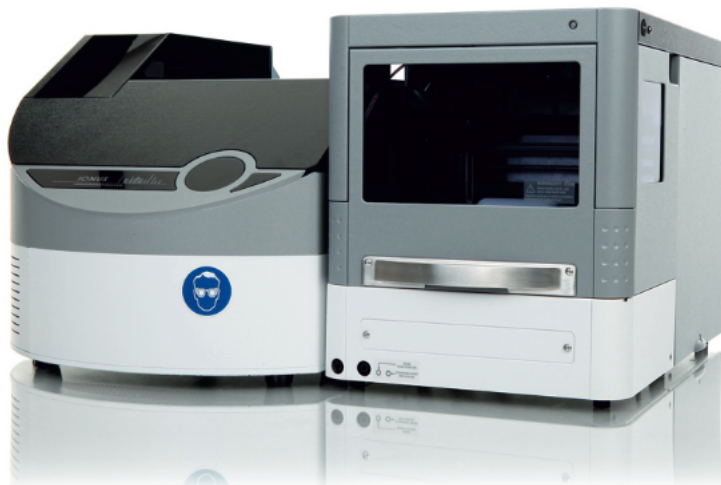


IONUS

*Fast determination of
cations and anions*



ION
ANALYZER

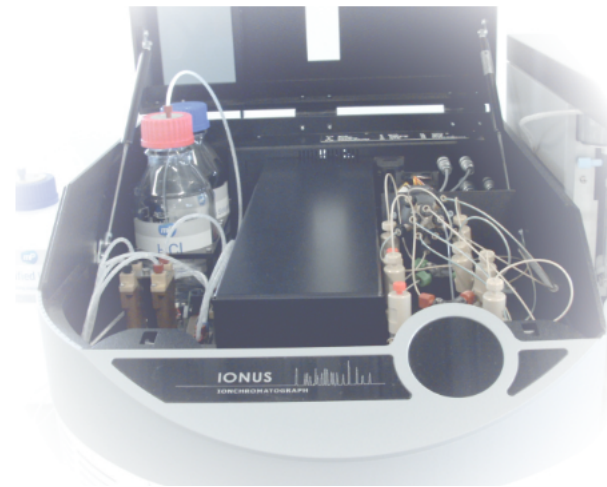






IONUS can be used for the analysis of anions and cations in research, development and everyday routine: drinking water and tap water as well as for waters within the scope of environmentally relevant investigations. This chromatograph separates anions (for anions optionally with suppressor technology) according to EPA 300.0 and EPA 300.1 and cations.

The advantage of IONUS is the compatibility with the common eluents of anion and cation exchange chromatography. By suitable post column derivatization, transition metals (VIS detection) as well as bromate (EPA 317.0 or EPA 326) can be detected . If requested, the IONUS can be equipped with an UV/VIS detector for indirect UV detection.



Technical Specifications



method	ion exchange chromatography of anions and cations in subsequent mode
manual injection	20 μL further injection loops upon request (50 μL , 100 μL , 200 μL)
autosampler	2 racks, each of them with space for 48 vials (1.5 mL) or 12 vials (6 mL), sample cooling full loop (100 μL), partial loop (5 - 50 μL), microliter pickup (5 - 25 μL)
column	stainless steel / PEEK
temperature stability/ range	± 0.5 $^{\circ}\text{C}$ / ambient up to 50 $^{\circ}\text{C}$

Technical Specifications

detection	conductivity detector: noise: 0.02 μ S, 1 s linearity: < 1 s range: 0 - 10 mS/cm effective cell volume: 1 μ L
isocratic pump system	max. pressure: 400 bar flow rate: 0.01 - 10.00 mL/min reproducibility of low rate: 0.1 % RSD at 100 μ L/min
maximum operating pressure	120 bar
control software & data acquisition	Clarity (21 CFR Part 11 compliant) or AminoPeak
dimensions, weight, power	1000 x 700 x 690 mm*, 50 kg, 110 - 230 V

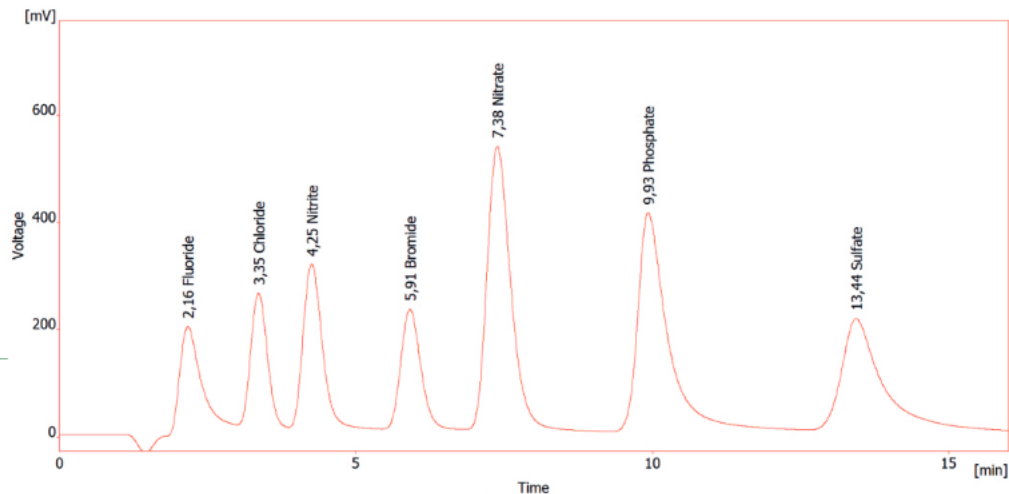
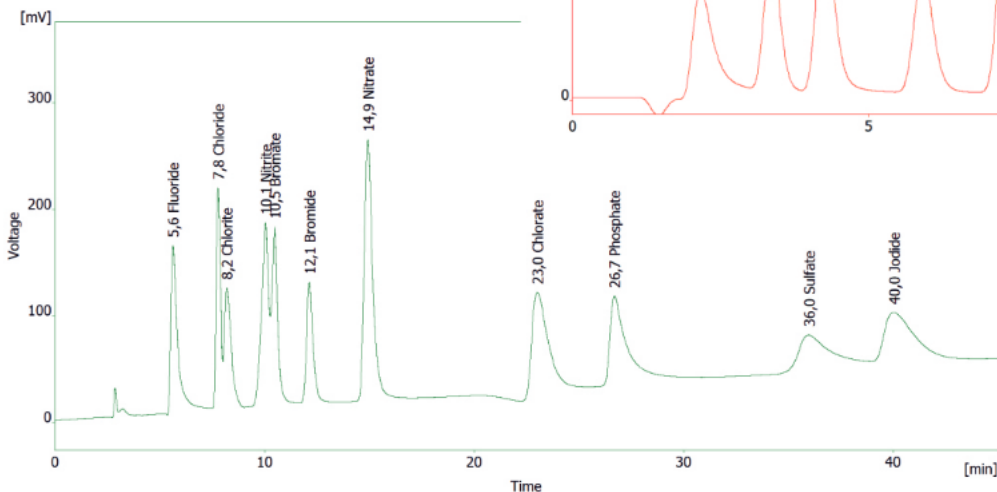
* 800 mm with opened main unit

Separation performance / anions

separation of anions

performed with the column Cat. No. 650-0105

- + 3.2 mM sodium carbonate,
- + 1.0 mM sodium hydrogen carbonate
- + 0.1 mM sodium thiocyanat as eluent with suppressor technique.



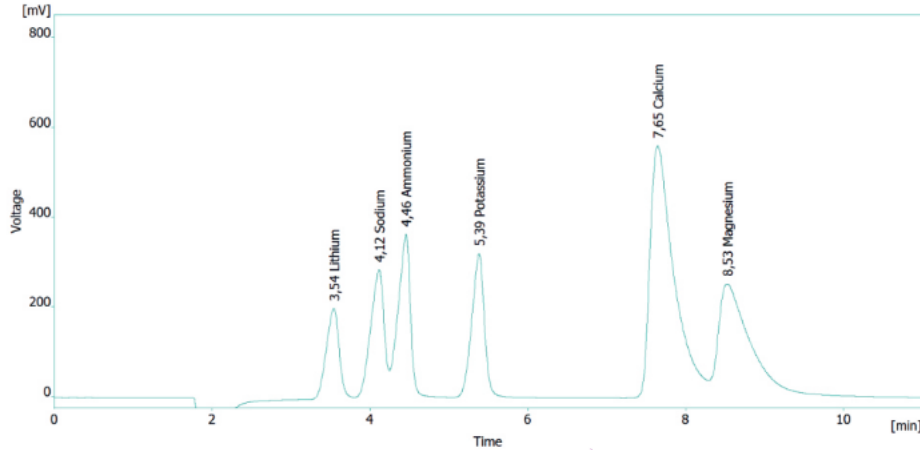
separation of anions

performed with the column Cat. No. 650-0195

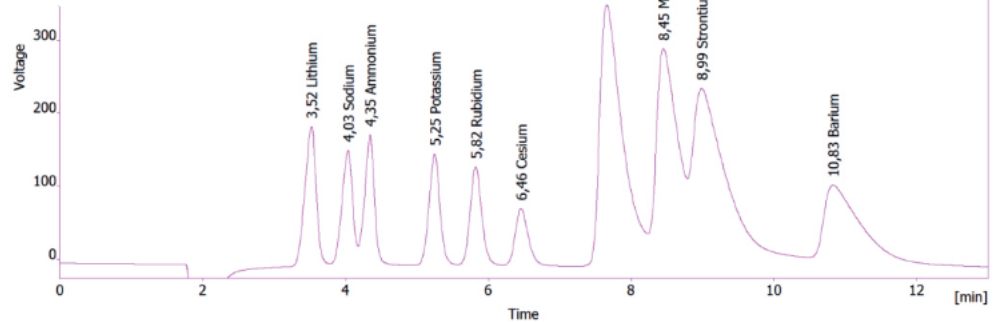
- + 1.25 mM sodium carbonate
- + 3.5 mM sodium hydrogen carbonate
- + 0.1 mM sodium thiocyanat as eluent with suppressor technique.

separation of cations

performed with the column Cat. No. 650-0109 + 5 mM nitric acid as eluent.



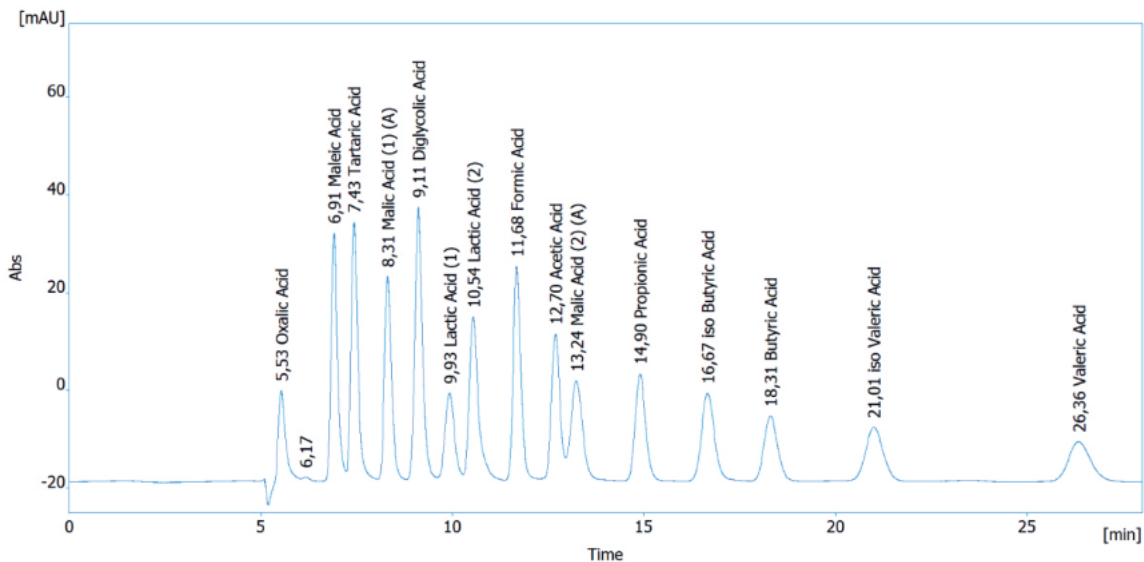
**ION
ANALYZER**



Separation performance / other

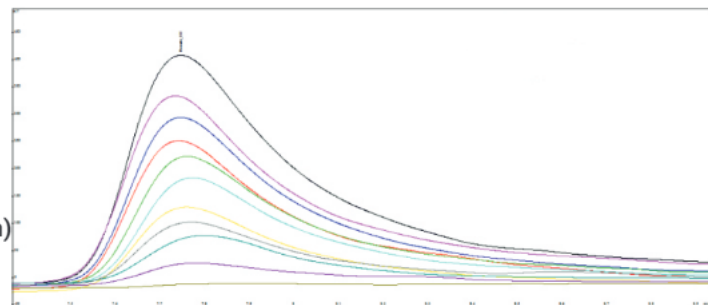
separation of organic acids

performed with the column
Cat. No. 650-0180
+ 10 mM sulfuric acid as eluent
with indirect UV method.



detection of bromate (100 - 1 ppb)

performed with the column Cat. No. 650-0106
+ 200 mM methane sulfonic acid as eluent
+ 0.27 M potassium iodide and
50 μ M ammonia heptamolybdate as reagent
according to method EPA 326.0 (UV detection 355 nm)



Columns

columns	column for	Suppressor	Remarks	Cat. No
PRP-X100 50 mm x 4.1 mm ID, 5 µm	Standard Anions	+ / -	-	650-0105
PRP-X110S 250 mm x 4.1 mm ID, 7 µm	Standard Anions + Oxohalides	+	-	650-0195
PRP-X100 100 mm x 4.6 mm ID, 5 µm	Bromate	-	EPA 317.0, 326.0	650-0106
PRP-X800 250 mm x 4.6 mm ID, 7 µm	Standard Cations	-	-	650-0109
Nucleosil 100 150 mm x 4.6 mm ID, 5 µm	Transition metals	-	PCD with VIS	650-0099
Eurokat H 300 mm x 8 mm ID	Organic acids	-	indirect UV	650-0180

Further columns upon request!



Options

manual injection port

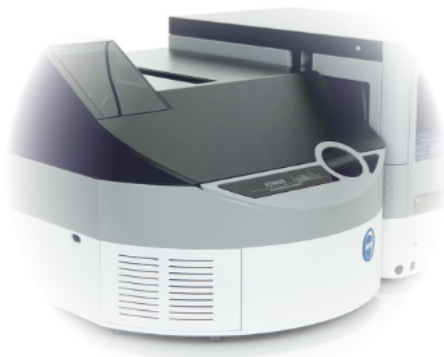
easy manual injection with Rheodyne valve with a standard volume of 20 μL (other loops up on request)

anion suppressor technique

based on chemical process
regeneration of suppressors
with acid.

indirect UV detection

the IONUS can be equipped
with an additional UV/VIS detector.



separation of transition metals

by using carboxylic acids (oxalic, tartaric, citric acid) as eluents and the complexing agent (PAR) 4-(2-Pyridylazo)resorcin the concentration levels of transition metals can be determined.

post column derivatization to determine bromate

the bromate analyzer is a dedicated configuration for the analysis of bromate in water based samples with a detection limit of 1 ppb. Depending on what is requested, the derivatization can be performed with Dianisidine (EPA 317) or Triiodide (EPA 326) together with a UV/VIS detector.

Consumables

Description	Cat. No.
Standard 7 anions	650-0122
Standard 6 cations	650-0123
1.5 mL sample vials (100 pcs)	860-1794
caps for sample vials (100 pcs)	860-1795
guard column kit anions	650-0111
guard column kit cations	650-0113
column for suppressor	650-0074
guard cartridges for 650-0111 (5 pcs)	650-0115
guard cartridges for 650-0113 (5 pcs)	650-0116

Made in Germany, more than 25 years...



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