XAMS
suppressor

ASUREX-AS1
solution

ASUREX-AR1
cartridges

ASUREX-A100
regenerator

Product	Description	Exchange interval*	Compatible with**
1125-100	XAMS membrane suppressor	12-48 months*	(1.50609.0001)
1810-100	ASUREX-A100 regenerator		(1.50611.0001)
1810-911	ASUREX-AR1 cartridge	6-24 months*	(1.50613.0001)
1810-921	ASUREX-AS1 solution	6-24 months*	(1.50616.0100)

*Product lifetime depends on the analysis situation. Dirty samples will contaminate the XAMS suppressor and reduce its lifetime. Strong eluents, gradient separations, fast flow rates and over night eluent pumping will consume the capacity of the ASUREX-AR1 cartridge faster and reduce its lifetime. The ASUREX-AS1 solution is typically exchanged with the cartridge.
**All items are fully compatible with SeQuant® SAMS and CARS by Merck Millipore (Merck KGaA).

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XAMS

Xenoic™ Anion Membrane Suppressor

Efficient
Maximum signal-to-noise ratio

Flexible
Fits every ion chromatography system

Robust
Designed for years of operation

Xenoic™
ion chromatography

Robust
Designed for years of operation

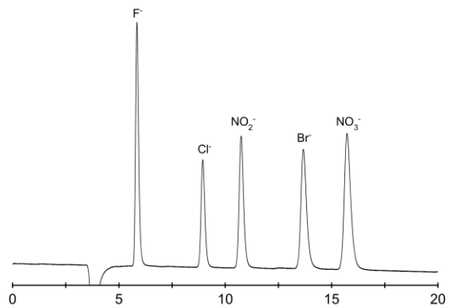
Flexible
Fits every ion chromatography system

Efficient
Maximum signal-to-noise ratio

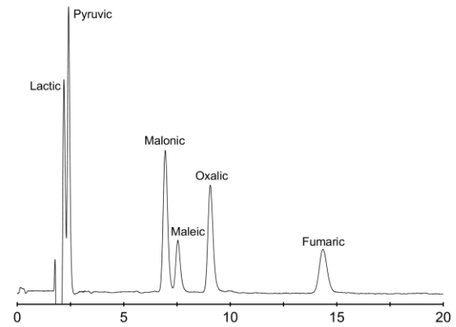
Routine trace level analysis
Benefit from a dramatic increase in signal-to-noise ratio while performing analysis of typical anions with conductivity on any ion chromatography (IC) system. The efficient membrane of the XAMS minimize background and noise by converting highly conductive aqueous IC eluents to neutral solutions using the principle of chemical suppression. At the same time, the XAMS maximize sensitivity of the separated anions by replacing the original eluent counter ions with more conductive hydronium ions. This boost in signal-to-noise ratio enables routine trace level analysis of many anions in the low ppm (mg/L) and ppb (µg/L) range.

Months of unattended operation
XAMS regenerated by ASUREX-A100 constitutes a powerful chemical suppression system without any need to prepare regeneration solutions on a regular basis. Instead the ASUREX-AR1 cartridge provide hydronium ions (protons) for an unattended operation of the XAMS suppressor for several months. Efficient suppression and ultra-low background levels are ensured by the ultra-pure ASUREX-AS1 solution. The background reach close to theoretical levels for most eluents in the typical concentration range and at most flow rates used for anion chromatography columns.

Fits many columns and systems
The XAMS suppressor with ASUREX-A100 automatic regenerator is flexible and provides efficient background suppression together with many brands of columns and instruments as illustrated by the application examples below.



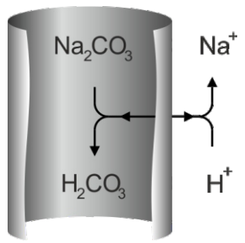
Metrohm instrument with Metrosep A Supp 5 column
Separation of inorganic anions on a Metrosep A Supp 5 column (250×4 mm) using an eluent containing 1.0 mM Na_2CO_3 and 3.2 mM $NaHCO_3$ in water pumped at 0.7 mL/min at 24 °C. Background reduced to ~18 µS/cm by XAMS suppressor with ASUREX-A100 automatic regnerator. Eluent pumping and conductivity detection by Metrohm 761 Compact IC. Injection of 20 µL of F^-, Cl^- (2 mg/L), NO_2^- (5 mg/L), Br^-, NO_3^- (10 mg/L) in water. Metrosep is a trademark of Metrohm AG.

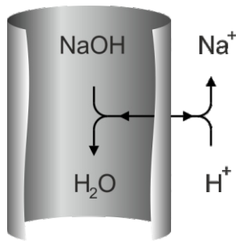


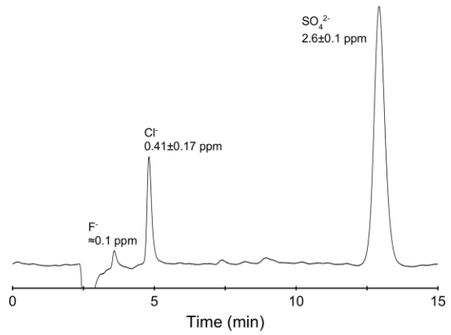
Shimadzu instrument with IonPac AS4A-SC column
Separation of organic acids on a Dionex IonPac AS4A-SC column (250×4 mm) using an eluent containing 5.0 mM Na_2CO_3 and 5.0 mM $NaHCO_3$ in water pumped at 0.8 mL/min at 25 °C. Background reduced to ~22 µS/cm by XAMS suppressor with ASUREX-A100 automatic regenerator. Eluent pumping and conductivity detection by a passivated Shimadzu 10AVP system. Injection of 20 µL of lactic acid, pyruvic acid, malonic acid, maleic acid, oxalic acid, fumaric acid (20 mg/L) in water. Dionex and IonPac are trademarks of Thermo Scientific Inc.

XAMS
Xenoic™ anion membrane suppressor
XAMS is an efficient and robust chemical membrane suppressor that is easy to use. With XAMS in your ion chromatograpyhy system you will reach maximum sensitivity and minimum background for numerous analyses using eluents containing either hydroxide or carbonate. The suppressor accomplish this by removing eluent cations and replacing them with hydronium ions (protons), thereby neutralizing the eluent. The suppressor is thus connected downstream of the separation column, before the detector.

ASUREX-A100
Automatic suppressor regenerator by Xenoic™
The ASUREX-A100 suppressor regenerator is designed to provide optimum conditions for the XAMS anion membrane suppressor. Its extrernal regeration cartridge holds enough protons for months of unattended operation of the XAMS. The continuously circulated ultra-pure AS1 solution acts as a shuttle, delivering protons from the AR1 cartridge to the XAMS suppressor, while returning eluent cations back to the cartridge for permanent deposition.







Hitachi instrument with Shodex IC SI-90 4E column
Quantitative analysis of anions in bottled water using a Shodex IC SI-90 4E column (250×4 mm) and an eluent containing 1.7 mM $NaHCO_3$ and 1.8 mM Na_2CO_3 in water pumped at 1.0 mL/min at 25 °C. Background reduced to ~13 µS/cm by XAMS suppressor with ASUREX-A100 automatic regenerator. Eluent pumping and conductivity detection by a passivated Hitachi LaChrom Elite system. Injection of 50 µL sample. Linear six-point calibration curves 0.2-7 mg/L (ppm) gave the following concentrations; Cl^- 0.41±0.17 mg/L and SO_4^{2-} 2.6±0.1 mg/L (95% confidence interval). F^- was estimated to 0.1 mg/L, but this was below the calibration range. Shodex is a trademark of Showa Denko K.K.