chrozen IC

Ion Chromatography System

Engineered for Precision, Designed for Every Application

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Reliable Performance for Every Ion Analysis

Ion chromatography is an essential analytical technique for the accurate analysis of ionic compounds across environmental, food, pharmaceutical, semiconductor, and energy industries. As laboratories face increasing demands for trace-level detection and reliable analytical performance, the need for flexible and cost-efficient IC solutions continues to grow.

Why ChroZen IC?

ChroZen IC is designed to deliver highly reliable ion analysis through precise eluent control, advanced suppressor technology, and robust system stability. Optimized for trace ion detection, the system provides outstanding sensitivity, reproducibility, and operational reliability even in demanding analytical environments.

With flexible configurations ranging from routine laboratory applications to advanced research and semiconductor analysis, ChroZen IC offers scalable solutions tailored to diverse analytical needs. In addition, efficient consumable management and streamlined system operation help reduce maintenance costs while maximizing laboratory productivity.

Outstanding reproducibility

Engineered for accurate and stable eluent delivery, ensuring outstanding reproducibility across diverse ion analysis applications.

Robust System Stability

Built with real-time system monitoring capabilities to maintain stable operation and consistent analytical reliability.

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High-Sensitivity Trace Analysis

High-performance suppressor technology minimizes baseline conductivity for reliable trace ion detection at ultra-low concentrations.

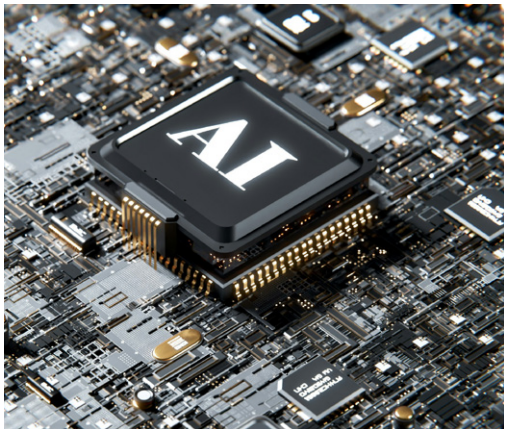
Automated & Efficient Workflow

Flexible automation solutions streamline routine analysis, improving laboratory productivity and operational efficiency.

ChroZen IC Lineup Overview




Model	ChroZen 2100 IC	ChroZen 2120 IC	ChroZen 2160 IC	ChroZen 2260 IC
Valve	Manual	Automatic	Automatic	Automatic
Channel	Single	Single	Single	Dual
Eluent Generator	Optional	Optional	Built-in	Optional
Vacuum Degasser	Optional	Optional	Built-in	Optional
Gas-liquid Separator	Yes	Yes	Yes	Yes (Dual)
Autosampler	Optional	Standard	Optional	Optional
Column Temp. Range	Ambient +5°C to 60°C	5°C to 85°C	5°C to 85°C	5°C to 85°C
Column Temp. Stability	≤0.1°C/h	≤0.05°C/h	≤0.05°C/h	≤0.05°C/h
Conductivity Detection Range	0～50000μS/cm	0～50000μS/cm	0～50000μS/cm	0～50000μS/cm
Conductivity Cell Resolution	≤0.0020nS/cm	≤0.0020nS/cm	≤0.0020nS/cm	≤0.0020nS/cm
Suppressor Max. Pressure	6.0MPa	6.0MPa	6.0MPa	6.0MPa
Recommended Use	Routine lab	QC / Environmental	Trace analysis	Research / Semiconductor



Broad Applications, Reliable Ion Analysis

Modern laboratories increasingly rely on ion chromatography for accurate monitoring of ionic compounds across diverse industrial applications. With the ability to simultaneously analyze multiple ions at trace levels while minimizing sample preparation, IC has become an indispensable tool for laboratories seeking analytical reliability, operational efficiency, and regulatory confidence.

Major Application Fields

Environmental & Water Analysis

High sensitivity and regulatory compliance for water quality monitoring.

- Drinking water
- Wastewater
- Groundwater
- Seawater

Semiconductor & Electronic Materials

Reliable ppb-level ion detection critical for semiconductor manufacturing.

- Ultra-pure water (UPW)
- Process chemicals
- Trace contamination monitoring

Food & Beverage

Selective analysis of ionic compounds with simplified sample preparation.

- Organic acids
- Sugars
- Preservatives
- Food additives

Pharmaceutical & Chemical Industry

Accurate impurity profiling and process quality control.

- API impurities
- Counter ions
- Process monitoring

Energy & Industrial Applications

Reliable analysis of ionic contaminants and process-related ions.

- Battery materials
- Petrochemical products
- Industrial chemicals

Explore the ChroZen IC Series

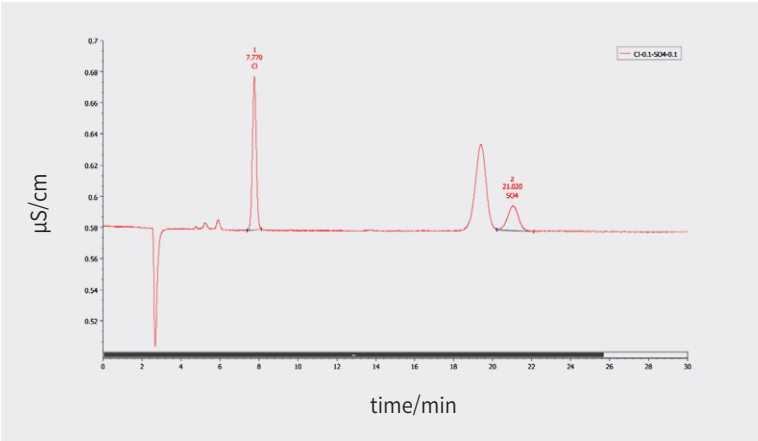
ChroZen 2100 IC

Reliable Performance for Routine Analysis

ChroZen 2100 IC is a compact and cost-effective ion chromatography system designed for reliable routine ion analysis. Featuring stable conductivity detection and a robust suppressor system, it delivers dependable analytical performance with simplified operation. Its compact footprint and straightforward configuration make it an ideal choice for laboratories seeking efficient and economical IC analysis.

Core Benefits

- Compact and economical system
- Stable suppressor-based conductivity detection
- Reliable routine ion analysis
- Easy operation and maintenance



Analysis of chloride in liquid fertilizers
Accurate chloride monitoring is essential for fertilizer quality and agricultural sustainability. ChroZen 2100 IC enables reliable chloride determination, supporting regulatory compliance while helping protect crop performance and soil health.

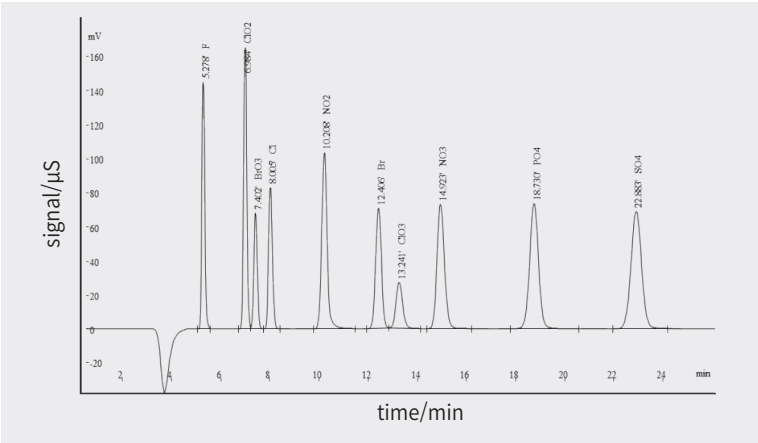
ChroZen 2120 IC

Smart Automation for Enhanced Productivity

ChroZen 2120 IC combines reliable analytical performance with enhanced automation and intelligent monitoring features. With pressure and leakage alarms, baseline correction algorithms, and standard autosampler with automatic dilution capability, the system improves laboratory efficiency and workflow consistency. It is well suited for routine laboratories requiring higher productivity and operational convenience.

Core Benefits

- Smart monitoring and alarm system
- Autosampler included as standard
- Baseline correction and stable performance
- Improved laboratory productivity



Anions in drinking water

After filtration through a 0.22 µm membrane or centrifugation, the samples were analyzed using ChroZen 2120 IC with a ChroZen-AC-3 anion column and 2.0 mM Na_2CO_3 / 8.0 mM $NaHCO_3$ eluent. Combined with bipolar pulse conductivity detection, the system delivered clear peak separation and stable analytical performance.

Explore the ChroZen IC Series

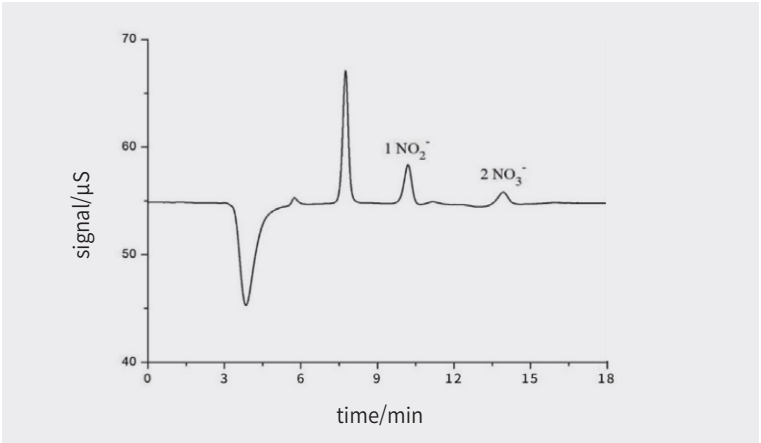
ChroZen 2160 IC

Advanced Sensitivity with Integrated Eluent Generation

ChroZen 2160 IC is designed for laboratories requiring high-sensitivity ion analysis and advanced analytical capability. Equipped with a built-in eluent generator and vacuum degasser, the system enables stable hydroxide or MSA eluent generation and supports gradient applications with minimized baseline noise. Its superior repeatability and low detection limits make it ideal for trace ion analysis and demanding applications.

Core Benefits

- Built-in eluent generator (EG)
- Integrated vacuum degasser
- Ultra-low baseline noise
- High sensitivity for trace ion analysis



Nitrate and nitrite in food

Following international standard methods, including protein precipitation and fat removal, the samples were extracted and purified prior to analysis.
Using ChroZen 2160 IC with a ChroZen-AC-11 anion column and 15.0 mM NaOH eluent, it demonstrates reliable analysis even in complex sample matrices.

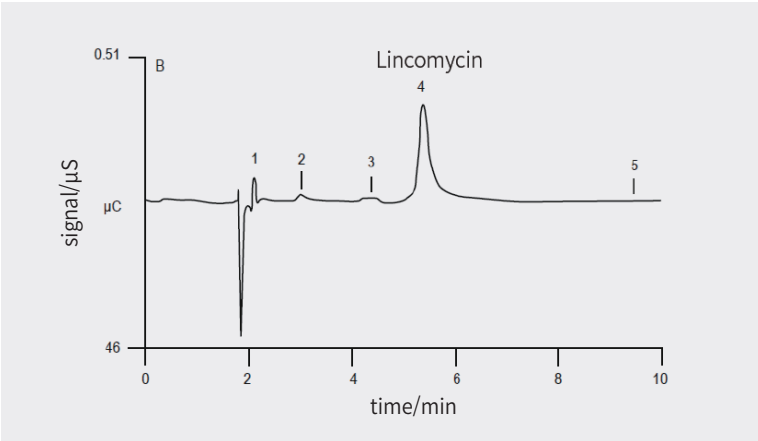
ChroZen 2260 IC

Dual-Channel Flexibility for Advanced Applications

ChroZen 2260 IC is a high-performance dual-channel ion chromatography platform designed for simultaneous anion and cation analysis. With flexible detector compatibility and expandable system configurations, it supports advanced research and multi-technique analytical workflows. Real-time consumable monitoring and intelligent system management further enhance operational efficiency and analytical confidence.

Core Benefits

- Dual-channel anion and cation analysis
- Expandable detector compatibility
- Real-time consumable monitoring
- Flexible platform for advanced applications



Antibiotic Analysis

To determine lincomycin in pharmaceutical samples, the samples were extracted with water, followed by centrifugation and filtration through a 0.22 µm membrane prior to analysis. ChroZen 2260 IC equipped with a ChroZen-AC-3 anion column, 3.6 mM Na_2CO_3 / 4.5 mM $NaHCO_3$ eluent, and bipolar pulse conductivity detection, achieved excellent peak separation and reliable determination of lincomycin under the recommended chromatographic conditions.

ChroZen IC Columns

Designed for Separation Excellence

Superior Column Hardware Engineering

- Low-diffusion hardware design minimizes band broadening
- Optimized frit and flow path structure for improved chromatographic efficiency
- Robust column construction ensures reliable analytical performance

Innovative Stationary Phase Technology

- High-strength resin particles ensure excellent mechanical durability
- Enhanced particle classification technology delivers batch-to-batch consistency
- Optimized porous structure provides high ion-exchange capacity and enhanced separation performance
- Proprietary surface treatment technology improves packing quality and analytical reliability

Optimized Column Packing Technology

- High-pressure resistant column bed design supports stable operation up to 300 bar
- Advanced slurry packing technology ensures uniform bed density and reliable chromatographic performance

ChroZen IC Modules

Suppressor

Our membrane suppressor technology combines ion-exchange membrane and continuous electrolytic regeneration to minimize background conductivity and improve detection sensitivity. The chemically regenerated-free design ensures stable baseline performance and simplified operation.

- Continuously Regenerated Membrane Technology
- Low Background Conductivity
- Stable Baseline Performance
- High Durability & Anti-Contamination Design
- Wide Solvent & System Compatibility

Model	Type	Current	Eluent	Pressure Resistance
ChroZen-AS-7-4	Anion	0–300 mA	CO_3^{2-} / HCO^{3-} / OH^-	6 MPa
ChroZen-CS-5-4	Cation	0–300 mA	MSA	6 MPa

Eluent Generator

The dual-membrane eluent generator produces high-purity KOH and MSA eluents through electrolytic generation, eliminating manual preparation and simplifying system configuration. With pressure resistance up to 35 MPa, reduced dead volume, and support for gradient elution, it enables reliable separation of complex samples while improving analytical accuracy and workflow efficiency.

Autosampler

ChroZen IC Autosampler enables flexible and reliable sample handling with high sample capacity, multiple injection modes, and optional automatic dilution for improved laboratory productivity.

Model	ChroZen 2009S AS	ChroZen 2018S/D AS
Sample Capacity	96 × 14 mL	120 × 2 mL (Standard) Multiple tray as options
Channel Compatibility	Single-channel	Single / Dual-channel
Injection Mode	Full loop	Full loop / Partial / Micro injection
Injection Volume	Adjustable (max. 1000 µL)	1–1000 µL
Standard Sample Loop Volume	25 µL	25 µL
Minimum Injection	Not specified	1 µL
Automatic Dilution	—	1~10000 × Auto Dilution

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