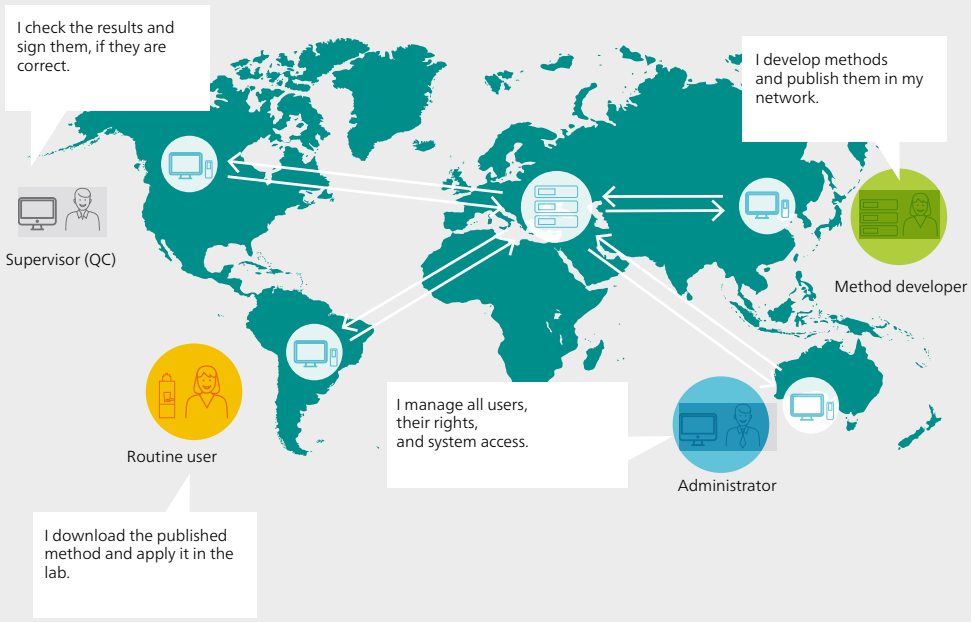
Software

Working more efficiently with the OMNIS Software

NEW!

The OMNIS Software provides the possibility to enhance the efficiency for OMNIS users by reducing the amount of visible data for specific users.

- Data filtering can be done according to different criteria like location, measurement technology, or product
- Users will only see their relevant data, which means reduced search effort, easier navigation, and less errors in their daily work
- Connect up to 200 clients
- Auto-tagging functionality («assign on create») for minimizing the effort when working with data access restrictions



OMNIS Client/Server goes to the next cloud level

NEW!

OMNIS Client/Server is not only supported on virtual machines in Microsoft Azure – you can now also use the following Microsoft Azure database services in the cloud:

- Azure SQL Managed Instance
- Azure SQL Database

Ion Chromatography

MagIC Net – the proven IC Software now available in version 4.2

NEW!

With the release of MagIC Net 4.2, we now offer you even more convenience and possibilities for ion chromatography with Metrohm.

- New look with improved resolution for 4K monitors as well as display in «dark mode» or «light mode»
- Improved performance for faster data processing, especially for client/server setups where latency is increased due to spatial distance of the server
- Audit trail available also for the MagIC Net basic version

Metrosep A Supp 19 – this column sets a new standard

NEW!

The Metrosep A Supp 19 column family sets a whole new standard in performance for anion exchange chromatography and is made to tackle even the most difficult separation challenges.

- Outstanding separation properties
- Highly robust and stable against high flow rates and high pressures
- Long service life thanks to extremely stable packing
- High capacity and suitable for measuring complex matrices

Microbore IC – when less is more

2 mm columns, microbore capillaries, and a new detector help you save up to 75% of running costs compared to standard bore IC systems!

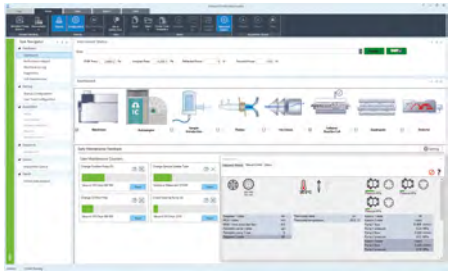
- Lower eluent consumption
- Up to 20% higher signal sensitivity
- Ideally suited for hyphenating your Metrohm IC with a mass spectrometer (ICP/MS or ESI-MS/MS)
- Compatible with MSA eluents

New possibilities for your IC-ICP/MS analysis

NEW!

With the MassHunter driver for ion chromatography, you can now hyphenate your Metrohm IC with the ICP/MS solutions from Agilent.

- Single software solution for seamless integration of your Metrohm IC into the ICP-MS MassHunter software from Agilent
- Comprehensive control of your Metrohm IC including all Metrohm techniques for inline sample preparation (MISP)
- Convenient control and secure data management thanks to bidirectional communication



Handheld Raman Spectroscopy

MIRA XTR DS – the evolution of 785 nm handheld Raman

Our handheld Raman spectrometer offers the best of 785 nm excitation – low-power sampling for sample preservation and long battery life, small size, and short acquisition times – all while achieving sensitive, fluorescence-free detection.

- Equipped with ORS™ for gentle, thorough interrogation of samples
- Patented XTR® routines activate automatically when MIRA senses a fluorescent material
- New applications include colored materials, polymers and plastics, carbon-based substances, narcotics, and trace materials

Compliant systems for raw material verification in regulated industries

For lab-quality results in non-traditional scenarios such as materials inspection at receiving, Raman is a vast improvement over traditional RMID methods. Nontechnical users can quickly and easily verify the quality and consistency of APIs, excipients, and intermediates, saving time and resources.

- Clear «Pass» or «Fail» results are provided in seconds
- Through-package sampling available for liquids, solids, and powders
- Dedicated intuitive software which supports full compliance for regulated industries

Laboratory Raman

i-Raman Plus

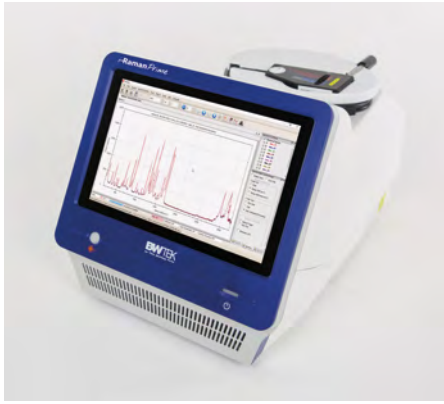
The i-Raman Plus instruments are entry-level systems that are suitable for general applications such as academic teaching and research, and quality control for the chemical, pharmaceutical, and food industries.

- High-resolution fiber-optic based Raman systems available with 532, 785, or 1064 nm (i-Raman EX) laser excitation
- Compact and lightweight design for qualitative and quantitative applications at the point of need
- Using i-Raman Plus is easy: connect the fiber-optic probe to a computer via USB and start your Raman measurements

i-Raman Prime

i-Raman Prime is a research-grade Raman instrument with the highest sensitivity and high-throughput spectrometers. This permits faster measurements for monitoring dynamic processes.

- Fully integrated system with an embedded tablet computer and a fiber-optic sampling probe, available with 532 or 785 nm laser excitation
- Excellent signal-to-noise ratio, making it possible to detect extremely subtle sample differences
- Utmost utility with advanced accessories for see-through and transmission Raman measurements



Raman Libraries

Metrohm Comprehensive Raman Library

This complete collection of more than20,000 substances simplifies material identification for handheld and laboratory Raman customers in diverse industries. More than a collection of spectra, library metadata includes compound characteristics and physical properties, as well as safety information.

NEW!

- Available across Metrohm's Raman platforms
- Includes chemicals, organic chemicals & solvents, polymers, dyes and pigments, TICs, TIMs, inorganics and organometallics, personal care products, and illicit materials

Metrohm USP Library

The Metrohm USP Raman Library is a significant update for Metrohm's compliant Raman systems. This USP library is our largest collection of chemicals and substances that are traceable to a USP-compliant certificate of analysis (COA).

- Up-to-date, high-resolution spectral library developed with Metrohm instruments
- Streamline inspection of deliveries, reduce resources, facilitate delivery of raw materials to production, and get the final product to the market faster!
- This product supports material ID through library matching, which provides high specificity, speed, and the accuracy that comes with USP-traceable standards

Illicit and General Chemicals Library

This is one of the most comprehensive drug libraries available on any Raman system, including hundreds of fentanyl analogues, novel psychoactive substances, narcotics, and both prescription and over-the-counter drugs. All spectra were collected by Metrohm experts on Metrohm instruments.

- Broad range of illicit materials provides essential results for law enforcement, border security, and other organizations
- The inclusion of familiar (household) materials supports real-world matching and provides easy-to-understand results for every user
- Significantly improves accuracy of matching and analysis of mixtures for most effective material identification

Voltammetry/CVS

884 Professional VA – flexible benchtop analyzer for trace analysis

Compact and multi-functional analyzer for the entire range of polarographic and voltammetric trace analysis of metal ions and other substances.

- Application examples: Trace levels of, e.g., cadmium, lead, nickel, cobalt, iron, or other transition metals in water, sea water, salts, or high-purity chemicals
- Metal species in sea water or industrial samples, Fe(II) in iron sucrose injection, Sn(II) in radiopharmaceuticals

894 Professional CVS – analyzer for Cyclic Voltammetric Stripping (CVS)

CVS instrument for the electroplating industry, i.e., the determination of the concentration of brighteners, suppressors, or levelers in electroplating baths. Application fields are e.g., manufacturing of PCBs or copper foils as well as semiconductor manufacturing or chip packaging.

- Compact system to save bench space
- Modular design for tailor-made systems
- Manual, semiautomated, and fully automated setups available to meet your specific needs

946 Portable VA Analyzer – heavy metal analysis goes green

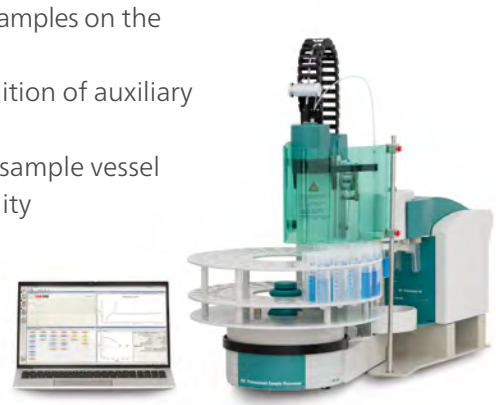
Portable voltammetric analyzer for the determination of trace levels of heavy metals in water (e.g., arsenic, mercury, zinc, lead, copper, nickel, cobalt, or iron) on site instead of in the lab.

- Portable battery-powered analyzer for on-site analyses
- Semi-disposable and disposable sensors for simple handling
- Suitable for analyses in compliance with the WHO guideline values

Increased efficiency with automation for CVS and VA trace analysis

Highly customizable automation possibilities for the 884 Professional VA and 894 Professional CVS: Dosinos for addition of reagents and samples, pump stations for automatic rinsing, or a sample processor for completely unattended, fully automated, highly precise, and reproducible determinations.

- Automatic processing of up to 128 samples on the rack of the sample processor
- Flexible number of Dosinos for addition of auxiliary solutions or samples
- All additives determined from one sample vessel
- Pipetting system for highest flexibility



Electrochemistry

Autolab IMP – Level up your lab with the Autolab IMP

NEW!

New potentiostat/galvanostat from Metrohm Autolab which allows quickly starting up an electrochemistry education lab or research project in any application field: from fundamental to applied research, energy research, materials development, corrosion studies, electro-synthesis, electrolysis, and plating.

- Maximum current (applied and measured): ±100 mA
- Voltage range (applied and measured): ±10 V
- EIS: frequency range from 10 µHz to 1 MHz

Autolab Booster20A

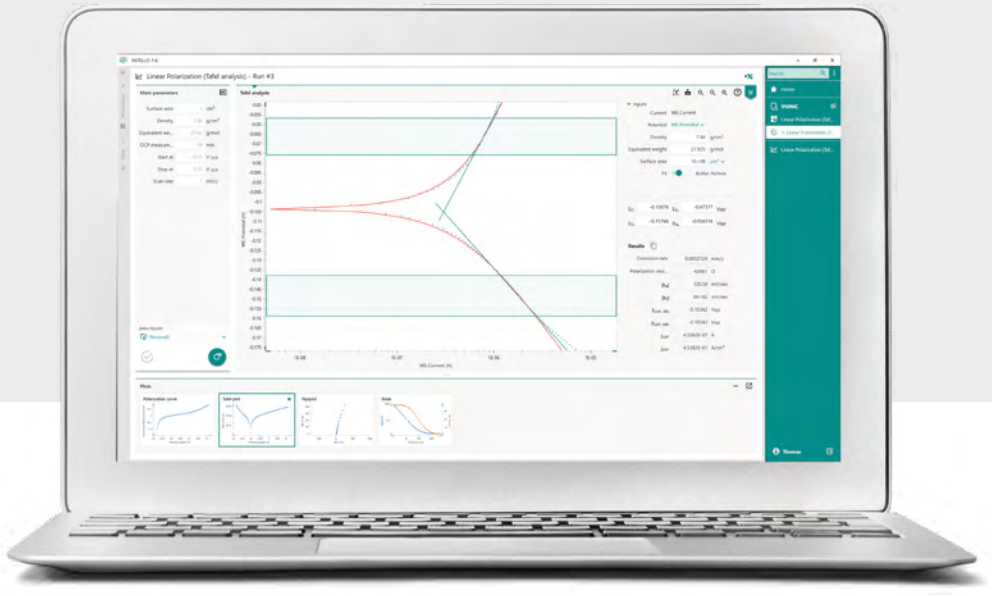
NEW!

For applications which require currents up to 20 A, such as energy research, hydrogen generation, or other electrolysis applications, the Booster20A will allow you to upgrade the Autolab PGSTAT302N to a maximum measured and applied current of 20A.

- Fully integrated in NOVA
- External upgrade with an easy and convenient connection
- Possibility to upgrade existing PGSTAT302N devices

INTELLO 1.6

NEW!



To benefit from the efficient and easy-to-use workflow of INTELLO and use the latest features, upgrade your INTELLO software to the latest released version: INTELLO 1.6. Beside the multitude of features already available in the previous versions, make use of the following:

- Corrosion-dedicated procedures and techniques (polarization curve, EIS, OCP measurements, ZRA
- Analytical tools for corrosion rate determination (Tafel analysis, Butler-Volmer fitting, polarization resistance)
- Battery-dedicated procedures and techniques (Charge-Discharge, CC-CV)

Metrohm Process Analytics

2060 Raman Analyzer – high-performance Raman spectroscopy where you need it

NEW!

With the 2060 Raman Analyzer, you benefit from the advantages of Raman spectroscopy for reagent-free, round-the-clock online monitoring of your industrial process.

- Available in two distinct setups: the 2060 Raman Analyzer and the 2060 The Raman-Ex Analyzer (Ex-proof version)
- Fully compatible with the 2060 platform
- Up to 5 sampling channels with dedicated sampling solutions

202X Heavy Duty Process Analyzers – single-method process analyzers

Use these compact and rugged analyzers for chemical, water, and wastewater monitoring by titration, pH, ISE, or photometry methods.

- Two new versions are available for diverse industries: the 2026 HD Titrolyzer and the 2029 HD Process Photometer
- Robust sampling valves and FEP tubing
- Safe, rugged enclosure designed to IP66 specifications

2060 *The* NIR Analyzer – a turnkey solution for Process Analytical Technology (PAT)

Benefit from the advantages of near-infrared spectroscopy in the process: non-destructive inline analyses with validated results in real time.

- Several spectrometer modules and separable control unit for maximum cost savings and efficient process monitoring
- Water and dust proof, as specified by IP66
- Fully compatible with the 2060 platform

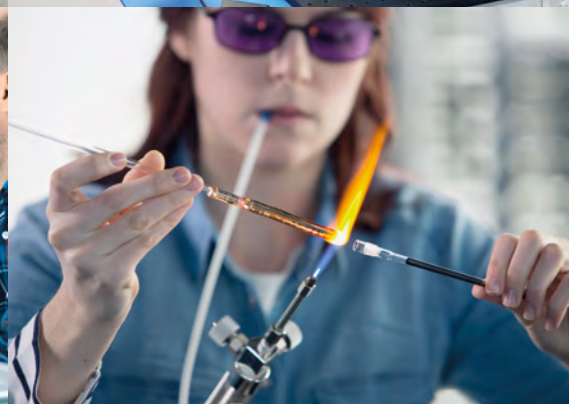
PTRam Analyzer – a durable and reliable process controller

Rack-mounted Raman analyzer for product and process development in the chemical, petrochemical, and pharmaceutical industries.

- Automated Raman calibration for precision and reproducibility
- Durable laser stability for consistent, reliable results
- Continuous self-checking for 24/7 real-time validity assurance in measurements

m-oem – enabling solutions

m-oem is the Metrohm oem brand representing the products from Innovative Photonic Solutions (IPS), B&W Tek, DropSens, and Metroglas. m-oem is your partner for off-the-shelf precision optical components, electrochemical and sensor instruments and assemblies, spectrometer engines, and custom-built solutions engineered to meet your specific requirements.



m-oem: products by DropSens

Dream of your sensor and together we will make it true!

If you are developing an electrochemical sensor for a final application, DropSens is your experienced partner in the manufacturing process offering scalable and cost-effective solutions. Reduce the time-to-market and benefit from our technical knowledge and mass production capability with highest quality standards.

- White label and customized designs
- Large manufacturing capability
- Effective price-performance ratio
- Highest quality levels with ISO certifications

Customized readers for your developed sensor

We offer standalone devices for immediate final results of the parameter under study based on your optimized procedure. Customize it with methods and calibration curves to proceed with the measurements of your developed sensors and also tailor the casing with your logo and label design.

- Record up to 3 methods and 8 calibrations per method
- Parameter updates via software
- Touchscreen for operation
- Internal storage of data with wireless export possibility
- Ideal to be customized as an OEM or private-labelled device

m-oem: products by B&W Tek and IPS

Industrial robust wavelength-stabilized butterfly packaged lasers

m-oem offer hermetically sealed and armor-jacketed butterfly laser modules for challenging environmental operations.

- Improved resistance to high-humidity environments
- Improved resistance to fiber breakage
- Available for single-mode, multi-mode, and polarization maintaining fiber optic connections

Full OEM Raman module

NEW!

The new Savannah OEM Raman module offers the full capability of Raman measurements in the smallest footprint possible.

- Designed for seamless integration for all Raman applications
- Integrated 785 nm laser and high-resolution spectrometer
- Free space optics give you the highest flexibility possible to build your analyzer

m-oem: sensors by Metroglas

Metroglas sensors

Our portfolio of Metroglas pH sensors for inline process analysis is based on decades of experience in the development and production of high-quality sensors.

- Reliable results even under challenging process conditions
- Robust and durable thanks to carefully selected materials and technologies
- Low maintenance and stable measurement over a long period of time due to the use of pre-printed reference systems and maintenance-free electrolytes

Robust sensors for measuring dissolved CO_2

Our in-depth expertise in the field of sensor technology combined with a high degree of flexibility allows us to offer you suitable solutions for every application area.

- Robust measurement results even under high loads and regular autoclaving
- Minimal maintenance due to innovative sensor design
- Stable measurement results over the entire duration of the application thanks to low drift and short response times

Besids our standard portfolio, we also offer customized solutions to meet your specific requirements.

Subject to change | Layout by RTS Rieger Team, printed in Switzerland by Metrohm AG, CH-9101 Herisau
8.000.5479EN – 2024-03

www.metrohm.com