

HIGH QUALITY, RELIABLE ION ANALYSIS SOLUTIONS FOR EVERY IC CHALLENGE



# IC INSTRUMENTS MADE FOR PROBLEM SOLVERS

As IC chromatographers, you are problem solvers, ensuring that everyone has access to healthy, clean and safe products and resources. Your IC instruments support you in this mission. The instruments in your laboratory must work seamlessly together to solve complex problems. Ion chromatography systems are highly interconnected within your laboratory ecosystem and must work reliably to keep your mission intact.

We offer an unsurpassed combination of products, support and solutions to address your current application needs and give you the confidence that you will be prepared to meet tomorrow's challenges. Our products deliver the performance you have come to expect from a company that has been setting the standard for over 40 years. We are committed to providing you with the right tools to tackle the analytical demands that come your way.

## Thermo Scientific™ Dionex™ Aquion™ IC System

Simple ion analysis

Reliable system for simple ion analysis,  
straightforward operation and great value



## Thermo Scientific™ Dionex™ Integrion™ HPIC™ System

Routine ion analysis

Highly accessible and efficient system for all user levels



## Thermo Scientific™ Dionex™ ICS-4000 Capillary HPIC™ System

Always ready ion analysis

Always ready system operation so you can focus on results, uninterrupted



## Thermo Scientific™ Dionex™ ICS-6000 HPIC™ System

Routine and/or advanced ion analysis

Truly modular, highly configurable system designed to give you the freedom to run both simple and complex analyses



# THE DIONEX AQUION IC SYSTEM

The Dionex Aquion IC system provides a reliable foundation for IC analysis. Built on a compact platform with the aim of maintaining low operating costs, it uses proven technologies to deliver reliable results.

*"I run a small environmental testing lab that performs simple ion analysis on drinking water samples. We need a system we can rely on when we need to generate results."*





## FEATURES

### Proven reliability

Integrated, preconfigured, factory plumbed and tested for immediate productivity

### Dual-piston pump design

Reduces pulsations allowing high-sensitivity detection and excellent flow rate, accuracy and precision

### Multiple suppressors

Electrolytic or chemical suppression

### Column format support

Flexible flow rate that supports 2, 3, 4 and 5 mm column formats

### Cost-effective

Ultimate in productivity for low cost per analysis while maintaining high-sensitivity results

### Protect your investment

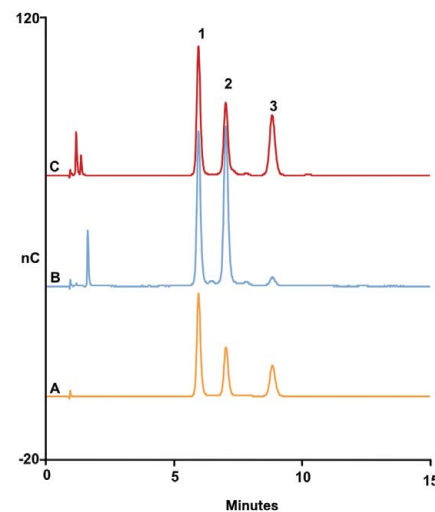
Switch to an entirely different application within 2 hours without any need for operator input using automated column switching

# THE DIONEX INTEGRION HPIC SYSTEM

The Dionex Integrion HPIC system is designed for those running the same method for an extended time, offering the best performance and reliability at the lowest ongoing cost.

*"As the owner of a specialist IC laboratory, I require impeccable routine performance in a compact instrument. Changing market needs mean that my current instrument may no longer be suitable for me one day. Although I can't predict the direction that the market will evolve over the next five years, I need to avoid having to buy new instruments. I need both performance and protection for my new IC."*

## Simple Sugar Analysis in Fruit Juices



Sample: A: Food Sugars Standard  
B: Apple Juice  
C: Orange Juice

Sample Prep.: 10,000x dilution with  
deionized water, filter, 0.2  $\mu\text{m}$

Peaks:  
1. Glucose  
2. Fructose  
3. Sucrose



## FEATURES

### Easy to use

Intuitive, flow-path-based plumbing with simplified fittings

### Local language support

Detachable tablet that speaks your language for accelerated learning

### High-pressure capable

Allows you to use 4  $\mu\text{m}$  columns to optimize chromatographic efficiency with shorter sample run times and/or improved resolution

### Consumables and instrument performance monitoring

Enables proactive system wellness maintenance using Unity™ Remote Services and automated consumables tracking with the Consumables Device Monitor\*

### Troubleshooting videos

Convenient troubleshooting videos to maintain instrument uptime

### Reliable and reproducible results

Using automated eluent generation (EG), obtain precise, accurate results from day to day, operator to operator and lab to lab

### Upgradeable components

Detectors

Electrolytic sample preparation and water purification

Electrolytic suppression

Auxiliary valves

Low pressure degas

RFID\* consumables tracking

Eluent generation

Front panel control

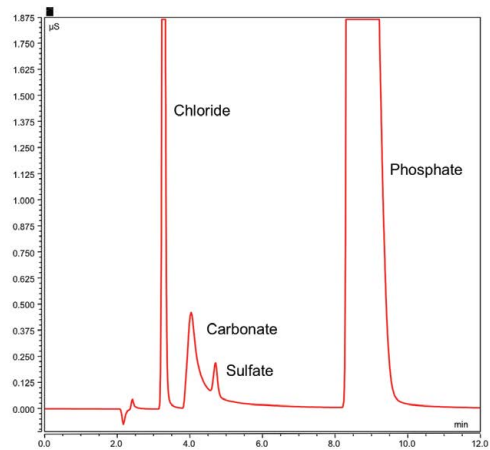
\* The wireless transmitter devices may not be authorized as required by the laws of your country; and these features will not be, offered for sale or lease, or sold or leased, until proper authorization is obtained. Please consult your local sales representative for details.

# THE INTEGRATED DIONEX ICS-4000 CAPILLARY HPIC SYSTEM

The integrated Dionex ICS-4000 Capillary HPIC system is an always ready IC system, which enables 24/7 sample analysis in addition to decreasing reagent consumption.

*"A lot of our costs come from waste disposal because of our remote location, so we need a system that generates minimal waste."*

Anions in Powerplant Water by CapIC







## FEATURES

### Always ready analysis

Start runs quickly by minimizing calibration and equilibration times with a system that is always on

Prolong system lifetime by avoiding abrupt startups and shutdowns that can strain your system

### Analyze more with lower sample volume

Inject as little as 0.1  $\mu$ L of sample, even when performing trace-level analysis

### Lower cost of operation

Use less eluent and produce less waste, ultimately reducing disposal costs, using the lower flow rate of capillary IC

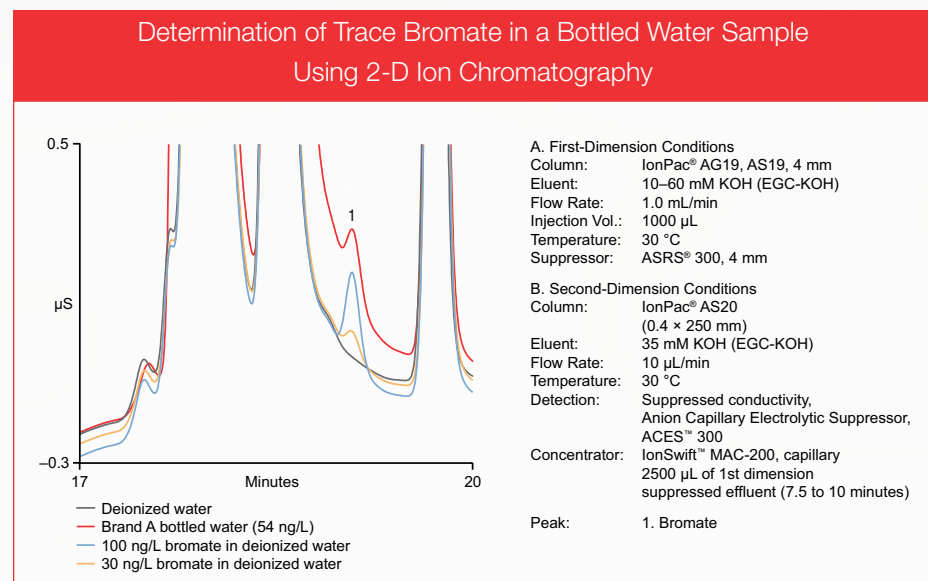
### High pressure capable

Allows you to use high-efficiency 4  $\mu$ m-particle-size columns to optimize chromatographic efficiency with shorter sample run times and/or improved resolution

# THE DIONEX ICS-6000 HPIC SYSTEM

The Dionex ICS-6000 HPIC system is top-of-the-line and ultimate in performance. It is designed to address the full range of IC applications, so you can tackle both the most basic analyses and the most complex challenges with the confidence that you have the best system available.

*"I oversee a contract testing lab that receives samples with requests for analyses that can vary wildly from one day to the next. I may have to determine routine ions one day and trace level water contaminants the next. I need a system that will give me the flexibility to handle whatever samples are sent my way."*





## FEATURES

### Unmatched application range

Configure your modular Dionex ICS-6000 IC system as a hybrid system or with dual configurations that have a wide variety of formats available:

Standard bore (3–7 mm ID)

Microbore (1–3 mm ID)

Capillary (0.2–0.6 mm ID)

### Versatile detection capabilities

Use the detector of your choice—suppressed conductivity, electrochemical, UV-vis absorbance, or mass spectrometry

### Accelerate your productivity

Perform simultaneous analyses of one, or even two different samples, with a dual-channel configuration

### Local language support

Detachable tablet that speaks your language for accelerated learning

### Solve complex analysis challenges

Address a full range of IC applications from trace using 2-Dimensional IC to complex carbohydrate analysis using high-performance anion exchange chromatography coupled with pulsed amperometric detection (HPAE-PAD)

### Consumables and instrument performance monitoring

Enables proactive system wellness maintenance using Unity Remote Services and automated consumables tracking using Consumables Device Monitor

### High pressure capable

Allows you to use high-efficiency 4  $\mu\text{m}$ -particle-size columns to optimize chromatographic efficiency with shorter sample run times and/or improved resolution

# START YOUR IC ANALYSIS OFF ON THE RIGHT FOOT

The quality of your sample preparation sets the tone for the rest of your laboratory operations, from your workflow to the integrity of your results. Busy laboratories, like yours, deal with samples that come in every form, from solid to liquid to gas. The right sample preparation techniques provide reliable and accurate results. You need automated solutions that seamlessly fit into the flow of your lab and eliminate time-consuming manual sample preparation methods.

## Matrix elimination

Remove interfering matrix ions and organic contaminants using off-line Thermo Scientific™ Dionex™ OnGuard™ II Cartridges, Thermo Scientific™ Dionex™ InGuard™ II Cartridges and Thermo Scientific™ Dionex™ IonPac™ Guard Columns



## Automated dilution

Eliminate time consuming manual steps with the Thermo Scientific™ Chromeleon™ AutoDilution feature combined with the Dionex AS-AP Sample Conductivity and pH Accessory to detect and automatically adjust samples that fall out of calibration range



## Air monitoring

URG Air Samplers can easily collect, prepare and quantify ionic pollutants on a continuous basis by separating and collecting volatiles and particulate matter

## Combustion IC

Automates halogen and sulfur content analysis in difficult-to-process samples such as ores, coal, printed circuit boards, solders, plastics and petroleum products



# CONSERVE RESOURCES BY AUTOMATING THE FLOW OF YOUR LAB

Your time is valuable and so is the time of your technicians. The more your laboratory instruments can work for you, the better. This is why we've developed a full portfolio of autosampler technologies to automate processes. From simple injections to complex sample preparation, there is a solution to complement the needs of your lab.

Our autosampler technologies range from high-precision-at-a-low-cost to high-speed, high-volume technologies that can double throughput using simultaneous injection techniques. Select the level of automation your IC application requires to maintain the flow of your lab and conserve valuable technician resources.



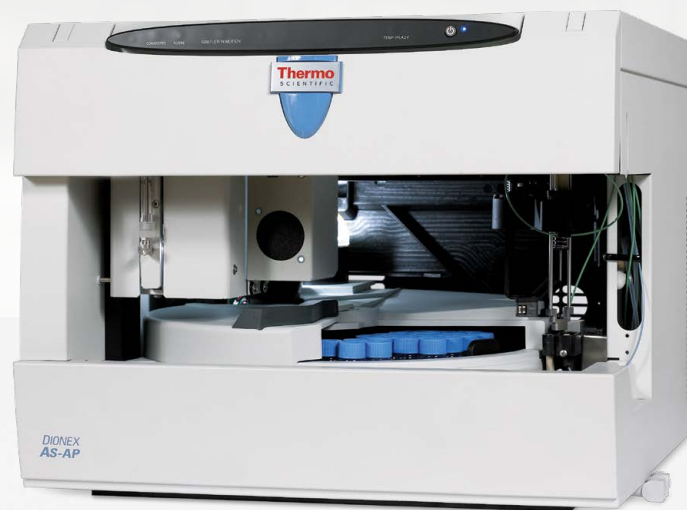
Thermo Scientific™ Dionex™ AS-HV

Simplifies low-level analysis with state-of-the-art design, customizable fluidics and trace-compatible materials



Thermo Scientific™ Dionex™ AS-AP

Elevates workflow with a full suite of automation capabilities that are flexible, customizable and easy to use



Thermo Scientific™ Dionex™ AS-DV

High-end instrument at an affordable price that does not sacrifice performance  
Cost-effective solution for the water analysis laboratory



# COLUMN CHEMISTRIES THAT SET OUR SYSTEMS APART

At the heart of our ion chromatography systems is a unique set of column chemistries that provide high selectivity and efficiency with excellent peak shape and resolution. You will see peaks you have never seen before using our wide variety of column options that accommodate a wide range of applications.

Our polymeric columns address a variety of chromatographic separation modes including ion exchange, ion exclusion, reversed-phase ion pairing and ion suppression. In addition, the Virtual Column Separation Simulator is like installing a virtual IC expert in your lab. With the ability to predict chromatography under a wide range of experimental conditions and immediately reveal the effects of varying eluent compositions and temperatures, it is an invaluable tool that gives you the confidence to choose the right column for your method.



## FEATURES

### Quality guarantee

We develop, manufacture, test and perform quality control on all of our IC columns

### Wide variety of column options

The breadth of our column portfolio allows us to guarantee the right chemistry for your sample

### Flexible format

Standard bore, microbore and capillary formats for ultimate application flexibility

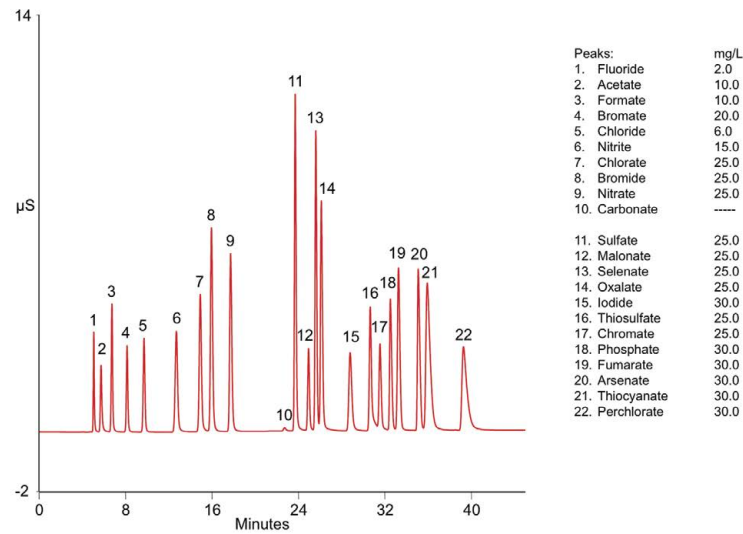
### Virtual Column Separation Simulator

Models IC separations for real-world samples using known retention data and IC-specific retention algorithms, allowing you to confidently choose the right column for your method

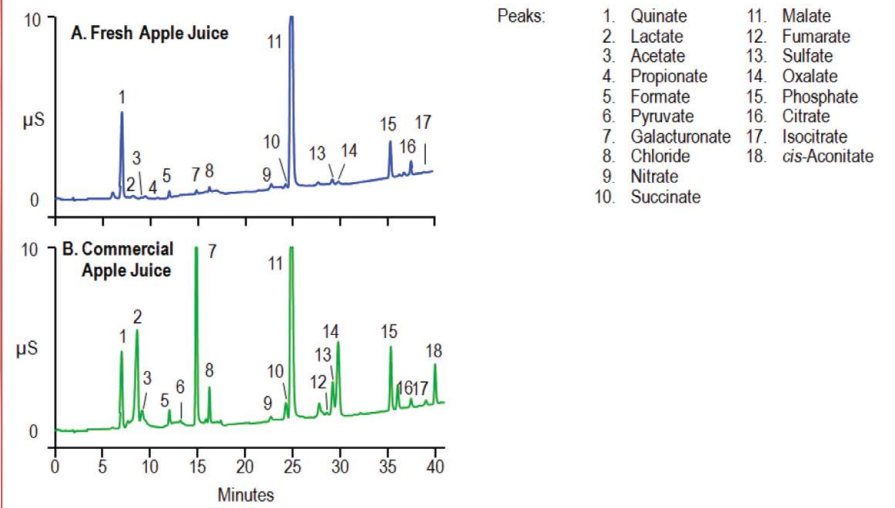




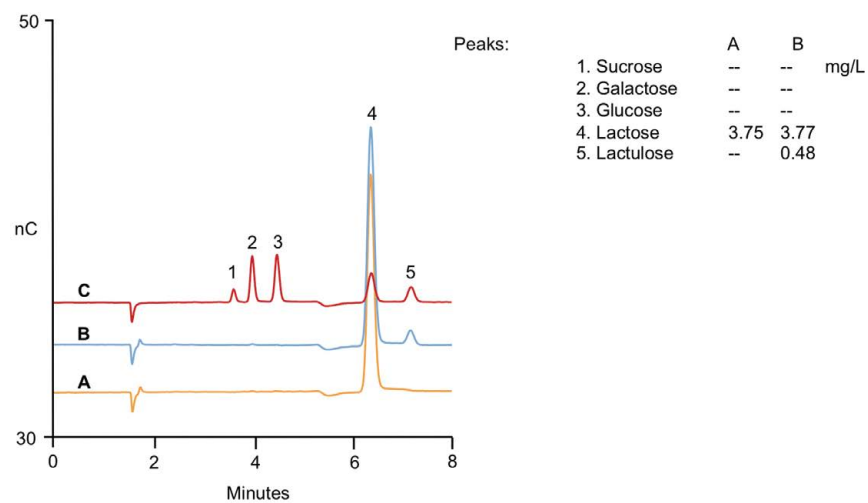
Analysis of 22 Environmental Anions  
Dionex IonPac™ AS19-4 µm (4 x 250 mm)



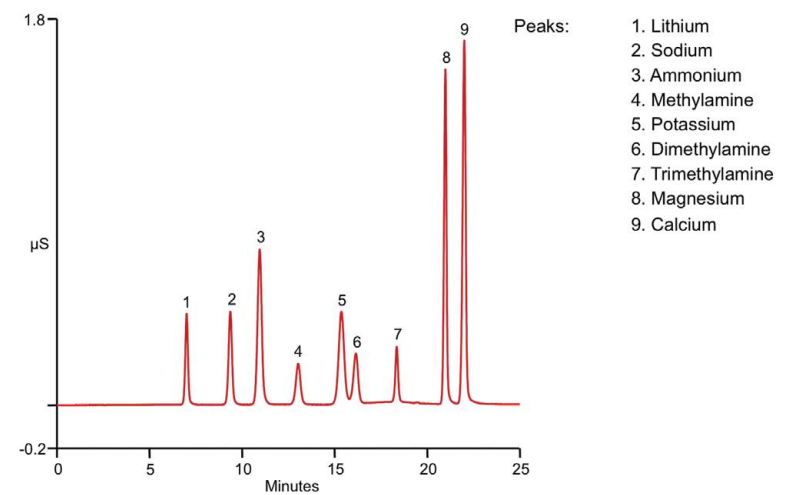
Separation of Organic Acids in Apple Juice  
Dionex IonPac AS11-HC Column (4 x 250 mm)



Analysis of Lactose and Lactulose in Raw Unpasteurized Milk in <8 min  
Dionex CarboPac™ SA10-4 µm



Separation of Six Common Cations and Methylamines  
Dionex IonPac CS19 Column (2 x 250 mm)

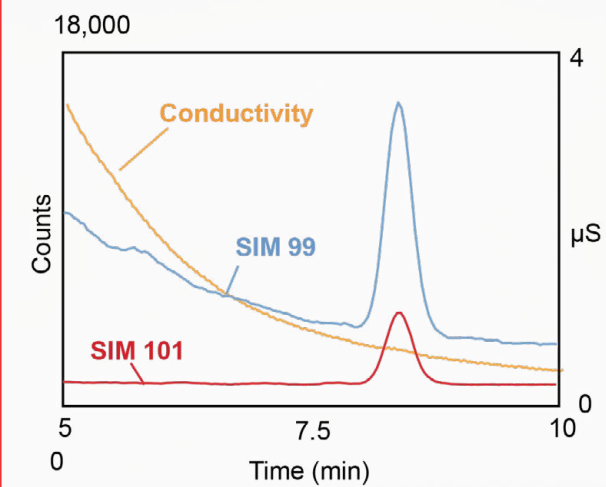


# ENHANCED DETECTION FOR CHALLENGES THAT ARE BIGGER THAN IC

Complex sample analysis requires both sensitive detection and removal of any matrix interferences. In addition to those challenges, distinguishing between chemical forms of an element is critical for food, environmental and pharmaceutical applications because different forms of an element can exhibit different physicochemical properties, including varying toxicities.

To meet these challenges, we provide single-vendor solutions that combine the unique properties of ion chromatography with technologies like Mass Spectrometry (MS) or Inductively Coupled Plasma Mass Spectrometry (ICP-MS).

Perchlorate Detection in Drinking Water using IC-MS



### Ion Chromatography - Inductively Coupled Plasma Mass Spectrometry (IC-ICP-MS)

Combines the sensitive elemental detection of inductively coupled plasma mass spectrometry with the metal-free fluidic flow path of IC for elemental speciation analysis to acquire the necessary chemical information for speciation analysis

### Ion Chromatography - Mass Spectrometry (IC-MS)

Combines the sensitivity and selectivity of IC with the specificity and sensitivity of MS and is optimized for low mass ions using a single software platform



# SPEND MORE TIME ON SCIENCE AND LESS TIME MANAGING DATA

A Chromatography Data System, or CDS, is vital for efficient and reliable operation of any modern chromatography laboratory. It should manage all the analytical processes from instrument control to raw data storage and processing to generating results.

Your laboratory environment is different from all others. You have your own unique challenges, and we want those challenges to be your science, not your data handling system. Our mission is to provide a CDS that delivers a superior user experience that fits in with your existing chromatography workflows and gives you better results, faster.

Whether your workflow needs are basic or complex, from fully compliant routine analyses to totally flexible research workflows or anything in between, our Chromeleon CDS software can be configured to cover them all.





## FEATURES

### A CDS For MS

Perform both IC-MS and IC analyses with the Chromeleon CDS software, the first CDS software to control MS instruments

### Thermo Scientific™ eWorkflow™ Downloads

Easy method setup with eWorkflow downloads for error-free sequence setup from a single online location

### Cobra™ Peak Detection

Get results faster with automated and optimized integration of your chromatogram with the Cobra Peak Detection algorithm

### Simplified administration

Centralize administration of licenses, users and network resources; organize and archive data; and distribute resources across your network or between laboratories

### Thermo Scientific™ AppsLab Library of Analytical Applications

Access to our library of analytical applications

### Mobile connection

Control your instruments and view data from mobile devices

### Industry-leading, multi-vendor control

Support for 400 different instrument modules from more than 15 manufacturers

### Regulatory compliance

Automated software and instrument qualification routines, qualification monitoring, and our comprehensive security tools to ensure compliance

CHOOSE YOUR PARTNER TO  
ENSURE A HEALTHIER, CLEANER  
AND SAFER TODAY AND TOMORROW



## Dionex Aquion IC System

Simple analysis

Electrolytic or chemical suppression

Reliable platform

## Dionex Integrion HPIC System

Routine analysis

Tablet with local language control

Instrument and consumables monitoring

High-pressure capable up to 5000 psi

Electrolytic or chemical suppression

Automated Eluent Generation

Versatile detector options

## Dionex ICS-4000 Capillary HPIC System

Always ready analysis

High-pressure capable up to 5000 psi

Electrolytic or chemical suppression

Consumes only 15 mL of water per day

Eluent Generation Cartridge lasts for 18 months under continuous operation

Precious sample analysis

Versatile detector options

## Dionex ICS-6000 HPIC System

Routine and advanced analysis

Capillary, microbore, or standard flow rates

Single and dual configurations

Electrolytic or chemical suppression

Mechanical and RFIC™ gradients

Automated Eluent Generation

High-pressure capable up to 5000 psi

Versatile detector options

Tablet with local language control

Instrument and consumables monitoring



## OUR PROMISE TO YOU

We help scientists meet the challenges they face in the lab or in the field every day. From routine analysis to new discoveries, our innovations help professionals do the science they need to do, the way they want to do it. Our high-end analytical instruments, laboratory equipment, software, services, consumables and reagents help our customers solve complex analytical challenges and increase laboratory productivity.

Whatever the challenge, we are there.

## UNITY LAB SERVICES

We take serving science seriously, providing a single source for integrated lab service, support and supply management. Our customized service offerings and world-class service experts have the flexibility and experience to uniquely address your business needs.

As your laboratory partner, Unity Lab Services maximizes your ability to focus on science and drive innovation by providing you with what you need, when you need it.

Let our expertise complement yours.

## SERVICE OPTIONS TAILORED FOR YOUR LAB

Our selection of service options is provided to help lower the cost of ownership, improve instrument uptime and give you greater peace of mind.



### 3-YEAR INSTRUMENT WARRANTY

Cost of parts, labor and travel for the first year  
Cost of parts for the second and third year

### SUPPRESSOR WARRANTIES

Dionex DRS 600 Dynamically Regenerated Suppressor  
Dionex AERS 500 Anion Electrolytically Regenerated Suppressor: 6 months  
Dionex CES 300 Capillary Electrolytic Suppressor: 12 months  
Dionex CRS 500 Chemically Regenerated Suppressor: 24 months  
Dionex AES Atlas Electrolytic Suppressor: 3 months

## THERMO SCIENTIFIC DIONEX PRODUCT PORTFOLIO

Find out more at [thermofisher.com/IC](http://thermofisher.com/IC)

**ThermoFisher**  
SCIENTIFIC