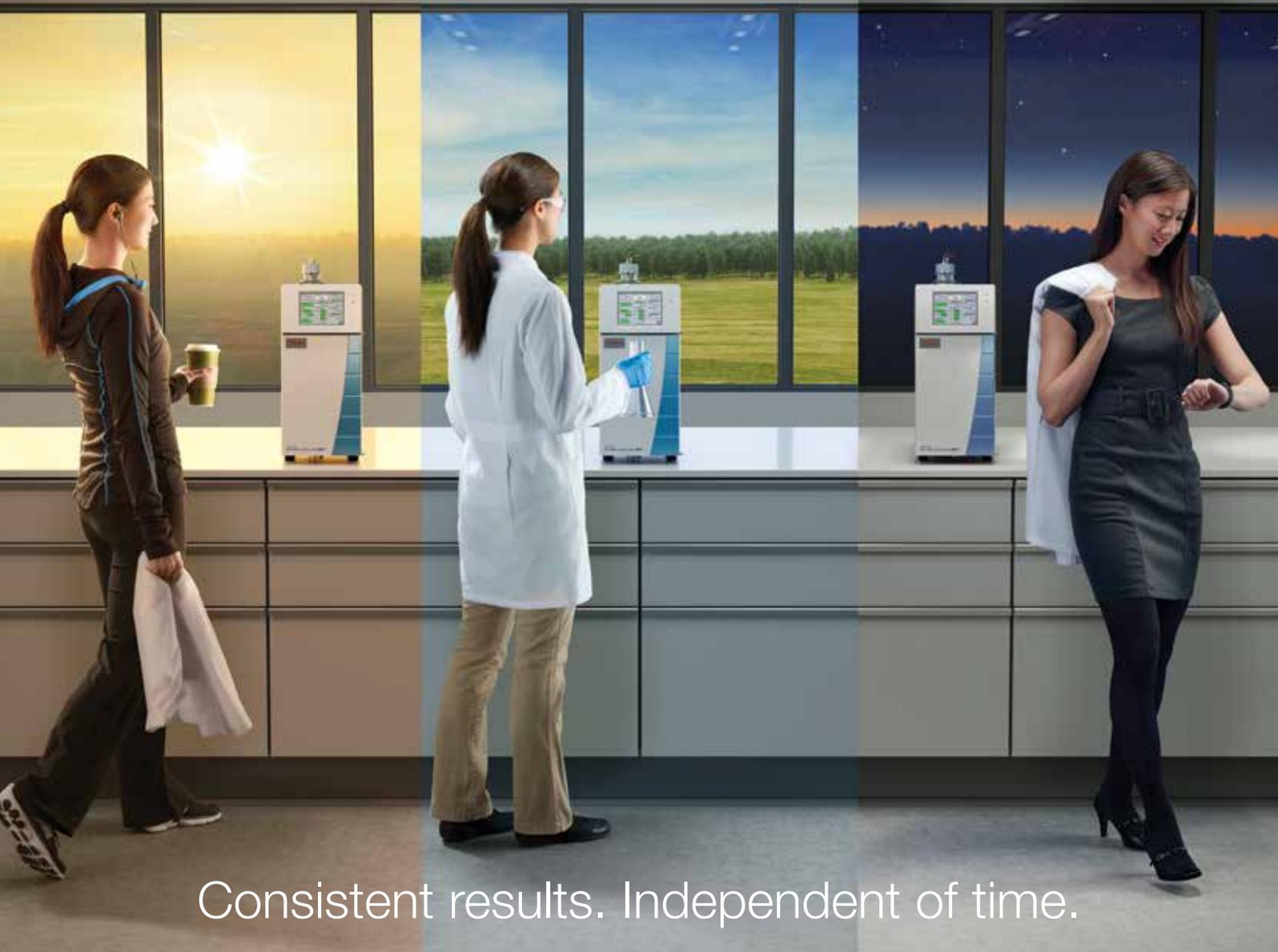


thermo scientific



Consistent results. Independent of time.

Thermo Scientific Dionex Capillary Ion Chromatography Systems

Always ready

ThermoFisher
SCIENTIFIC

Focus on results. Uninterrupted.

In today's laboratory, it is critical to maintain productivity in order to stay ahead of the curve. The ability to generate sample results quickly and accurately is paramount and your laboratory may need to operate around the clock to produce those results. What if your ion chromatograph operated on the same schedule, without the need to take any breaks?

Introducing Capillary Ion Chromatography (IC)

Capillary IC is a technique, developed solely by Thermo Fisher Scientific, which is available as a feature on both the Thermo Scientific™ Dionex™ ICS-4000 Capillary HPIC™ and the Thermo Scientific™ Dionex™ ICS-6000 HPIC™ systems. When using capillary IC, column size, injection volumes, and flow rates are reduced by a factor of 25 to 100, allowing your IC system to:

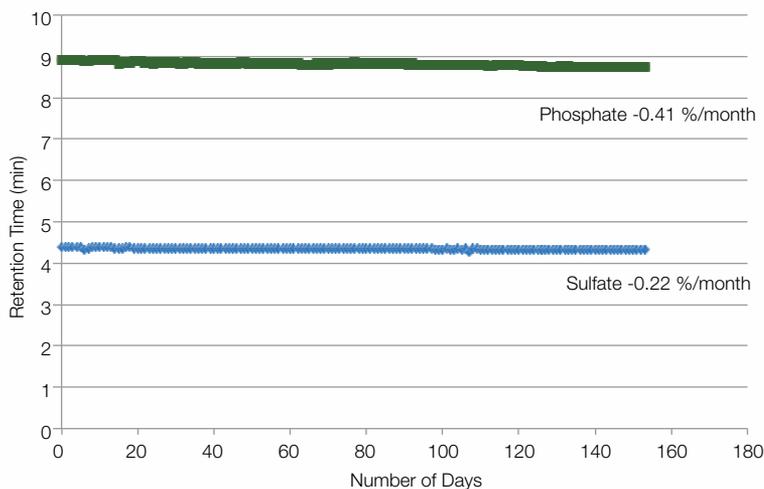
- **Be always ready** — Start runs quickly by minimizing calibration and equilibration times with an always ready, truly on-demand IC system that comes with versatile detector options.
- **Reduce the cost of system operation** — The lower flow rate of capillary IC systems reduces eluent consumption and produces less waste, reducing disposal costs.



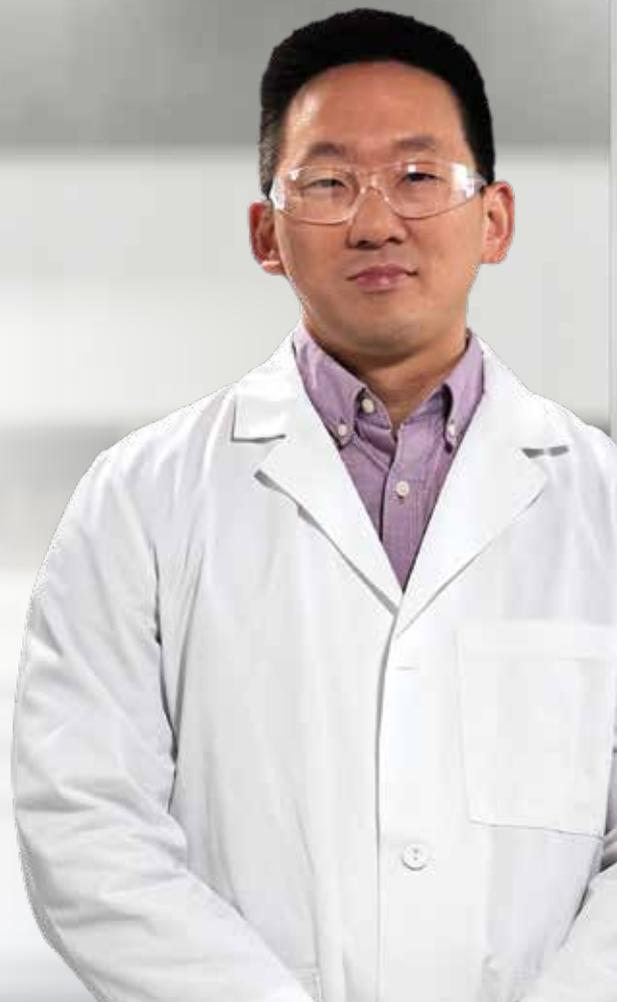
Capillary IC can be used for most ion analysis applications, excluding those for polyacrylate treated water, borated water, metals, and oligosaccharide analysis.

	Analytical	Capillary
Column i.d.	4 mm	0.4 mm
Flow Rate	1.0 mL/min	0.010 mL/min
Injection Volume	40 μ L	0.1 μ L
Eluent Consumption/Waste Generated	43.2 L/month	0.432 L/month
EGC Cartridge Lifetime (at 39 mM)	5 Months	18 Months

Always ready



Retention time stability data for sulfate and phosphate in a synthetic drinking water sample. Even with 24/7 system operation, capillary IC systems maintain retention time stability for extended periods of time.



24/7 system operation

When using capillary IC, the flow rate is just 10 $\mu\text{L}/\text{min}$, so only 15 mL of water is consumed per day. That is just 5.2 L per year. As a result, the system can operate with continuous eluent flow, eliminating the need to wait for equilibration.

High-pressure capillary IC

Capillary IC systems operate at up to 5000 psi to allow the use of 4 μm particle-size IC columns, which are available in 150 or 250 mm lengths. The 150 mm-length columns decrease run times, while maintaining chromatographic resolution when compared to 10 μm -particle columns. The 250 mm-length columns offer improved peak resolution.

Easy-to-install finger-tight fittings

Achieving consistent low-dead-volume connections is critical for maintaining optimum chromatographic efficiency. Conventional fittings can increase column broadening by incorrect positioning of the ferrule, leading to reduced efficiencies and poor peak shapes. Thermo Scientific™ Dionex™ IC PEEK Viper™ fittings provide a consistent finger-tight connection with virtually zero dead volume and require minimal training time.

Reduce the cost of system operation



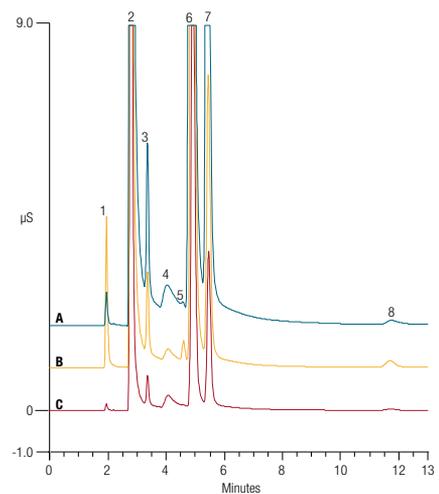
Reduce eluent and waste disposal costs

When operated as a Reagent-Free Ion Chromatography (RFIC™) system, the eluent generation cartridge lasts for 18 months under continuous operation mode. As a result, waste production is dramatically reduced, which, in turn, reduces disposal costs. This feature can be particularly beneficial for laboratories that analyze radioactive or highly toxic samples.

Versatile Detection Capabilities

Our capillary IC systems allow you to use the detector of your choice, including suppressed conductivity, electrochemical, and/or UV-Vis detection. For greater sensitivity or chromatographic peak mass confirmation, couple your capillary IC system with one of a wide range of mass spectrometry (MS) systems.

Peaks:	A	B	C	(mg/L)
1. Fluoride	0.5	2.2	0.1	
2. Chloride	222.8	105.6	44.5	
3. Nitrite	5.8	3.0	1.1	
4. Carbonate	-	-	-	
5. Bromide	0.7	1.8	0.4	
6. Sulfate	154.1	70.9	30.8	
7. Nitrate	61.3	22.1	12.1	
8. Phosphate	2.1	2.6	0.7	



Determination of inorganic anions in undiluted wastewater samples using a capillary IC system in combination with a Thermo Scientific™ Dionex™ IonPac™ AS18-4µm capillary column and a small injection valve (100 nL) in 13 min.

Gain more time for data analysis

Experience the full capabilities of capillary IC by running it using the Thermo Scientific™ Chromeleon™ 7.2 Chromatography Data System (CDS) software. Our software not only delivers a superior user experience, but also boosts productivity. The Chromeleon CDS software provides full control of both the Dionex ICS-4000 and the Dionex ICS-6000 Capillary HPIC systems. The Chromeleon CDS software features:

- Cobra™ Peak Detection – automated and optimized integration of your chromatogram with the Cobra Peak Detection algorithm
- Simplified administration – centralized administration of licenses, users, and network resources
- Thermo Scientific™ AppsLab Library of Analytical Applications - online repository of searchable chromatography methods for multiple industries
- Capillary IC-MS analysis using a single software platform, which is also the first CDS to control MS instruments



We support and recognize you and your mission to ensure that the world is healthier, cleaner and safer in everything we do.

This is why, since 1975, we have dedicated ourselves to the development and innovation of ion chromatography (IC) technologies including instruments, separation chemistries and software. We also understand that when you purchase an IC, you are purchasing a relationship as well. We strive to support the flow of your laboratory by sharing what we've learned as an industry leader, acting as trusted advisors and providing the level of service and support you need.



www.thermofisher.com/CapillaryIC

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