

ION CHROMATOGRAPHY SYSTEM S 150

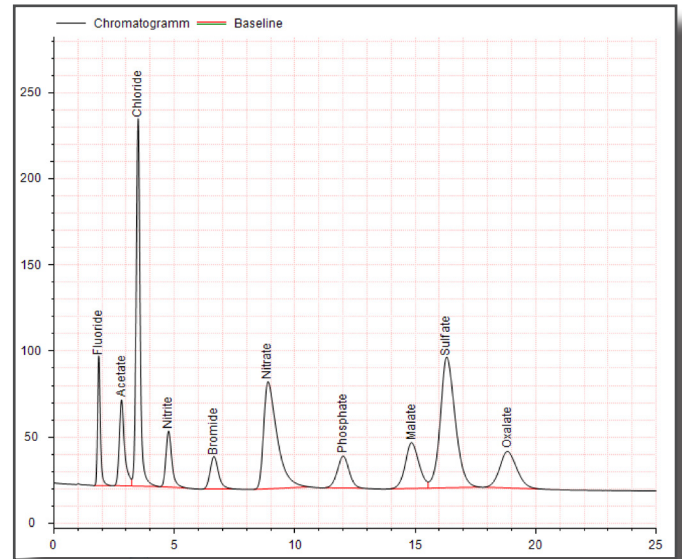
- ◆ ANION & CATION ANALYSIS
- ◆ ENVIRONMENTAL ANALYSIS
- ◆ WATER ANALYSIS



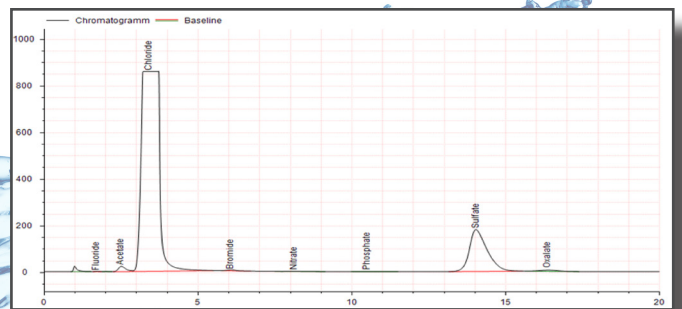
ION CHROMATOGRAPHY

Ion chromatography is an analytical separation method used in chemistry and biology. This chromatographic process is used to separate ions according to their charge. Using a liquid mobile phase, the charged analytes are passed through a stationary phase (polymer- or silicabased) modified with oppositely charged functional groups. Depending on their charge number, ion size and some non-specific interactions with the stationary phase, the ions are retarded at different rates.

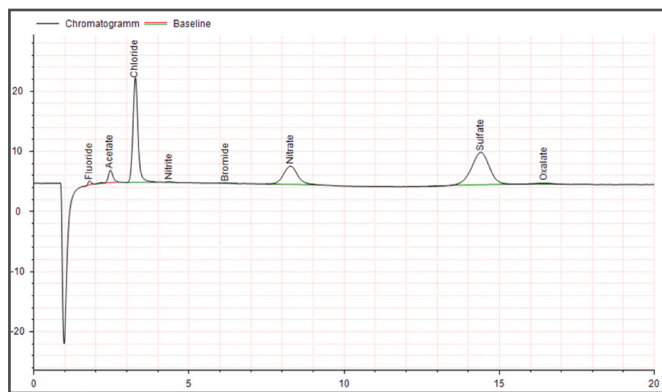
Depending on the analyte physical properties, these can then be detected and quantified by conductivity measurement, UV absorption or radiation measurement.



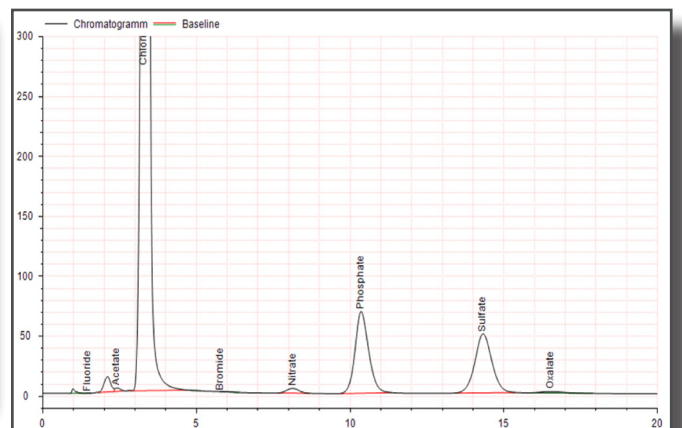
Extended Water Application (Anions)



Sea Water (Anions)



Rain Water (Anions)



Urine (Anions)

IC Applications

The fields of application of ion chromatography are manifold. One of the most important areas of application is certainly the investigation of aqueous systems such as drinking water and wastewater. It is above all fertilizers from agriculture that pollute the waters with high levels of nitrates. But also, the determination of organic acids in foods such as in wine and fruit juices or the quantification of trace elements such as iron in dietary supplements is possible.

- Parameters
 - Anions
 - Cations
 - Organic acids
 - Transition metals
 - Amines
- Typical Applications
 - Drinking water
 - Tap water
 - Sea water
 - Waste water
 - Rain water
 - Ultra-trace determination in electronic and power plants
 - Quality control and analysis of impurities
 - Elemental analysis (Wickbold & Schoeningger)
 - Pharmaceuticals
 - Urine analysis



Water analysis for water treatment plants



Cooling water control for power plants



Ground water analysis for quality control

ION CHROMATOGRAPHY SYSTEM S 150

Complete Family of IC Systems

The *Ion Chromatography System S 150* is a family of modular systems which can be customized to any application needs for the determination of a multitude of ions.

S 1130 Pump System

The *Sykam S 1130 HPLC Pump System* is a very flexible and powerful HPLC solvent delivery system.

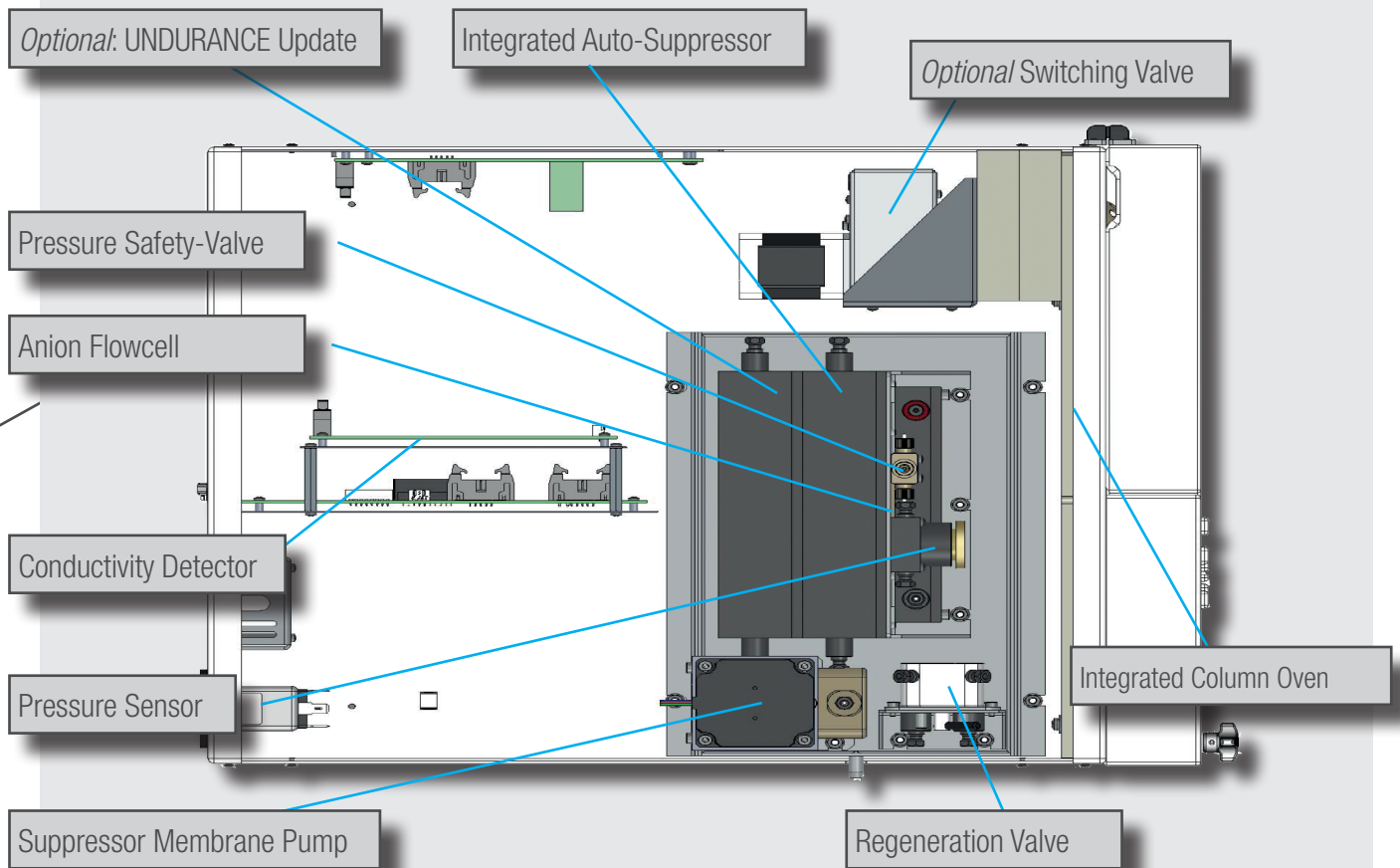
The possible configurations include an Isocratic or Quaternary Gradient Pump.

S 5300 Sample Injector

The *Sykam S 5300 Sample Injector System* is a reliable and accurate HPLC autosampler with excellent reproducibility and linearity properties. Variable vial racks and adaptors for microtiter plates as well as a multitude of options make this system highly adaptable and suitable for any analytical application.



S 150 Ion Chromatography Module



SYKAM AUTO-SUPPRESSOR

The **Sykam Auto-Suppressor** is a robust chemical suppression system to increase the sensitivity of the anion analysis by reducing the background conductivity of the eluent.

Trouble-Free Operation

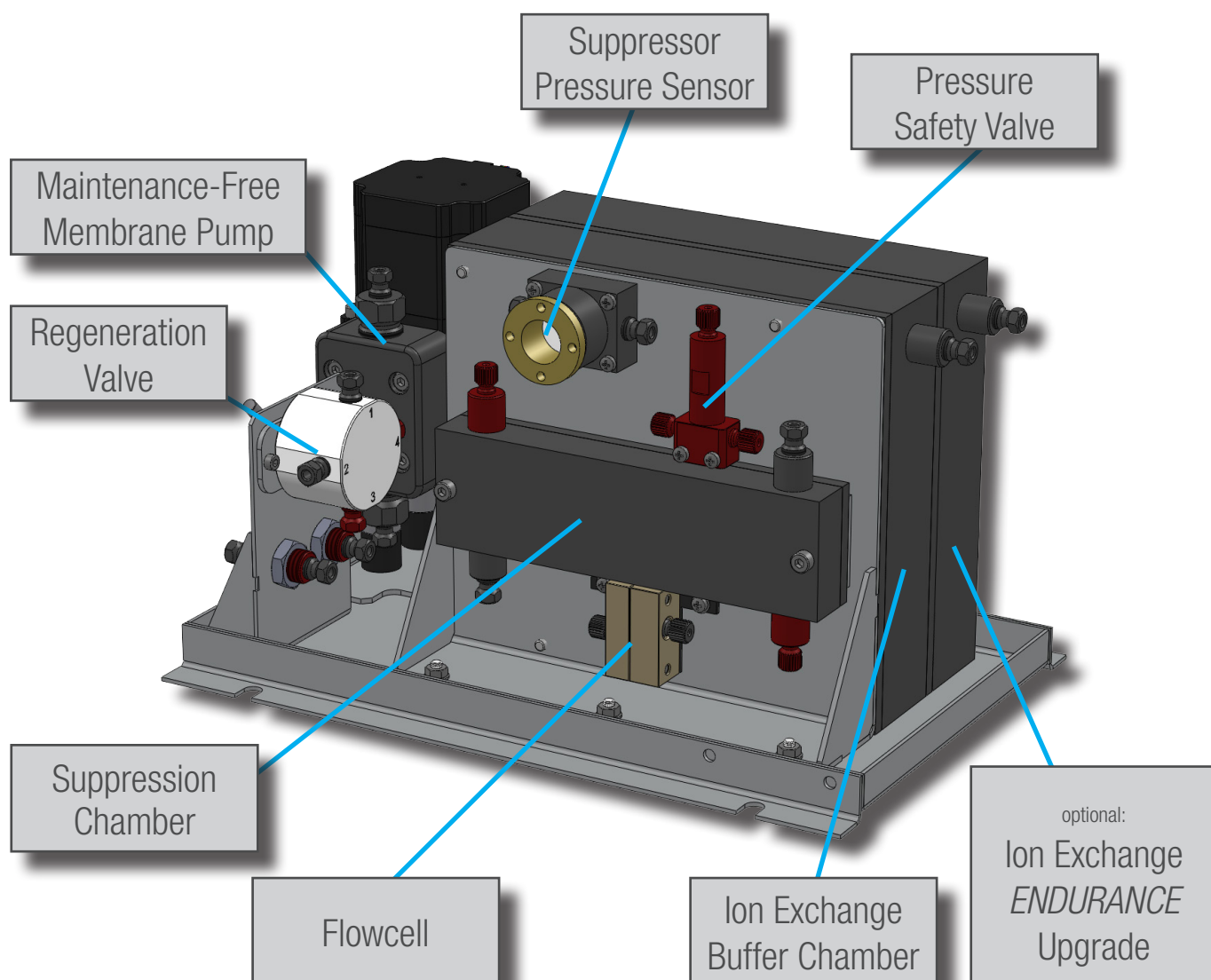
The **Sykam Auto-Suppressor's** membrane is protected by a **Pressure Safety Valve**, which opens when the pressure of the eluent flow is becoming too high. No annoying and expensive exchange of the membrane is needed!

The membrane pump is maintenance free in its

operation and the proper function is monitored by a built-in pressure sensor.

The closed suppression circuit provides continuous operation over a long time without the need of regeneration solutions. The capacity of the **Ion Exchange Buffer Chamber** can be increased with an **ENDURANCE** upgrade.

When the chamber's capacity is reached it can be easily regenerated without effort and need not to be replaced.



Working Principle

Conductivity detection of anions in ion chromatography requires reduction of background conductivity to increase the detection sensitivity.

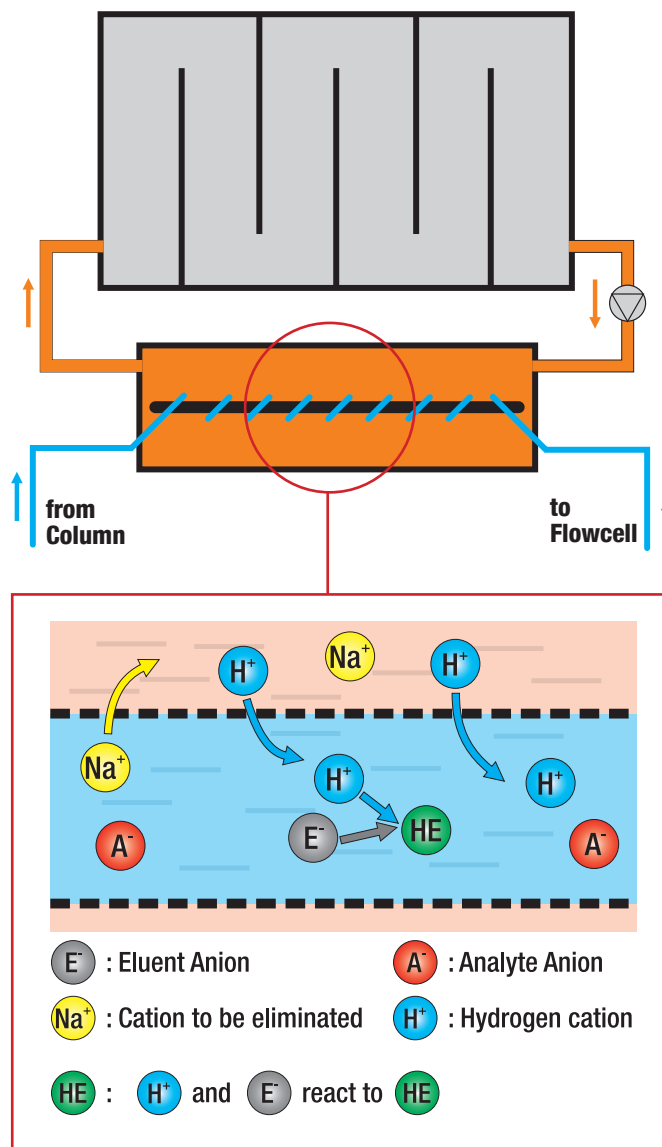
The eluent buffer (e.g. $\text{Na}_2\text{CO}_3 / \text{NaHCO}_3$) used to perform anion chromatography disturbs the analyte measurement (e.g. chloride, nitrate, sulfate).

The *Sykam Auto-Suppressor* substitutes counter cations of the eluent (e.g. Na^+) with hydrogen ions. This transfers the eluent anion (e.g. CO_3^{2-}) in a low conductive form and reduces the background conductivity.

The analyte anions will not be interfered by this process. Their hydrogen forms (e.g. hydrochloric acid) are still dissociated.

The *Sykam Auto-Suppressor* combines:

- an ion exchange buffer chamber, filled with a durable and customer regenerative cation exchanger
- a transfer solution to transport hydrogen cations to the mobile phase and buffer cations to the resin
- and a membrane capillary that allows the transfer of hydrogen- and eluent cations





SYKAM ION CHROMATOGRAPHY SYSTEMS



COMPACT ANION IC SYSTEM S 155-A/C

The *Compact Ion Chromatograph S 155* is a economic solution for low sample throughput.

The **S 155** is an all-in-one IC system with integrated anion auto-suppressor, column oven and 1-channel conductivity detector.

It can be upgraded with an online vacuum de-gasser, eluent selection valve or inert gas supply regulator.



ORDER INFORMATION

Compact IC System S 155-A

Catalog No	Description	consisting of:
S008544	Compact Ion Chromatography System	S 155 Ion Chromatography System
	for Anion analysis	- integrated Anion auto-suppressor
	without Data System and Separation Column	- integrated column oven
		- integrated manual injection valve S 6120 w. 50 µl sample loop
		- integrated 1-Channel conductivity detector
		- integrated isocratic eluent pump

Compact IC System S 155-C

Catalog No	Description	consisting of:
S008545	Compact Ion Chromatography System	S 155 Ion Chromatography System
	for Cation analysis	- integrated column oven
	without Data System and Separation Column	- integrated manual injection valve S 6120 w. 50 µl sample loop
		- integrated 1-Channel conductivity detector
		- integrated isocratic eluent pump

Upgrade Options

Catalog No	Description	Notes
S003581	Vacuum Degasser	Online 1-Channel vacuum degasser
S008547	Eluent Selection Valve S 6131	Switching valve for 2 eluents and second 2000 ml eluent bottle
S008546	Inert Gas Supply	Gas regulator for inert gas supply and 2000 ml coated eluent bottle

MANUAL ANION IC SYSTEM S 151-M/G

The *Manual Anion Ion Chromatograph S 151-M /G* is a economic solution for low sample throughput.

The S 151-M features the anion membrane suppressor for the sensitive detection of anions. It can be upgraded to an automatic system at any time.



ORDER INFORMATION

Manual Isocratic Anion IC System S 151-M

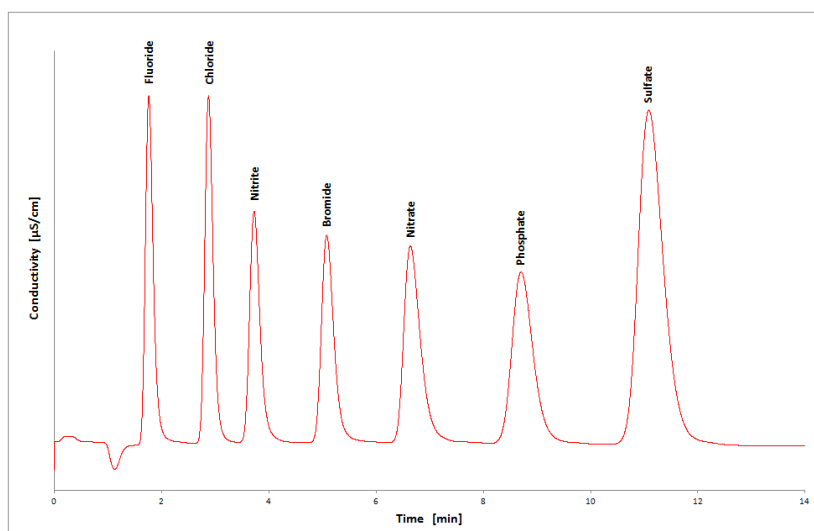
Catalog No	Description	consisting of:
S003695	Manual Isocratic IC System	S 150 Ion Chromatography Module, including Column Oven;
	Anion Separation	S 1130 Isocratic Pump, analytical, Peek; including 1-Channel Degasser;
	without Data System and Separation Column	S 6120 Injection Valve, Peek;
		S 7150 Reagent Organizer, isocratic, including 1 bottle (1000 ml);; without gas regulator
		Auto-Suppressor Module;
		1-Channel Conductivity Detector

Manual Gradient Anion IC System S 151-G

Catalog No	Description	consisting of:
S004162	Manual Gradient IC System	S 150 Ion Chromatography Module, including Column Oven;
	Anion Separation	S 1130 Quaternary Gradient Pump, analytical, Peek; including 4-Channel Degasser;
	without Data System and Separation Column	S 6120 Injection Valve, Peek;
		S 7150 Reagent Organizer, isocratic, including 4 bottles (1000 ml); without gas regulator
		Auto-Suppressor Module;
		1-Channel Conductivity Detector

Update Options

Catalog No	Description	Notes
S003583	Auto-Suppressor ENDURANCE Update	Capacity upgrade for Auto-Suppressor
S003585	Dual Channel Detector Upgrade	S 150 Ion Chromatography Module (2nd detector channel)
S003846	S 7155 Reagent Organizer with Gas Regulator	Analytical, incl. 4 bottles (1000 ml)
S000172	S 3250 UV/Vis Detector	Update for difficult sample matrices (e.g. high Cl ⁻ concentrations)
S000203	S 3250 Flowcell	Analytical, PEEK
	Intergated Switching Valve	S 150 Ion Chromatography Module (integrated S6000 series Switching Valve)



AUTOMATIC ANION IC SYSTEM S 151-A/AG

The *Automatic Anion IC System S 151-A/AG* is a modular system which can be customized to any application needs.



ORDER INFORMATION

Automatic Isocratic Anion IC System S 151-A

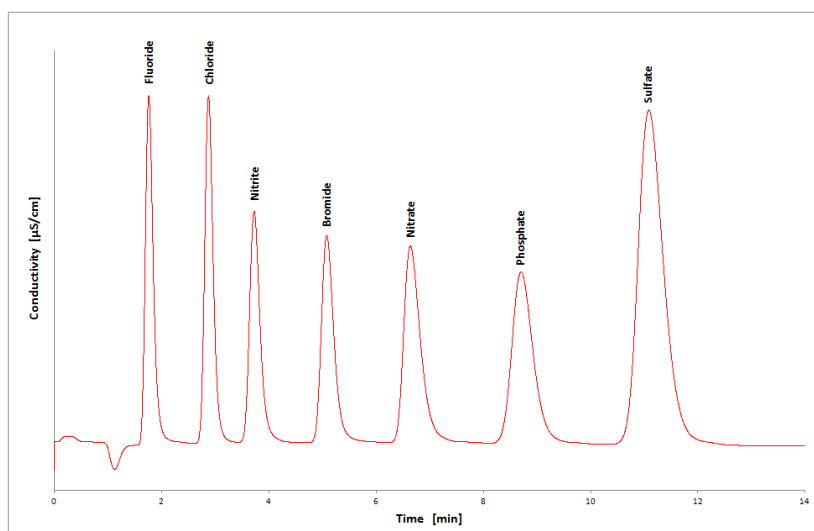
Catalog No	Description	consisting of:
S004070	Automatic Isocratic IC System	S 150 Ion Chromatography Module, including Column Oven;
	Anion Separation	S 1130 Isocratic Pump, analytical, Peek; including 1-Channel Degasser;
	without Data System and Separation Column	S 5300 Automatic Sample Injector with S 6115 Peek Valve, variable volume Mode
		S 7150 Reagent Organizer, isocratic, including 1 bottle (1000 ml);; without gas regulator
		Auto-Suppressor Module;
		1-Channel Conductivity Detector

Automatic Gradient Anion IC System S 151-AG

Catalog No	Description	consisting of:
S004161	Automatic Gradient IC System	S 150 Ion Chromatography Module, including Column Oven;
	Anion Separation	S 1130 Quaternary Gradient Pump, analytical, Peek; including 4-Channel Degasser;
	without Data System and Separation Column	S 5300 Automatic Sample Injector with S 6115 Peek Valve, variable volume Mode
		S 7150 Reagent Organizer, isocratic, including 4 bottles (1000 ml);; without gas regulator
		Auto-Suppressor Module;
		1-Channel Conductivity Detector

Update Options

Catalog No	Description	Notes
S003583	Auto-Suppressor ENDURANCE Update	Capacity upgrade for Auto-Suppressor
S003585	Dual Channel Detector Upgrade	S 150 Ion Chromatography Module (2nd detector channel)
S003846	S 7155 Reagent Organizer with Gas Regulator	Analytical, incl. 4 bottles (1000 ml)
S000172	S 3250 UV/Vis Detector	Update for difficult sample matrices (e.g. high Cl ⁻ concentrations)
S000203	S 3250 Flowcell	Analytical, PEEK
	Integated Switching Valve	S 150 Ion Chromatography Module (integrated S6000 series Switching Valve)



MANUAL CATION IC SYSTEM S 152-M/G

The *Manual Cation IC System S 152-A/G* is a modular system which can be customized to any application needs.



ORDER INFORMATION

Manual Isocratic Cation IC System S 152-M

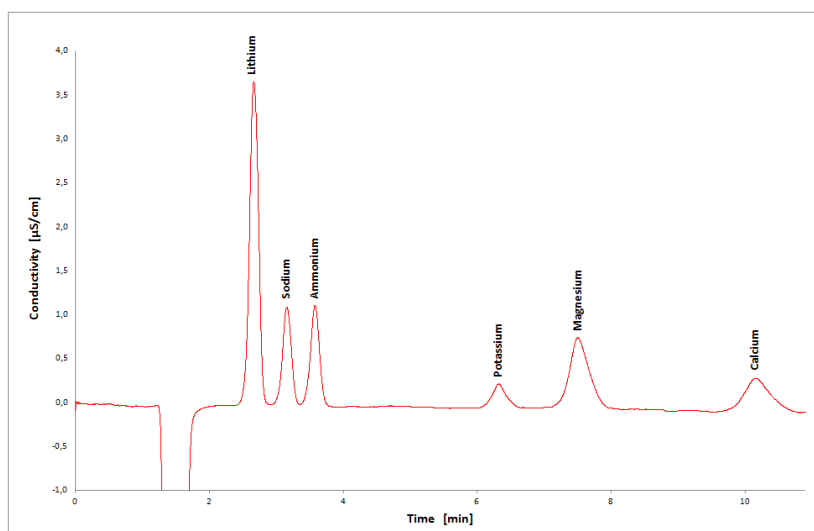
Catalog No	Description	consisting of:
S004851	Manual Isocratic IC System	S 150 Ion Chromatography Module, including Column Oven;
	Cation Separation	S 1130 Isocratic Pump, analytical, Peek; including 1-Channel Degasser;
	without Data System and Separation Column	S 6120 Injection Valve, Peek;
	without Auto-Suppressor	S 7150 Reagent Organizer, isocratic, including 1 bottle (1000 ml); without gas regulator
		1-Channel Conductivity Detector

Manual Gradient Cation IC System S 152-G

Catalog No	Description	consisting of:
S005115	Manual Gradient IC System	S 150 Ion Chromatography Module, including Column Oven;
	Cation Separation	S 1130 Quaternary Gradient Pump, analytical, Peek; including 4-Channel Degasser;
	without Data System and Separation Column	S 6120 Injection Valve, Peek;
	wihtout Auto-Suppressor	S 7150 Reagent Organizer, isocratic, including 4 bottles (1000 ml); without gas regulator
		1-Channel Conductivity Detector

Update Options

Catalog No	Description	Notes
S003582	Auto-Suppressor Module	S 8310 Autosuppressor Module (for update of Cation system to Anion determination)
S003583	Auto-Suppressor ENDURANCE Update	Capacity upgrade for Auto-Suppressor
S003585	Dual Channel Detector Upgrade	S 150 Ion Chromatography Module (2nd detector channel)
S003846	S 7155 Reagent Organizer with Gas Regulator	Analytical, incl. 4 bottles (1000 ml)
S000172	S 3250 UV/Vis Detector	Update for difficult sample matrices (e.g. high Cl ⁻ concentrations)
S000203	S 3250 Flowcell	Analytical, PEEK
	Intergated Switching Valve	S 150 Ion Chromatography Module (integrated S6000 series Switching Valve)



AUTOMATIC CATION IC SYSTEM S 152-A/AG

The *Automatic Anion IC System S 152-A/AG* is a modular system which can be customized to any application needs.



ORDER INFORMATION

Automatic Isocratic Cation IC System S 152-A

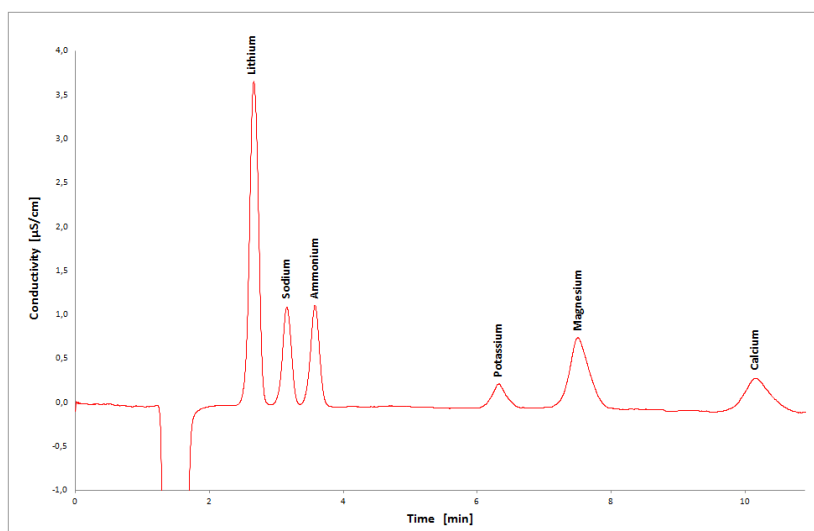
Catalog No	Description	consisting of:
S005452	Automatic Isocratic IC System	S 150 Ion Chromatography Module, including Column Oven;
	Cation Separation	S 1130 Isocratic Pump, analytical, Peek; including 1-Channel Degasser;
	without Data System and Separation Column	S 5300 Automatic Sample Injector with S 6115 Peek Valve, variable volume Mode
		S 7150 Reagent Organizer, isocratic, including 1 bottle (1000 ml); without gas regulator
		WITHOUT Auto-Suppressor Module;
		1-Channel Conductivity Detector

Automatic Gradient Cation IC System S 152-AG

Catalog No	Description	consisting of:
S004161	Automatic Gradient IC System	S 150 Ion Chromatography Module, including Column Oven;
	Cation Separation	S 1130 Quaternary Gradient Pump, analytical, Peek; including 4-Channel Degasser;
	without Data System and Separation Column	S 5300 Automatic Sample Injector with S 6115 Peek Valve, variable volume Mode
		S 7150 Reagent Organizer, isocratic, including 4 bottles (1000 ml); without gas regulator
		WITHOUT Auto-Suppressor Module;
		1-Channel Conductivity Detector

Update Options

Catalog No	Description	Notes
S003582	Auto-Suppressor Module	S 8310 Autosuppressor Module (for update of Cation system to Anion determination)
S003583	Auto-Suppressor ENDURANCE Update	Capacity upgrade for Auto-Suppressor
S003585	Dual Channel Detector Upgrade	S 150 Ion Chromatography Module (2nd detector channel)
S003846	S 7155 Reagent Organizer with Gas Regulator	Analytical, incl. 4 bottles (1000 ml)
S000172	S 3250 UV/Vis Detector	Update for difficult sample matrices (e.g. high Cl ⁻ concentrations)
S000203	S 3250 Flowcell	Analytical, PEEK
	Intergated Switching Valve	S 150 Ion Chromatography Module (integrated S6000 series Switching Valve)



AUTOMATIC DUAL IC SYSTEM S 153-A/AG DUAL

The *Automatic Ion Chromatograph S 153-A/AG Dual* is a modular system which can be customized to any application needs.



ORDER INFORMATION

Automatic Isocratic Dual IC System S 153-A Dual

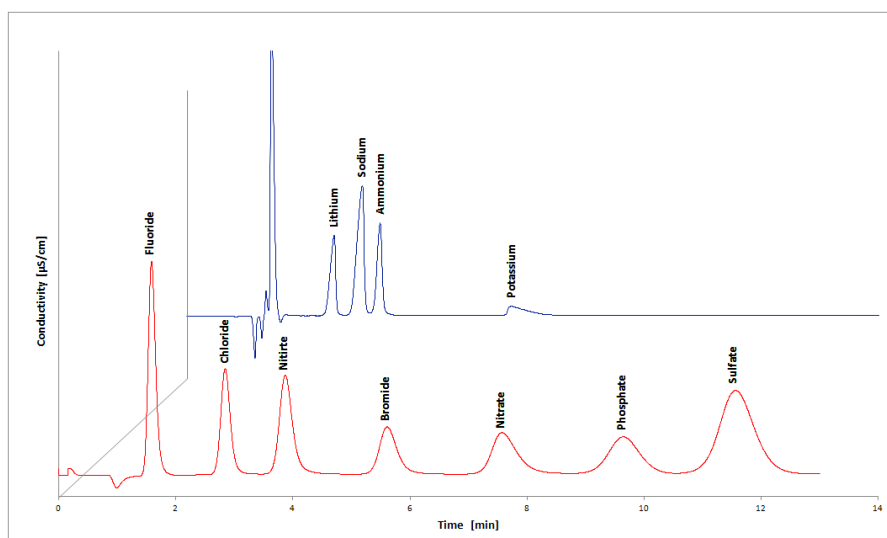
Catalog No	Description	consisting of:
S004671	Automatic Dual Isocratic IC System	S 150 Ion Chromatography Module, including Column Oven;
	Anion & Cation simultaneous Separation	2x S 1130 Isocratic Pump, analytical, Peek; including 1-Channel Degasser;
	without Data System and Separation Column	S 5300 Automatic Sample Injector with S 6165 Peek Valve, variable volume Mode
		S 7150 Reagent Organizer, isocratic, including 2 bottles (1000 ml); without gas regulator
		Auto-Suppressor Module;
		2-Channel Conductivity Detector

Automatic Gradient Dual IC System S 153-AG Dual

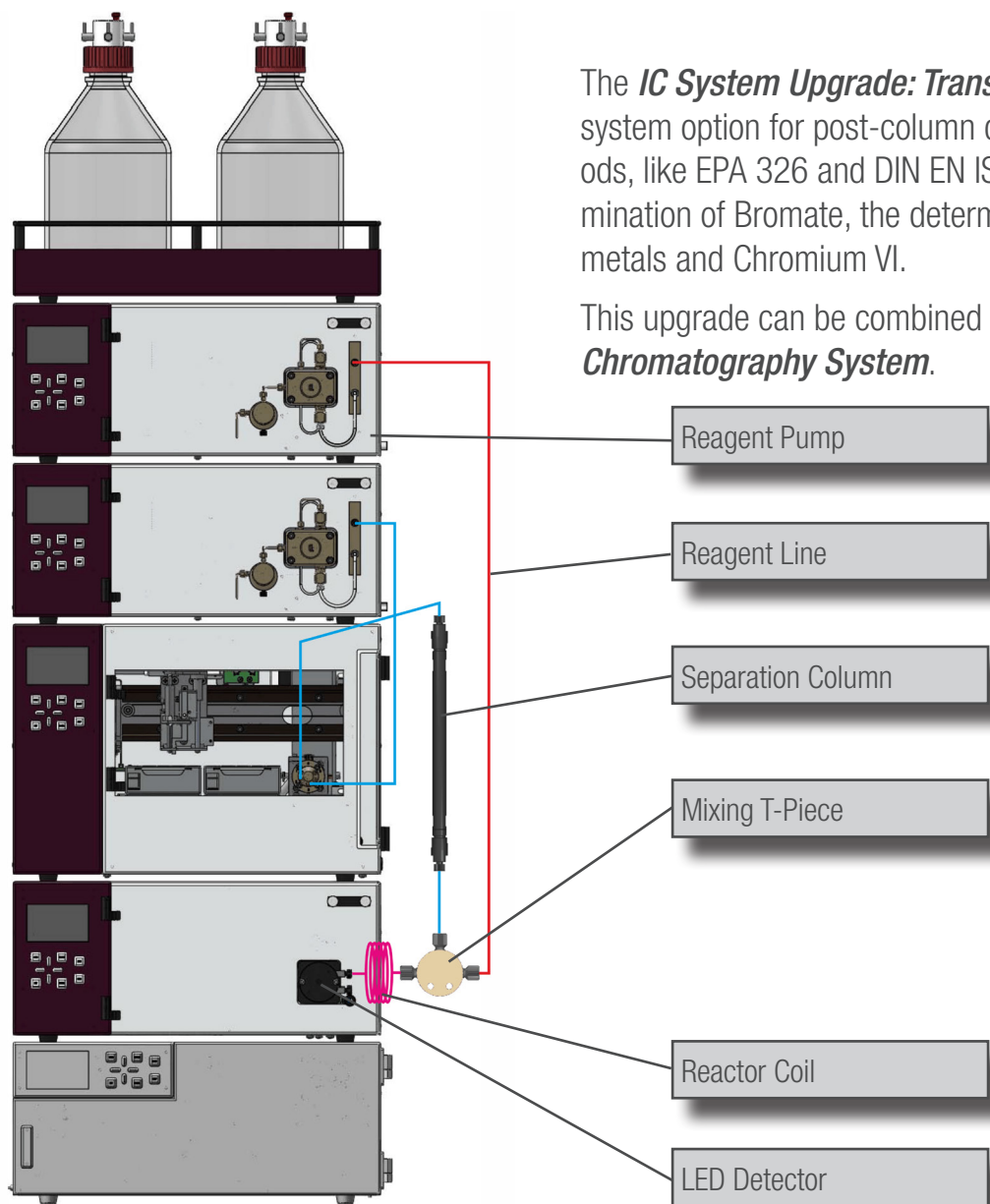
Catalog No	Description	consisting of:
S004882	Automatic Dual Gradient IC System	S 150 Ion Chromatography Module, including Column Oven;
	Anion & Cation simultaneous Separation	1x S 1130 Quaternary Gradient Pump, analytical, Peek; including 4-Channel Degasser;
		1x S 1130 Isocratic Pump, analytical, Peek; including 1-Channel Degasser;
	without Data System and Separation Column	S 5300 Automatic Sample Injector with S 6165 Peek Valve, variable volume Mode
		S 7150 Reagent Organizer, isocratic, including 4 bottles (1000 ml); without gas regulator
		Auto-Suppressor Module;
		2-Channel Conductivity Detector

Update Options

Catalog No	Description	Notes
S003583	Auto-Suppressor ENDURANCE Update	Capacity upgrade for Auto-Suppressor
S003585	Dual Channel Detector Upgrade	S 150 Ion Chromatography Module (2nd detector channel)
S003846	S 7155 Reagent Organizer with Gas Regulator	Analytical, incl. 4 bottles (1000 ml)
S000172	S 3250 UV/Vis Detector	Update for difficult sample matrices (e.g. high Cl ⁻ concentrations)
S000203	S 3250 Flowcell	Analytical, PEEK
	Integated Switching Valve	S 150 Ion Chromatography Module (integrated S6000 series Switching Valve)



IC SYSTEM UPGRADE: TRANSITION METALS



The *IC System Upgrade: Transition Metals* is a system option for post-column derivatization methods, like EPA 326 and DIN EN ISO 11206 for determination of Bromate, the determination of transition metals and Chromium VI.

This upgrade can be combined with any *S 150 Ion Chromatography System*.

ORDER INFORMATION

IC System Upgrade: Metal Ions

Catalog No	Description	consisting of:
S008038	<i>IC System Upgrade: Transition Metals</i> for determination of metal ions and other specific ions via post-column derivatization	S 1130 Isocratic Pump, analytical, Peek; including 1-Channel Degasser; S 3212 LED Detector, with analytical Flowcell (PEEK); 525 nm (460nm CrIV) Reactor Coil with T-Piece

TECHNICAL SPECIFICATIONS

S 150 Ion Chromatography Module

Wetted Materials:	PEEK, PPS, PTFE, Stainless Steel ¹
Dimensions: (W x H x D)	396 x 165 x 478 mm
Power Supply:	100 - 250 ~V (47 - 63 Hz)

¹ Flowcell only

Column Oven

Temperature Range:	+30°C to +100°C ¹
Temperature Accuracy:	< 0.1 °C
Switching Valve:	<i>optional:</i> any S 6000 Series Valve

¹ Temperature range at 20°C ambient

Conductivity Detector

Measuring Range:	0 to 20,000 µS/cm
Flowcell Volume:	0.76 µl

Auto-Suppressor

Pump System:	Membrane Pump
Safety Systems:	- Pressure Sensor - Pressure Valve

S 1130 Isocratic Pump System

Wetted Materials:	PEEK, Teflon AF®, PVDF, Ceramics, Sapphire
Flow Rate:	Programmable Analytical: 0.001 - 10.000 ml/min
Flow Accuracy:	± 1.0 % 1.000 ml / min
Flow Precision:	± 0.1 % RSD 1.000 ml/min
Pressure Range:	0 – 40 MPa (0 – 6000 PSI)
Pressure Pulsation:	typical < 0.1 MPa or < 1.0 %
Compressibility Compensation:	user-adjustable for different solvents
Vacuum Degassing:	< 20% dissolved gases remaining in water @ 1.000 ml/min
Dimensions: (W x H x D)	396 x 165 x 478 mm
Power Supply:	100 - 250 ~V (47 - 63 Hz)

S 5300 Sample Injector System

Wetted Materials:	PEEK, PPS, PVDF
Sample Capacity:	120 (1.5 ml), 192 (microtiter plates)
Injection Volume:	Programmable 0.1 - 999.9 µl
Sample Heating/Cooling:	<i>optional:</i> +4 to +60 °C
Injection Precision:	< 0.5 % Variable Volume Injection (10 µl; typically ~0.25 %)
Linearity:	Correlation Factor > 0.999 (10 µl injection volume, 500 µl Syringe)
Carry Over:	< 0.05 % with wash program
Dimensions: (W x H x D)	396 x 275 x 478 mm
Power Supply:	100 - 250 ~V (47 - 63 Hz)

S 1130 Quaternary Gradient Pump System

Wetted Materials:	PEEK, Teflon AF®, PVDF, Ceramics, Sapphire
Flow Rate:	Programmable Analytical: 0.001 - 10.000 ml/min
Flow Accuracy:	± 1.0 % 1.000 ml / min
Flow Precision:	± 0.1 % RSD 1.000 ml/min
Pressure Range:	0 – 40 MPa (0 – 6000 PSI)
Pressure Pulsation:	typical < 0.1 MPa or < 1.0 %
Compressibility Compensation:	user-adjustable for different solvents
Vacuum Degassing:	< 20% dissolved gases remaining in water @ 1.000 ml/min
Gradient Range:	0.0 – 100.0 %, 4 channels
Gradient Accuracy:	< 0.50 %
Gradient Mixing:	Active
Mixer Volume:	adjustable: 100 – 500 µl
Dimensions: (W x H x D)	396 x 165 x 478 mm
Power Supply:	100 - 250 ~V (47 - 63 Hz)

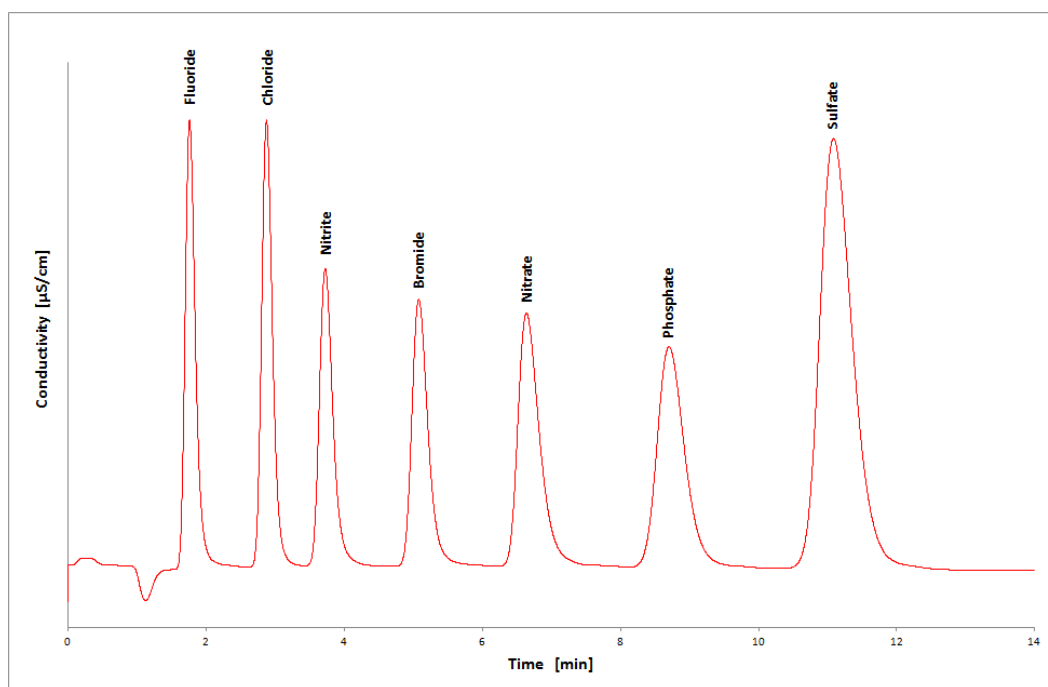


SYKAM ION CHROMATOGRAPHY SEPARATION COLUMNS



IC SEPARATION COLUMNS: ANIONS

Anion Separation Column ION A01



Applications

Conductivity Detection:

- Standard anions in aqueous samples
- Sulfite in drinking water

UV Detection (Post-Column Derivatization):

- Chromate

Technical Specifications

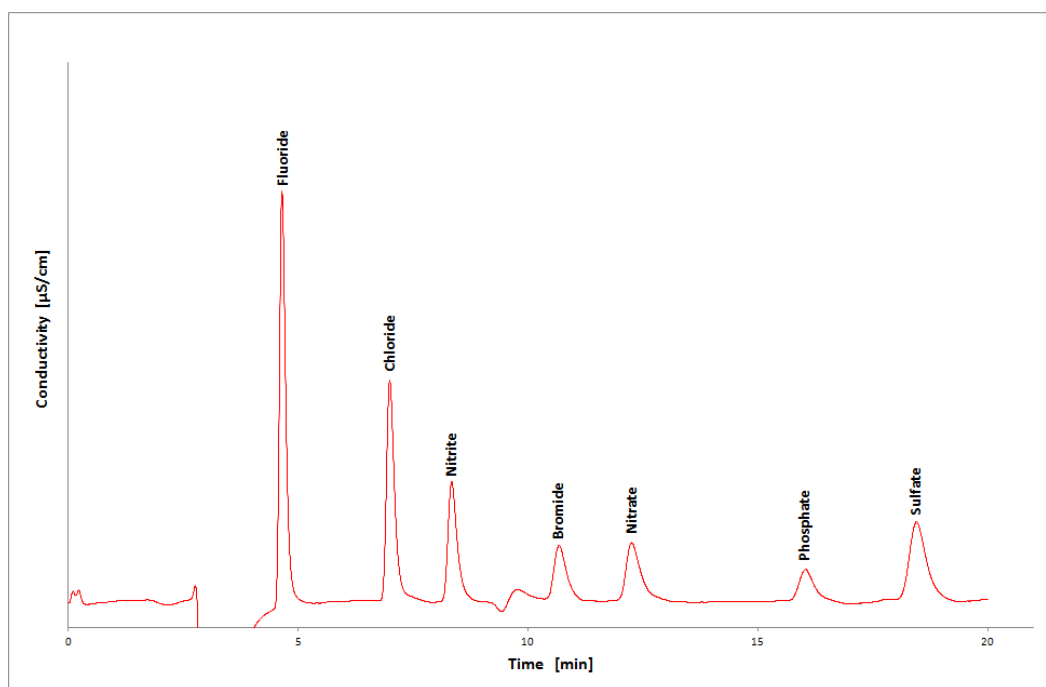
Substrate:	Polystyrene
Particle Size:	10 µm
Column dimensions:	2.6 x 150 mm
Column material:	PEEK
Max. Pressure:	20 MPa
pH Range:	1 ... 13
Temp. Range:	20 - 60 °C

ORDER INFORMATION

Anion Separation Column ION A01

Catalog No	Description	Dimensions
S003586	Anion Separation Column ION A01	2.6 x 150mm, 10 µm
S004732	Anion Guard Column AGC-1	2.6 x 20mm, 15 µm

Anion Separation Column ION A04



Applications

Conductivity Detection:

- Determination of Bromate in Aqueous Samples
- Chloride Phosphate and Sulfate in Red Wine
- Standard anions in aqueous samples

Technical Specifications

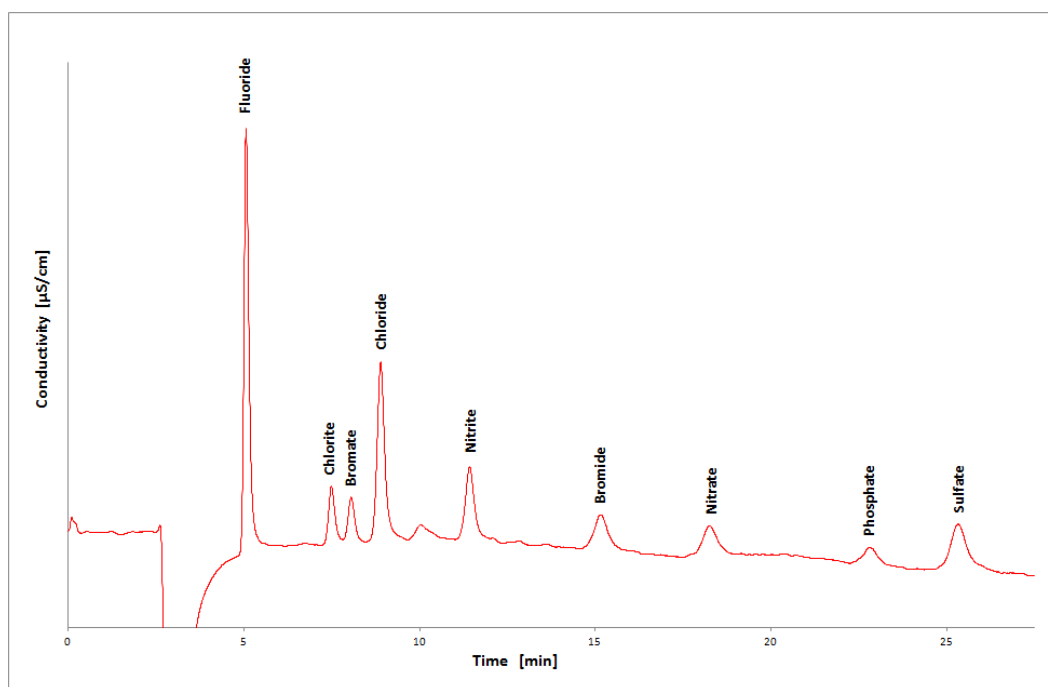
Substrate:	Polyvinyl alcohol
Particle Size:	5 µm
Column dimensions:	4 x 250 mm
Column material:	PEEK
Max. Pressure:	15 MPa
pH Range:	3 ... 12
Temp. Range:	20 - 60 °C

ORDER INFORMATION

Anion Separation Column ION A04

Catalog No	Description	Dimensions
S004593	Anion Separation Column ION A04	4.0 x 250mm, 5 µm
S008037	Anion Guard Column AGC-2	4.6 x 10mm, 9 µm

Anion Separation Column ION A05



Applications

Conductivity Detection:

- Bromate Chlorite in Aqueous Samples
- Bromate chlorite in drinking water
- Bromate chlorite in drinking water with PCD
- Standard anions after pre-conc in aqueous samples
- Standard anions in aqueous samples

Technical Specifications

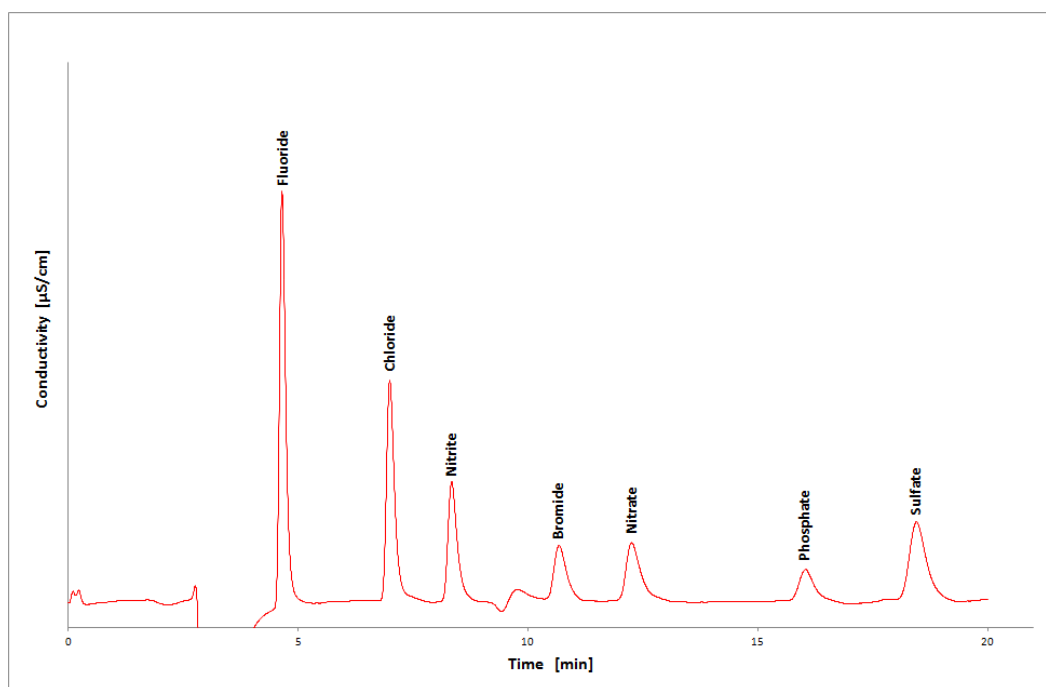
Substrate:	Polyvinyl alcohol
Particle Size:	5 μm
Column dimensions:	4 x 250 mm
Column material:	PEEK
Max. Pressure:	8-11 MPa
pH Range:	3 ... 12
Temp. Range:	20 - 60 °C

ORDER INFORMATION

Anion Separation Column ION A05

Catalog No	Description	Dimensions
S006790	Anion Separation Column ION A05	4.0 x 250mm, 5 μm
S008037	Anion Guard Column AGC-2	4.6 x 10mm, 9 μm

Anion Separation Column ION A06



Applications

Conductivity Detection:

- Phosphite and hypophosphite in a sulfate-oxalate matrix
- Standard anions iodid Cr VI and SCN in aq samples
- Sulphur compounds

Technical Specifications

Substrate:	Polyvinyl alcohol
Particle Size:	9 µm
Column dimensions:	4 x 250 mm
Column material:	PEEK
Max. Pressure:	34 MPa
pH Range:	3 ... 12
Temp. Range:	20 - 60 °C

ORDER INFORMATION

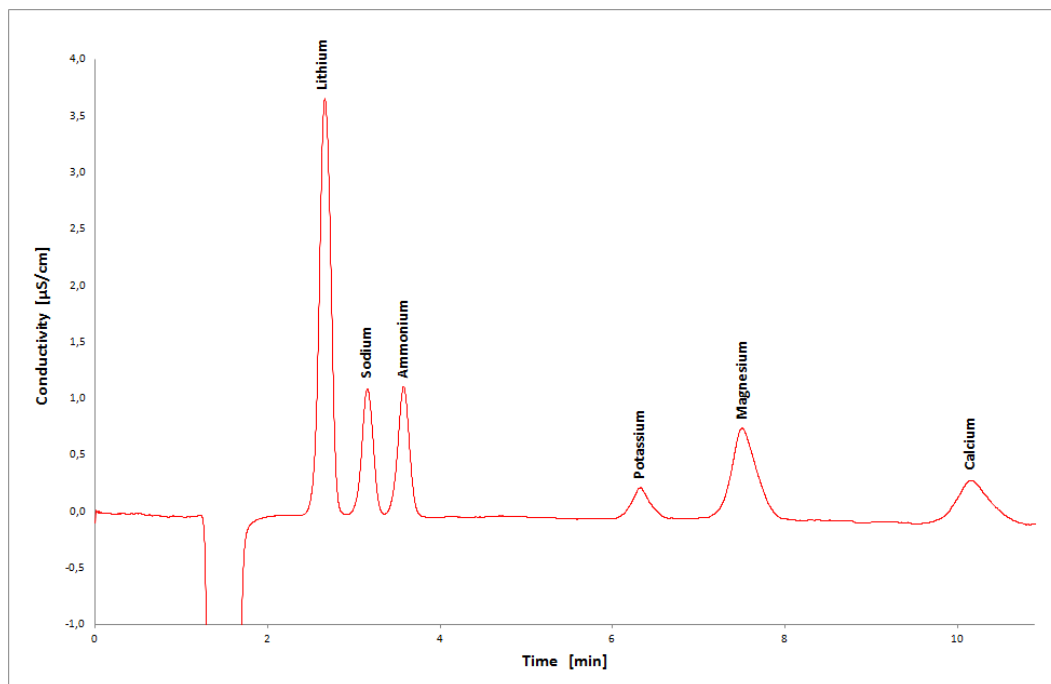
Anion Separation Column ION A06

Catalog No	Description	Dimensions
S007270	Anion Separation Column ION A06	4.0 x 250mm, 9 µm
S008037	Anion Guard Column AGC-2	4.6 x 10mm, 9 µm



IC SEPARATION COLUMNS: CATIONS

Cation Separation Column ION C01



Applications

Conductivity Detection:

- Standard Cations and Aminoalcohols in Aqueous Samples

Technical Specifications

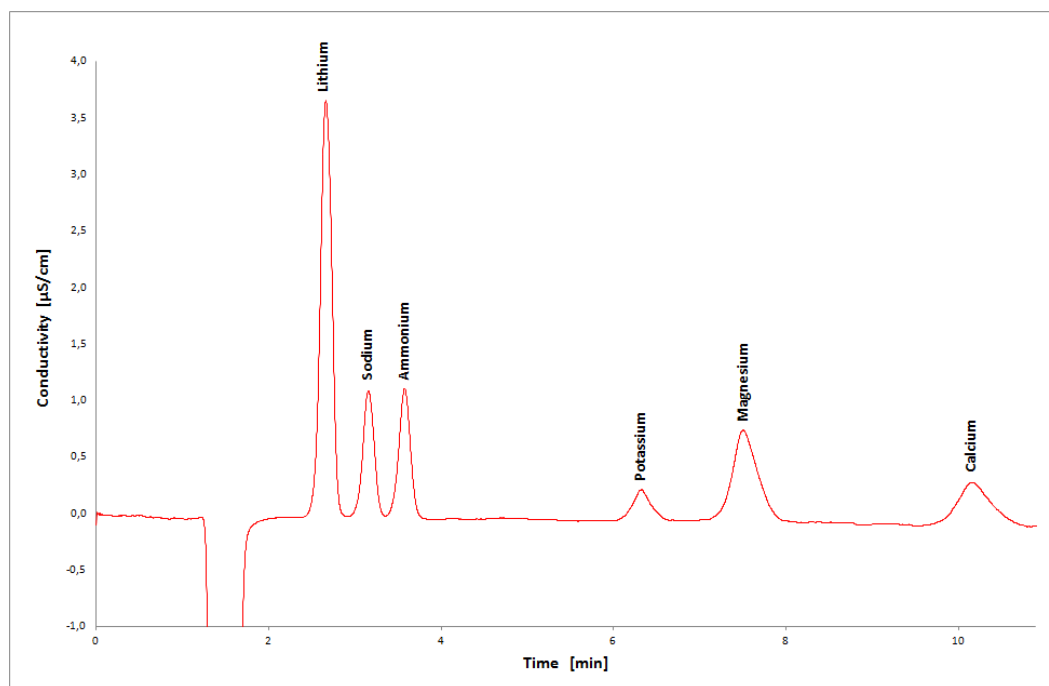
Substrate:	Silica
Particle Size:	5 µm
Column dimensions:	4.6 x 125 mm
Column material:	Stainless steel
Max. Pressure:	34 MPa
pH Range:	2 ... 7
Temp. Range:	20 - 45 °C

ORDER INFORMATION

Cation Separation Column ION C01

Catalog No	Description	Dimensions
S004193	Cation Separation Column ION C01	4.6 x 125mm, 5 µm
S004741	Cation Guard Column GCC-1	3.0 x 20mm, 5 µm (Kit with holder)

Cation Separation Column ION C02



Applications

Conductivity Detection:

- Standard Cations and Aminoalcohols in Aqueous Samples
- Standard cations plus Rb Cs in aqueous samples

Technical Specifications

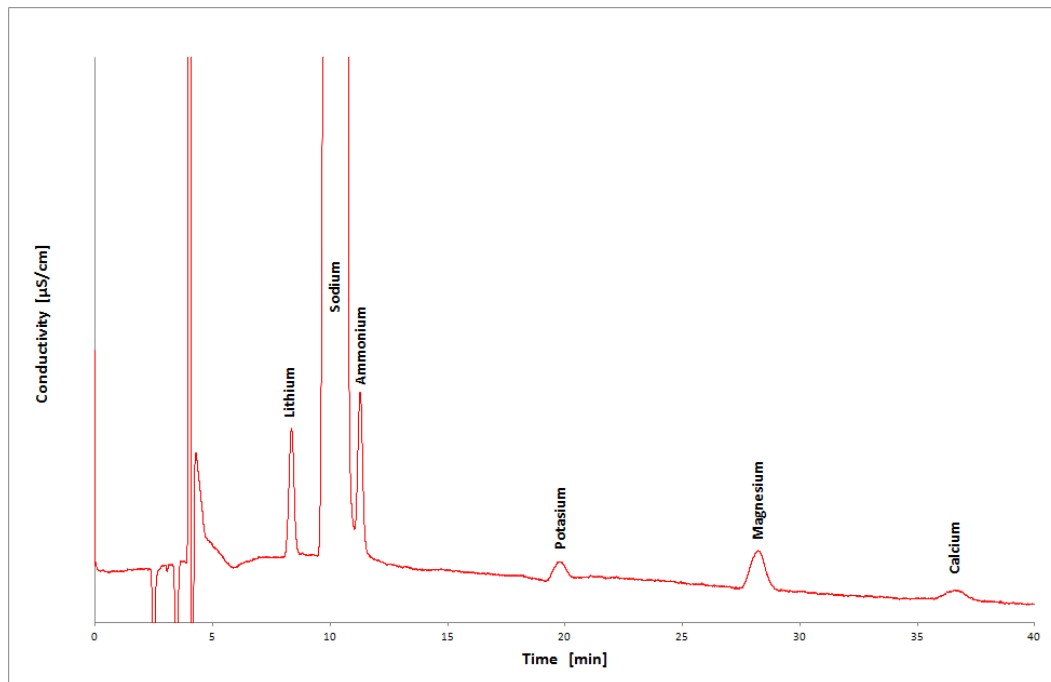
Substrate:	Silica
Particle Size:	5 µm
Column dimensions:	4.6 x 250 mm
Column material:	Stainless Steel
Max. Pressure:	34 MPa
pH Range:	2 ... 7
Temp. Range:	20 - 45 °C

ORDER INFORMATION

Cation Separation Column ION C02

Catalog No	Description	Dimensions
S005349	Cation Separation Column ION C02	4.6 x 250mm, 5 µm
S004741	Cation Guard Column GCC-1	3.0 x 20mm, 5 µm (Kit with holder)

Cation Separation Column ION C05



Applications

Conductivity Detection:

- Ammonium in presence of high sodium concentrations

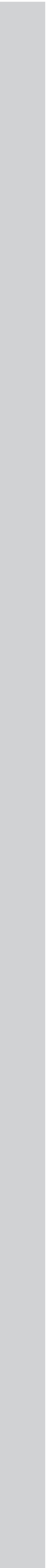
Technical Specifications

Substrate:	Silica
Particle Size:	5 µm
Column dimensions:	8 x 250 mm
Column material:	Stainless Steel
Max. Pressure:	34 MPa
pH Range:	2 ... 7
Temp. Range:	20 - 45 °C

ORDER INFORMATION

Cation Separation Column ION C05

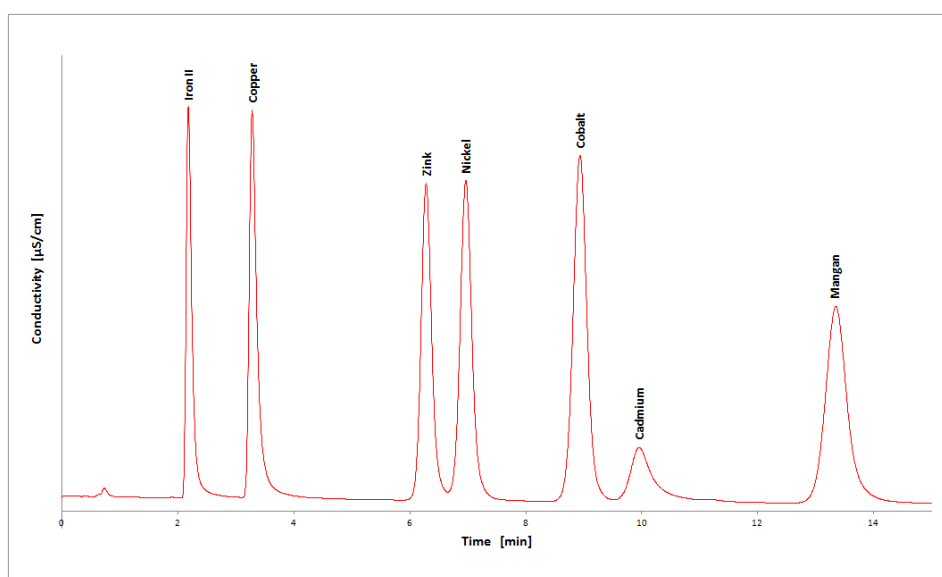
Catalog No	Description	Dimensions
S004193	Cation Separation Column ION C05	8.0 x 250mm, 5 µm
S004741	Cation Guard Column GCC-1	8.0 x 20mm, 5 µm (Kit with holder)



IC SEPARATION COLUMNS: METAL IONS

Cation Separation Column ION T01

The **ION T01** is a silica-based separation column for determination of transition metals.



Applications

UV Detection (Post-Column Derivatization):

- Fe(II)²⁺, Cu²⁺, Zn²⁺, Ni²⁺, Co²⁺, Cd²⁺, Mn²⁺

Technical Specifications

Substrate:	Silica
Particle Size:	5 µm
Column dimensions:	4.6 x 125 mm
Column material:	Stainless Steel
Max. Pressure:	34 MPa
pH Range:	2 ... 8

ORDER INFORMATION

Cation Separation Column ION T01

Catalog No	Description	Dimensions
S005318	Cation Separation Column ION T01	4.6 x 125mm, 5 µm
S006660	Cation Guard Column GCC-2	4.0 x 3.0mm, 5 µm





SYKAM PRODUCTS

S 500 Series HPLC Systems



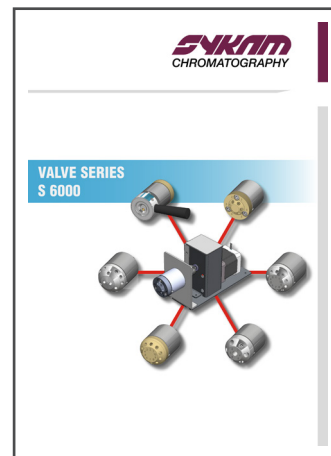
S 600 Series HPLC Systems



S 433 Amino Acid Analyzer



S 6000 Valve Series



Sykam OEM Solutions



S 1525 Preparative Pump



Sykam GmbH

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