



**● New Technology UHPLC and nLC**

# All Thermo Scientific Dionex UltiMate™ 3000 Systems Now Fully UHPLC Compatible

# UHPLC<sup>+</sup> focused

## Basic Automated



- Highly economic and reliable
- 620 bar UHPLC compatible
- Flow rates up to 10 mL/min
- 100 Hz detector range
- Modular flexibility

## Standard



- 3<sup>rd</sup> generation modules
- 620 bar UHPLC compatible
- Flow rates up to 10 mL/min
- Oven temp. 5–80 °C
- 100 Hz DAD, MWD, VWD, FLD, CAD
- Highest flexibility

## x2 Dual LC



- Two systems in one
- 620 bar UHPLC compatible
- Flow rates up to 10 mL/min
- Oven temp. 5–80 °C
- Automated Application Switching
- Parallel and Tandem LC
- Online SPE-LC
- Automated method scouting
- Turn key Viper kits for ease of use

## RSLC



- Binary and Quaternary UHPLC systems
- 1000 bar up to 5 mL/min
- 800 bar up to 8 mL/min
- Oven temp. 5–110 °C
- 200 Hz DAD, MWD, VWD, FLD
- Improved sub 2- $\mu$ m particle column compatibility
- Ultrafast/ultra resolution system

## x2 Dual RSLC



- x2 Dual UHPLC System
- Two systems in one
- 1000 bar up to 5 mL/min
- 800 bar up to 8 mL/min
- Oven temp. 5–110 °C
- 200 Hz DAD, MWD, VWD, FLD
- Parallel and Tandem LC
- Online SPE-LC
- Automated method scouting
- Offline 2D-UHPLC
- Turn key Viper™ kits for ease of use

## RSLCnano



- UHPLC system for Nano/Cap/Micro range
- 20 nL/min – 50  $\mu$ L/min up to 800 bar
- Continuous direct flow
- New standard in retention time precision
- Snap-in valves
- nanoViper™ fitting system for easy operation



# Thermo Scientific Dionex Products' Industry Leading UHPLC Portfolio

## Pumps

Isocratic



Binary



Quaternary



Dual-Gradient



Nano/Cap



## Autosampler

Basic



Standard



Thermostatted



+Fractionation



Nano/Cap



## Column Compartments

Standard



High Temp.



With Valves



Viper™/  
nanoViper™



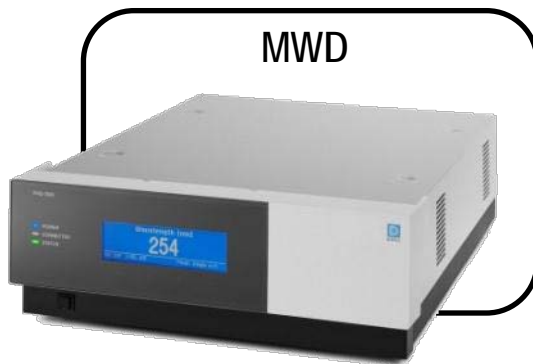
# Thermo Scientific Dionex Products' UHPLC — Compatible Detectors

VWD



100Hz VWD-3100  
200Hz VWD-3400RS

MWD



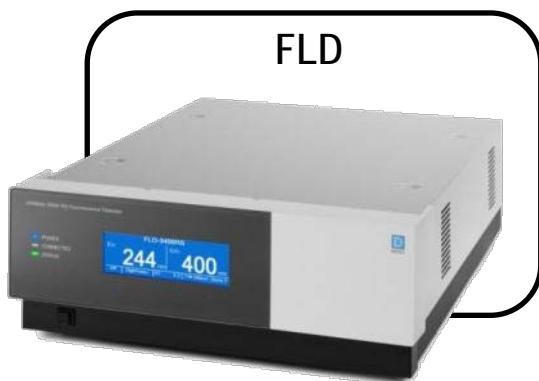
100Hz MWD-3000SD  
200Hz MWD-3000RS

DAD



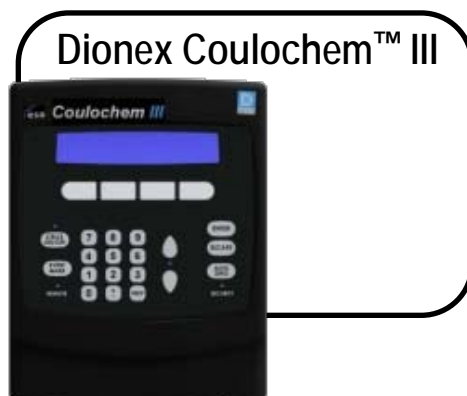
100Hz DAD-3000SD  
200Hz DAD-3000RS

FLD



100Hz FLD-3100  
200Hz FLD-3400RS

Dionex Coulochem™ III



100Hz Thermo Scientific Dionex  
Coulochem III electrochemical  
detector

Dionex Corona™ ultra RS™



100Hz Thermo Scientific Dionex  
Corona ultra RS charged aerosol  
detector

The most complete UHPLC detector range

# Thermo Scientific Accela Instruments

Accela increases laboratory productivity, through its versatility with conventional and high speed chromatographic capabilities in an efficient, easy to use system that handles pressures up to 1250 bar



## Accela 1250 and Accela 600

- Maximum operating pressure of **1250 bar** across the entire flow rate range up to **2 mL/min** (Accela 1250)
- Maximum operating pressure of **600 bar** across the entire flow rate range up to **5mL/min** (Accela 600)
- **Extremely low pump delay volume**
- **Quaternary** capability
- Equipped with **Force Feedback Control (FFC)** technology to provide extremely stable baselines without the use of pulse dampeners and greatest flow rate and gradient accuracy without the need of sensors that are in contact with the mobile phase



# Thermo Scientific EASY — nLC Product Line

## EASY — nLC II

- 300 bar



## EASY — nLC 1000

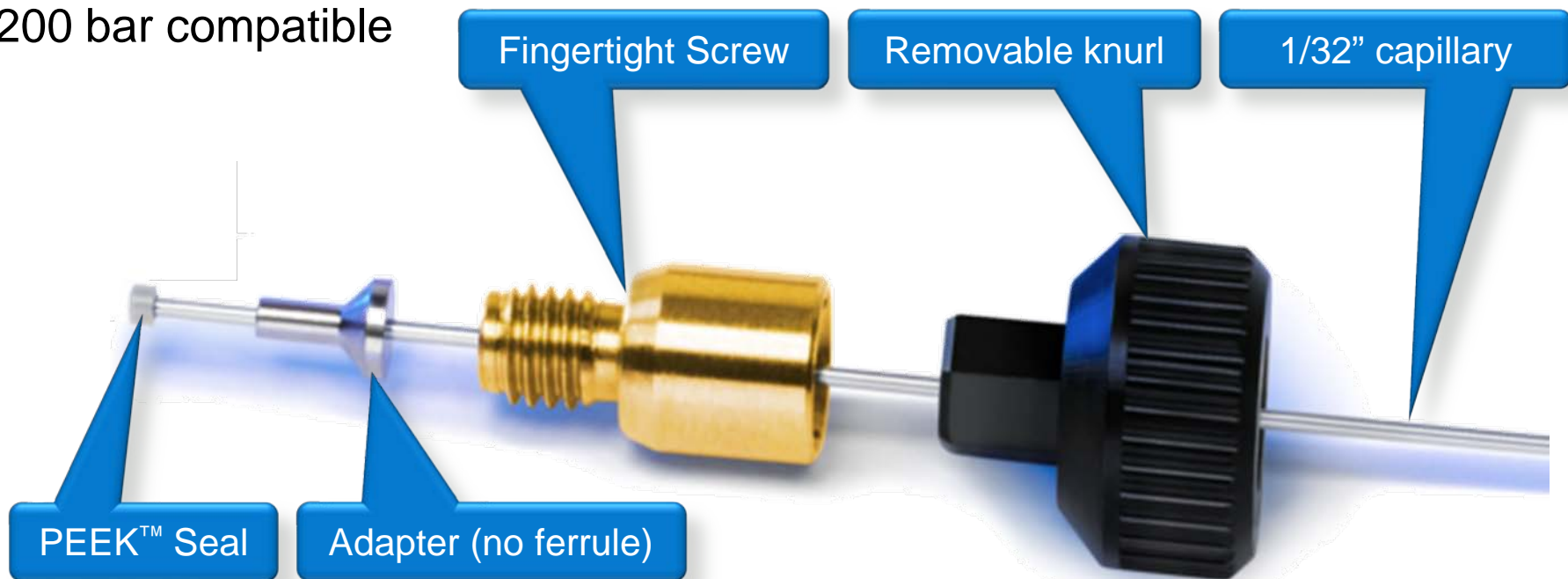
- 1000 bar
- **ASMS launch!**



- Common Benefits
  - Unrivalled ease of use
  - Effortless operation
  - Proven performance with state-of-the-art MS systems
  - Excellent productivity
    - high resolution and reproducibility
  - Excellent resolution and reproducibility in complex samples
  - 1D and 2D nano LC in one system
  - Intelligent maintenance
  - Remote support
  - Easy maintenance, access and service

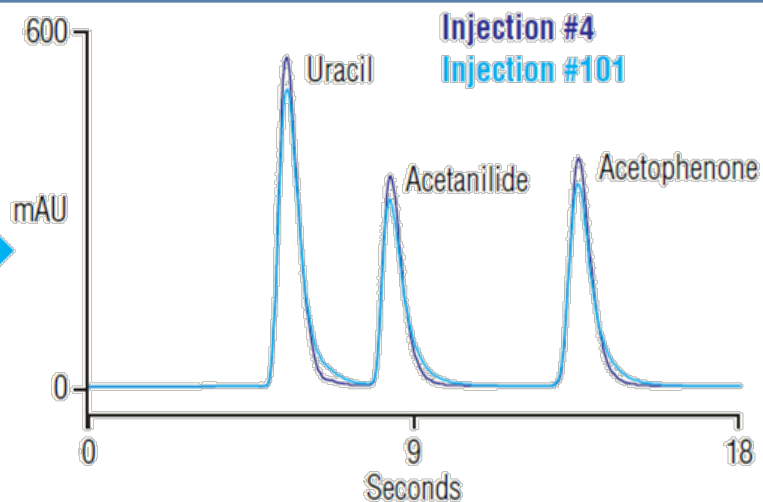
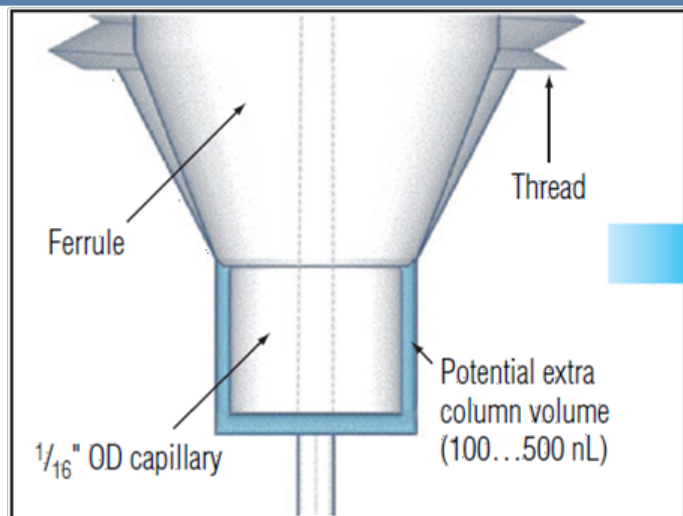
# Thermo Scientific Dionex Viper™ Fingertight Fitting System

- Fingertight, correct fit every time!
- Universal (fits to Rheodyne, Valco, Swagelok...)
- No dead volume as soon as tightly connected
- Ease of use, no sleeve for small capillaries
- 1200 bar compatible

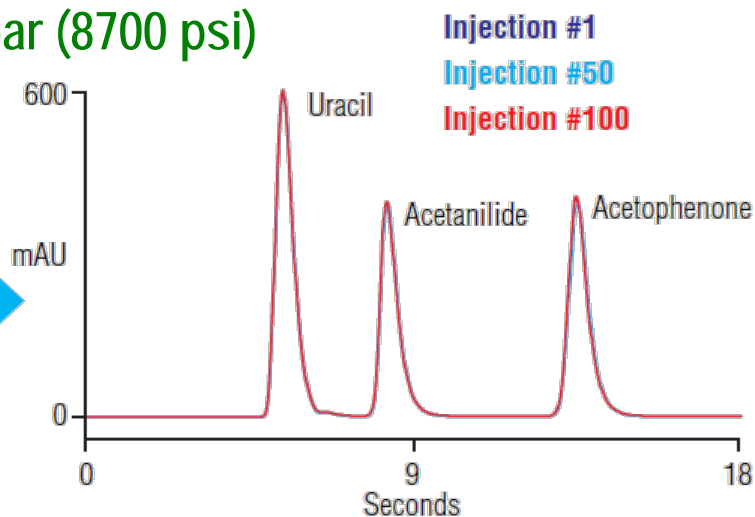
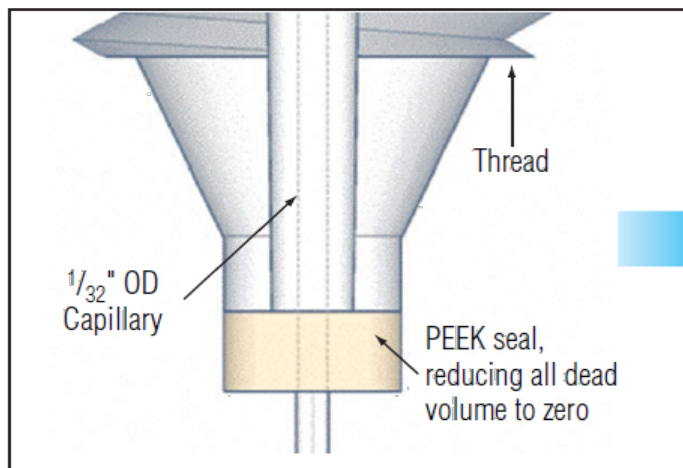


**Ease of Use and Ergonomic Design**

# Thermo Scientific Dionex Viper™ Fitting Performance



Standard fingertight fitting at 600 bar (8700 psi)



Dionex Viper at 600 bar (8700 psi)

**ZERO** Dead Volume



# Ease of Use – Thermo Scientific Dionex nanoViper

- Dionex nanoViper™ Fingertight Fitting is nano LC made easy !

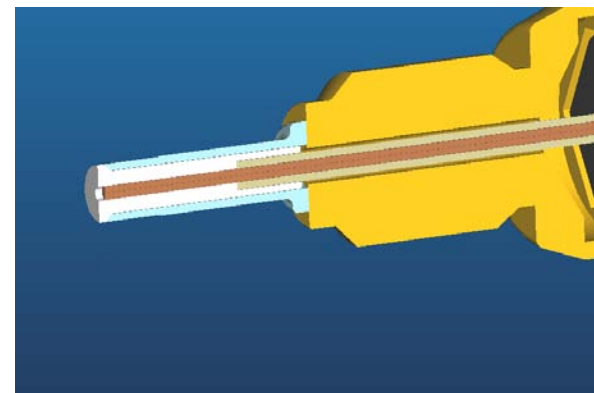
nanoViper

- Features

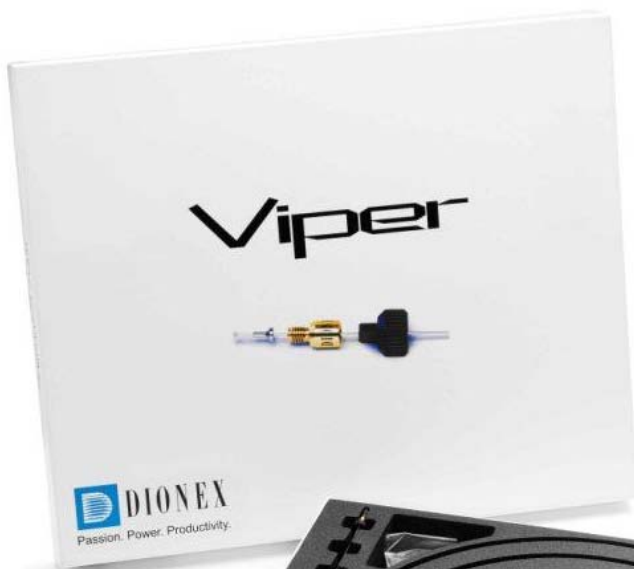
- Fingertight connection
- Up to 1000 bar
- Dead volume free by design

- Values

- Tool-free assembly, easy fluidics
- No column damage by over-tightening
- UHPLC compatible
- No experimental failure due to bad connections



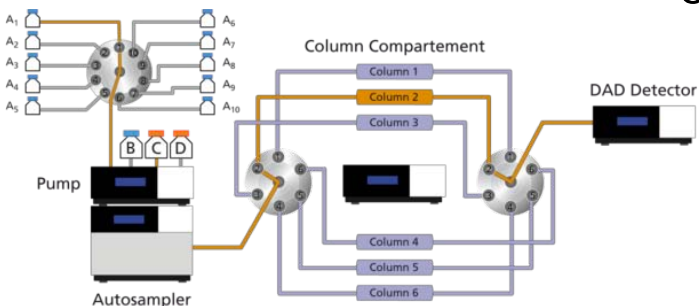
# Thermo Scientific Dionex Viper Application Tubing Kits



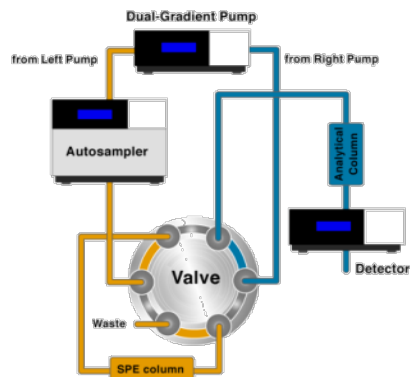
- Ready to use Dionex Viper™ UHPLC+ solution kit:
  - All Dionex Viper Capillary parts
  - Laminated card with flow schemes
  - Quick installation guide
  - Operation instructions
  - Template files for CM 6 and CM 7

# UHPLC<sup>+</sup> x2 Dual Applications Summary

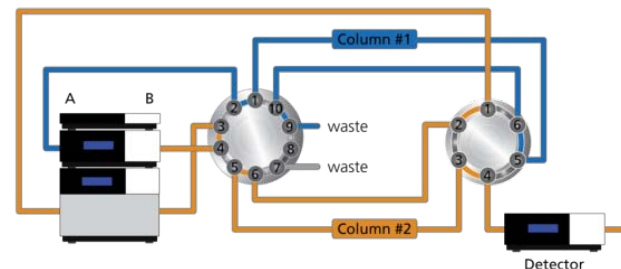
## Automated Method Scouting



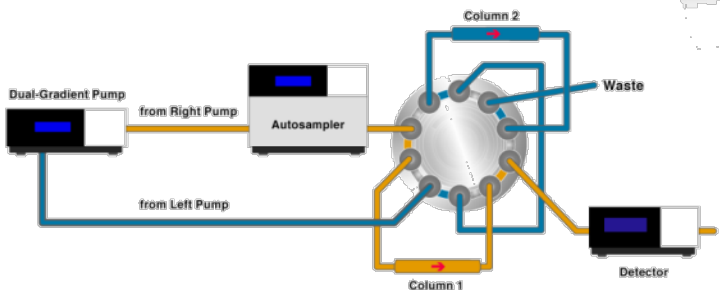
## Online SPE



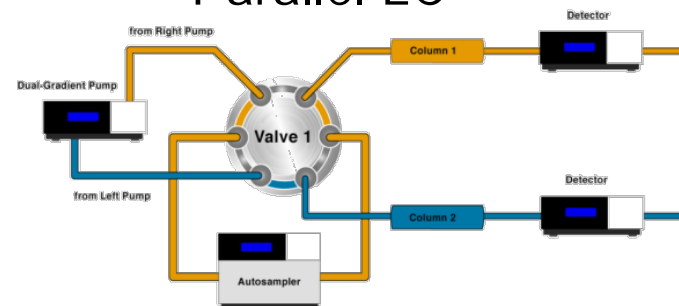
## Application Switching



## Tandem LC



## Parallel LC

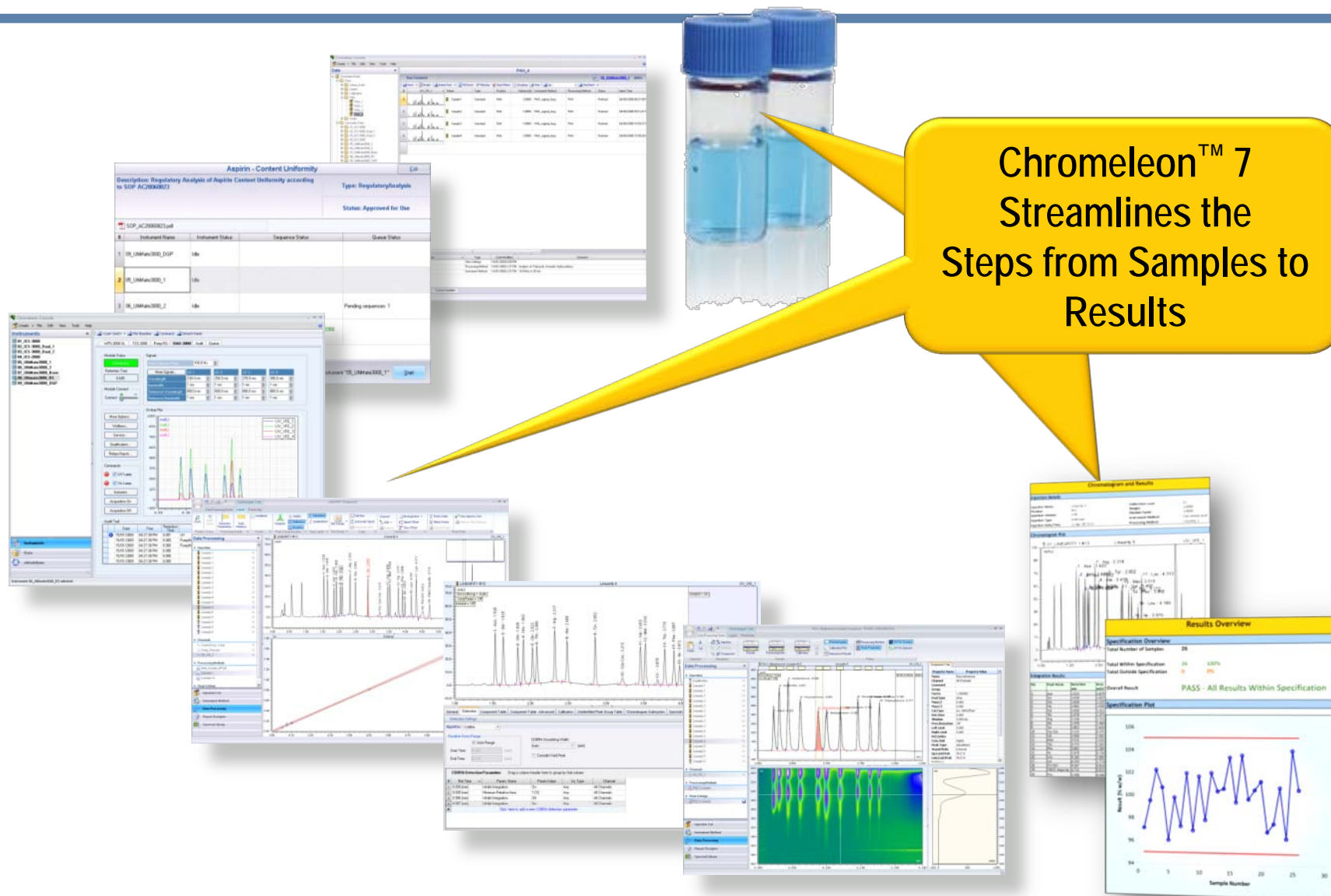


# Thermo Scientific Dionex Chromeleon™ 7 Chromatography Data System – Simply Intelligent™



# Chromatography Process

Chromeleon™ 7  
Streamlines the  
Steps from Samples to  
Results



## Our Commitment

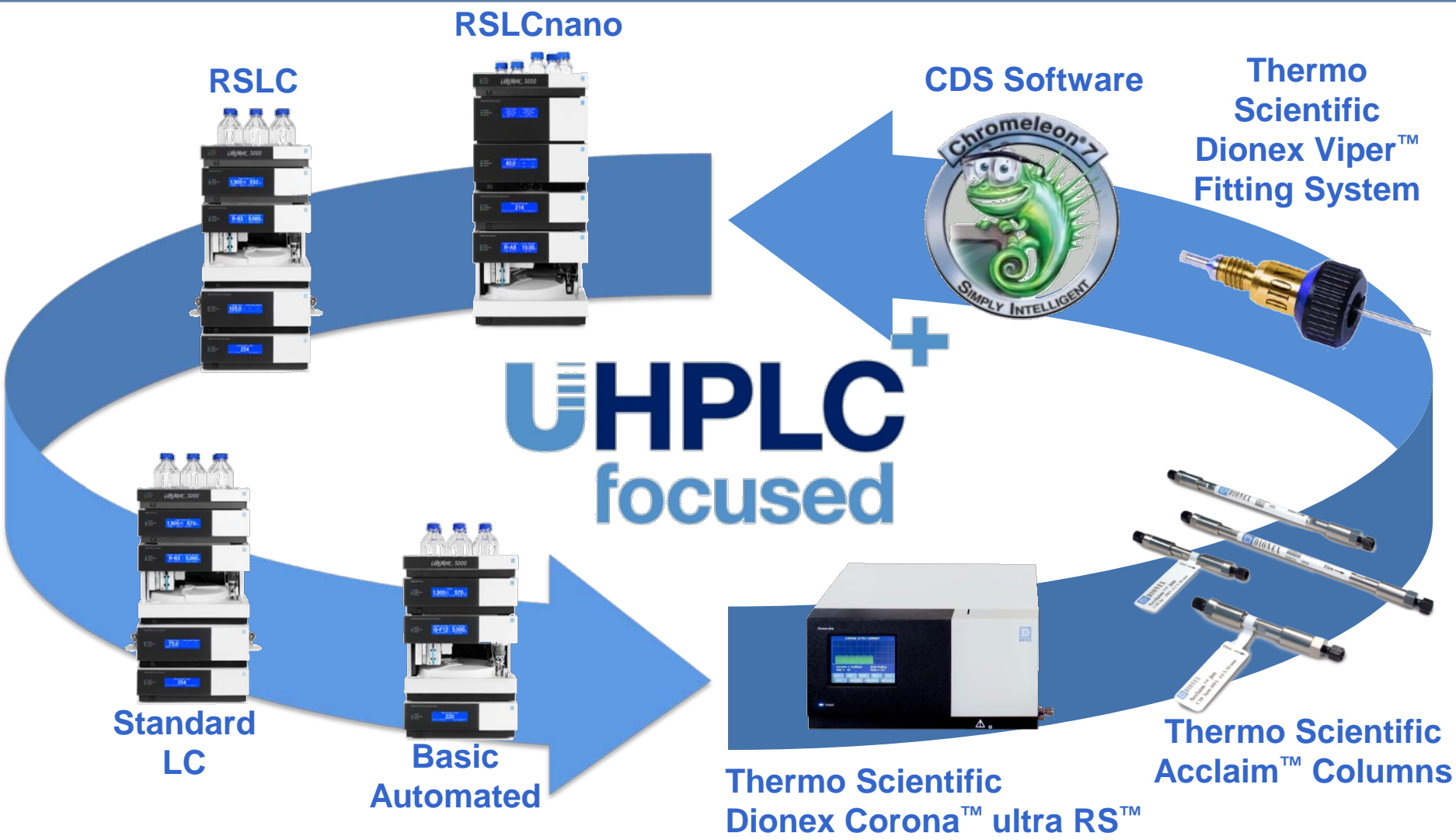
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We are focused on making **UHPLC**  
Accessible to **All** Users,  
**All** Laboratories, and for **All** Analytes

**UHPLC** +  
**focused**

Future ready  
Future confident  
Future now

# UHPLC<sup>+</sup> Focused LC Product Portfolio



● **Thank You for Your Attention!**