



**Metrohm
means ...
Spectroscopy!**



Metrohm Microbore Ion Chromatography

Maximize the efficiency of your ion chromatography!

**PEOPLE
YOU
CAN
TRUST**



Microbore ion chromatography by Metrohm – when less is more

2-millimeter columns, microbore capillaries, and a new detector with reduced cell volume are at the heart of the Metrohm system for microbore ion chromatography. Above all, microbore ion chromatography reduces eluent consumption and can result in cost reductions of up to 75% compared to standard bore systems.

Our new microbore detector tolerates even challenging eluents such as methanesulfonic acid (MSA). With its outstanding features the new Metrohm microbore IC systems qualify for new application fields and are ideally suited for hyphenation with high-end mass detectors.



Professional IC TWO/SeS/PP/MB



Compact IC Flex Oven/SeS/PP/Deg/MB

YOUR BENEFITS WITH MICROBORE ION CHROMATOGRAPHY FROM METROHM

REDUCED COSTS

Less eluent consumption and shorter retention times increase sample throughput and reduce the costs of your daily routine analytics.

INCREASED PERFORMANCE

2-mm columns result in increased performance for IC applications without suppression as well as chemical and sequential suppression.

OUTSTANDING SENSITIVITY

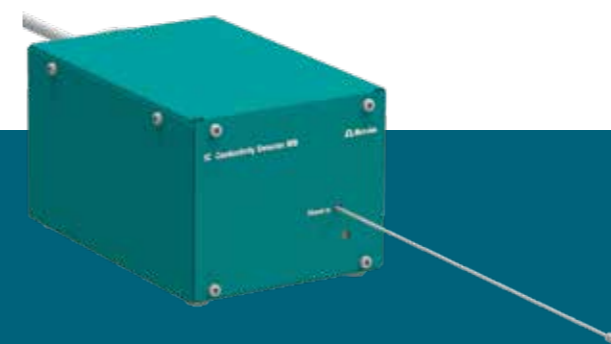
Improved peak shapes and shorter retention times result in increased sensitivity and lower limits of detection (LODs).

HIGH FLEXIBILITY

Any installed Metrohm standard bore IC system can be upgraded with dedicated microbore upgrade kits.

SWISS-MADE QUALITY

Our 3-year instrument warranty, our unique 10-year suppressor warranty, and globally available service and application support from our local subsidiaries are unmatched by anyone else in the industry.



IC Conductivity Detector MB



MagIC Net 4.1

The new high-performance Metrohm IC system MB



Why microbore ion chromatography?

REDUCED COSTS, BETTER EFFICIENCY, INCREASED SENSITIVITY

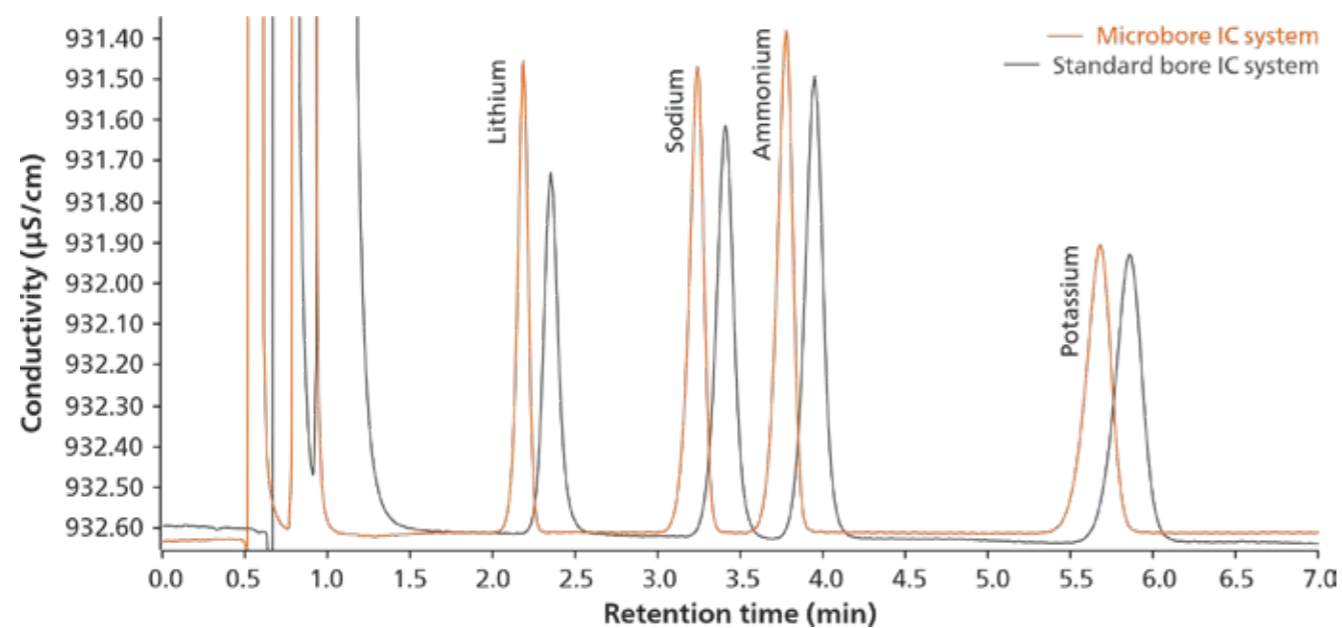
Our state-of-the-art microbore capillaries guarantee a precise eluent flow, resulting in outstanding stability for applications with isocratic or gradient elution. In combination with our microbore columns and their reduced flow rates, eluent savings of up to 75% compared to 4-mm standard bore IC are possible. The exceptional properties of these columns

provide for superior separation and selectivity while overall recording times for chromatograms are reduced. The Metrohm microbore columns tolerate also higher flow rates for faster analysis and increased sample throughput. Signal sensitivity can be increased by up to 20% with microbore IC.

ANALYSIS OF MONOVALENT CATIONS COMPARED

Determination on a Metrosep C 6 microbore column with microbore IC (MB, orange chromatogram) and on a standard bore IC system (SB, grey chromatogram).

Analyte	Resolution		Height ($\mu\text{S}/\text{cm}$)	
	MB	SB	MB	SB
Li^+ (25 $\mu\text{g}/\text{L}$)	5.6	5.6	1.1551	0.8836
Na^+ (125 $\mu\text{g}/\text{L}$)	3.0	2.6	1.1404	1.0093
NH_4^+ (125 $\mu\text{g}/\text{L}$)	7.9	7.3	1.2296	1.1319
K^+ (250 $\mu\text{g}/\text{L}$)	6.0	5.8	0.7059	0.7048

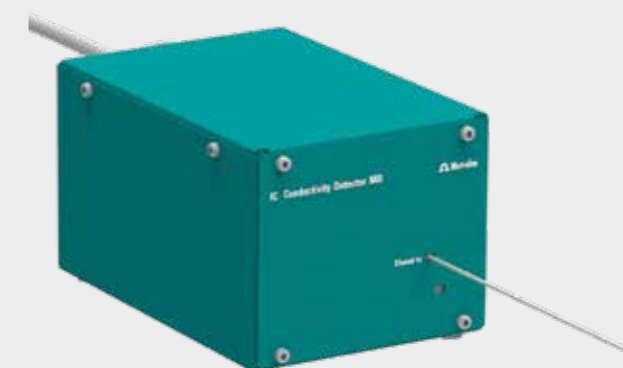


IC Conductivity Detector MB

INCREASED MEASURING SENSITIVITY, EASY TO UPGRADE

The new IC Conductivity Detector MB features a reduced volume and is inert against methanesulfonic acid (MSA) eluents.

Upgrade to MagIC Net 4.1, and you can use the new MSA-inert MB detector also with any current Metrohm standard bore IC system.



SPECIFICATIONS

- 0.18 mm ID preheating capillary
- 0.3 μL cell volume
- Optimized MSA V4A steel ring electrode
- 20–50 $^{\circ}\text{C}$ adjustable detector temperature
- < 0.001 $^{\circ}\text{C}$ cell stability
- < 0.2 nS/cm noise (sequential suppression)

ORDERING INFORMATION

Microbore IC systems		
2.930.2180	930 Compact IC Flex Oven/Deg/MB	
2.930.2580	930 Compact IC Flex Oven/SeS/PP/Deg/MB	
2.940.1580	940 Professional IC ONE/SeS/PP/MB	
2.940.2580	940 Professional IC TWO/SeS/PP/MB	
Microbore Detector		
2.850.9020	IC Conductivity Detector MB	
Upgrade kits		
6.05802.000	MB retrofit kit	Upgrade for systems with or without chemical suppression.
6.05802.010	MB retrofit kit, SES	Upgrade for systems with sequential suppression.
Microbore columns		
6.01021.230	Metrosep A Supp 4 - 250/2.0	Robust column with 9 µm polyvinyl alcohol base particles and quaternary ammonium exchange groups.
6.1006.230	Metrosep A Supp 5 - 250/2.0	State-of-the-art separation column with high number of plates for most demanding separation tasks.
6.1006.650	Metrosep A Supp 7 - 250/2.0	High-performance separation column for precise determination of anions, oxyhalides, and dichloroacetic acid in one run.
6.1020.230	Metrosep A Supp 10 - 250/2.0	High-capacity anion exchange column based on 4.6 µm polystyrene-divinylbenzene copolymer particles.
6.1050.230	Metrosep C4 - 250/2.0	Universal high-efficiency standard column for cation analysis.
6.01051.230	Metrosep C6 - 250/2.0	High-capacity column for optimal separation of cations with high concentration differences.
6.1090.230	Metrosep Carb 2 - 250/2.0	High-capacity anion exchange column with a wide pH stability for the determination of carbohydrates.

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