Modular Reagent-Free HPIC System

Product Spotlight

Developed for flexibility, modularity, and ease-of-use, the **Thermo Scientific™ Dionex™ ICS-5000⁺ HPIC™ system** combines the highest sensitivity with convenience. The Dionex ICS-5000⁺ HPIC system brings a new level of resolution and speed to IC analysis with continuous operation up to 5000 psi for both capillary and analytical capillary IC

System Highlights

The Dionex ICS-5000⁺ HPIC system provides performance and flexibility unmatched by any other IC system.

- Continuous operation up to 5000 psi when configured as a Reagent-Free™ IC (RFIC™) system
- Eluent generation permits 18 months of continuous operation in capillary mode
- Always ready, requiring minimal calibration and equilibration times when continuously as a capillary system
- Consumes 5.25 L of water per year in capillary mode, greatly reducing eluent disposal costs
- Increased productivity with fast run times using high flow rates
- Improved separations and higher resolution with small-particle columns
- Ultimate sensitivity with IC x IC (2D-IC)
- Superior specificity with IC-MS/MS
- Outstanding flexibility and configurability with single and dual systems, wide range of detector operating and IC x IC (2D-IC) formats
- Easy configuration with IC Cube™ capillary consumables cartridges

Application Range for the Dionex ICS-5000⁺ System

Format	Capillary	Microbore	Standard Bore
Flow Rate Range	0.001–0.100 mL/min in 0.1 µL/min increments Typical range: 5–20 µL/min	0.001–10.000 mL/min in 0.001 mL/min increments Typical range: 0.2–0.5 mL/min	0.001–10.000 mL/min in 0.001 mL/min increments Typical range: 1–2 mL/min
Max. Pressure	5000 psi (eluent generation) 6000 psi (pump pressure range)	5000 psi (eluent generation) 6000 psi (pump pressure range)	5000 psi (eluent generation) 6000 psi (pump pressure range)
Column i.d.s Supported	0.2–0.6 mm	1–3 mm	3–7 mm
Yearly Eluent Usage (continuous operation)	5.25 L (10 µL/min)	131 L (0.25 mL/min)	525 L (1 mL/min)

Did You Know?
RFIC systems use deionized water to electrolytically generate precise eluent concentrations, and to regenerate suppressors, trap columns, and carbonate removal devices. This improves reproducibility, reduces labor, and limits contamination.

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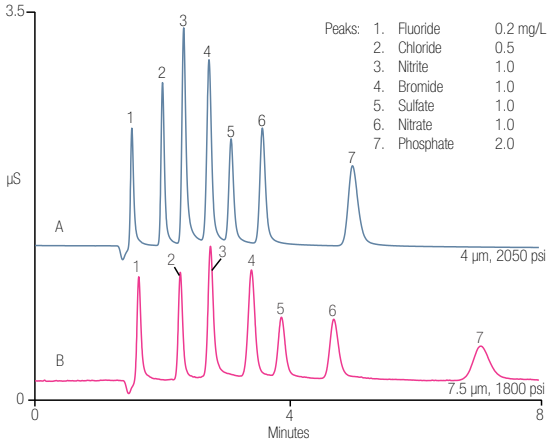
Small-Particle Columns for High Resolution

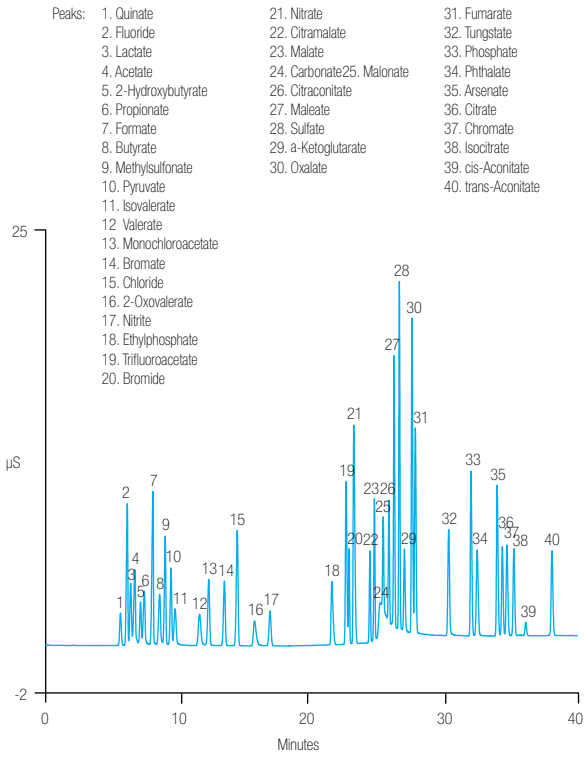
The high-pressure Dionex ICS-5000^{+} system supports columns with smaller packing particles (e.g., 4 µm) that increase separation resolution without increasing separation time.

- High pressure capability permits use of columns with small diameter particles
- Superior chromatographic resolution, improving quantification accuracy for complex samples
- Find peaks you've never seen before—separates previously unresolved peaks without increasing analysis time

Comparison of resolution of seven inorganic anions using Thermo Scientific™ Dionex™ IonPac™ A) AS18-4µm 0.4 × 150 mm and B) AS18-Fast 0.4 × 150 mm columns. The small particle column increases response and produces sharper peaks with high column efficiency.



Gradient Separation using a Dionex IonPac AS11-HC-4µm, 2 mm column, showing the separation of 40 anions.

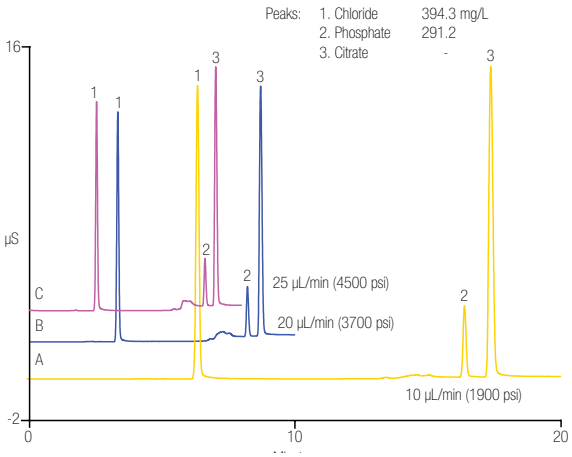


Optimized Separations for Fast Throughput

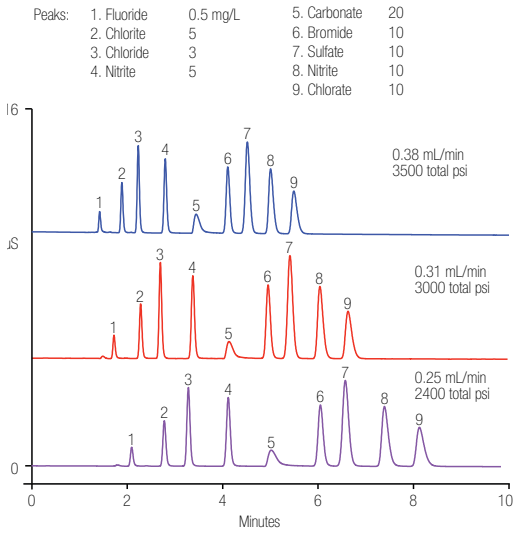
Optimizing column dimension and increasing flow rate can dramatically decrease run times while maintaining chromatographic resolution. Fast IC columns with decreased lengths, higher pressure tolerances, and/or smaller particle sizes facilitate separation up to 2x faster than conventional columns.

- Improve throughput with Fast IC columns by a factor of 2x
- Increase analytical productivity
- Deliver results faster for rush samples

Fast determinations of inorganic anions and citrate in a sports beverage using HPIC and the Thermo Scientific™ Dionex™ IonSwift™ MAX-200 capillary column.



Determination of nine inorganic anions in 6 min using a Dionex IonPac AS18-4µm, 2 × 150 mm anion-exchange column at a higher flow rate.



Did You Know?

HPIC columns provide high-efficiency and fast separations, maximizing information and throughput. You can choose the optimum balance between speed and resolution.

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Product Spotlight

For more information,

visit www.thermoscientific.com/ICS5000+ or

email us at analyze@thermoscientific.com

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