$$-O-\underset{\underset{CH_3}{|}}{\overset{\overset{CH_3}{|}}{Si}}-CH_2-(CH_2)_{16}-CH_3$$

**Thermo Scientific
Dionex UltiMate 3000
Basic Automated Systems**

Compact Systems
everyday workhorse

Reliable • Versatile • Cost-effective

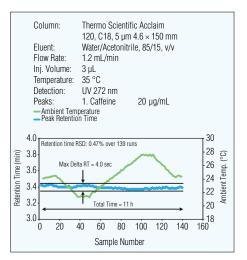UHPLC$^+$
focused

Thermo
SCIENTIFIC

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Ultrahigh performance
without compromise

Thermo Scientific Dionex UltiMate 3000 Basic Automated systems provide rugged performance in an economical yet flexible package. Like all UltiMate™ 3000 systems, they are UHPLC compatible, establishing a new standard in conventional LC. The UltiMate 3000 Basic Automated systems combine an autosampler and column compartment in one module for cost-efficient automation, tailored to your applications. The system and software easily adapt to new challenges with additional UltiMate 3000 modules. The system adjusts to fit your needs without stretching your budget.

Optimized Balance Between Performance and Cost

The Basic Automated system is optimized for reliability and ease-of-use for routine LC applications in the analytical flow range. All systems support pressures of up to 620 bar (9,000 psi) at flow rates of up to 10 mL/min, and detector data collection rates up to 100 Hz. The Thermo Scientific Dionex ACC-3000 Autosampler Column Compartment is the heart of the system. Its unique instrument design combines a rugged sample injection principle with a powerful column oven. This design:

• Minimizes the number of wear parts and critical connections

• Provides a cost-saving alternative to separate samplers and column compartments

• Offers a lower overall system height compared to conventional LC systems

• Delivers a time-saving alternative to manual injections

Reliability—a Must for Routine LC

For reliable sample analysis, every day without disruptions, Thermo Fisher Scientific places the highest priority on the reliability, longevity, and quality of each part and sub-assembly.

• A state-of-the-art on-line vacuum degasser enhances the reliability of proportioning, pumping, and UV signal detection

• Improved flow path design and manufacturing techniques ensure rapid clearance of any bubbles that may be drawn from the pump heads

• Second-generation floating pistons and patented active rear-seal washing prolong piston seal life

• Temperature-controlled lamp environment extends UV lamp life beyond 2000 hours

• Flow cells are tested up to 100 bar for leak-free operation

• All modules support performance checks with pre-defined diagnostic tests within minutes.

Column:	Thermo Scientific Acclaim 120, C18, 5 µm 4.6 × 150 mm
Eluent:	Water/Acetonitrile, 85/15, v/v
Flow Rate:	1.2 mL/min
Inj. Volume:	3 µL
Temperature:	35 °C
Detection:	UV 272 nm
Peaks:	1. Caffeine 20 µg/mL

— Ambient Temperature
— Peak Retention Time

Retention time RSD: 0.47% over 139 runs
Max Delta RT = 4.0 sec
Total Time = 11 h

The column compartment of the ACC-3000 allows robust peak identification by retention time, even at fluctuating ambient conditions.

ACC-3000 Autosampler Column Compartment. An integrated column oven provides fast and stable column thermostatting between 5 °C above ambient temperature and 50 °C.

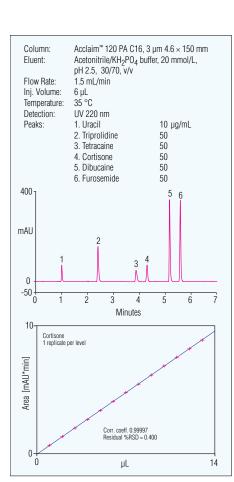# Enter the future without stretching your budget

LC Made Easy

The UltiMate 3000 systems, combined with Thermo Scientific Dionex Chromeleon Chromatography Data System (CDS) software provides an intuitive platform for your daily laboratory work. Thermo Scientific Dionex Viper fingertight fittings ensure perfect fluidic connections and easy column changes. All wear parts are easily accesible for straightforward maintenance. The most important instrument parameters are displayed on bright LCDs and are clearly visible—even from a distance.
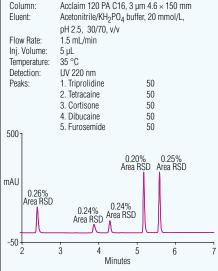
Automated IQ/OQ/PQ routines minimize time for regular qualification tasks. A SmartStartup™ function autonomously equilibrates your instrument before you arrive in the lab. The system can even start to analyze samples automatically upon meeting user-definable equilibration and performance criteria. The software creates comprehensible reports and enables rapid data processing while supporting full compliance with GLP, cGMP, and 21 CFR Part 11.

The UltiMate 3000 Basic Automated LC systems offers a robust and reliable solution for routine analytical work. Low initial investment and minimal cost of ownership make best use of your budget.
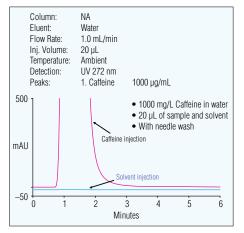
Column:	NA
Eluent:	Water
Flow Rate:	1.0 mL/min
Inj. Volume:	20 µL
Temperature:	Ambient
Detection:	UV 272 nm
Peaks:	1. Caffeine 1000 µg/mL

- 1000 mg/L Caffeine in water
- 20 µL of sample and solvent
- With needle wash

Caffeine injection

Solvent injection

Typical ACC-3000 carryover example using caffeine.

Column:	Acclaim 120 PA C16, 3 µm 4.6 × 150 mm
Eluent:	Acetonitrile/KH$_2$PO$_4$ buffer, 20 mmol/L, pH 2.5, 30/70, v/v
Flow Rate:	1.5 mL/min
Inj. Volume:	5 µL
Temperature:	35 °C
Detection:	UV 220 nm
Peaks:	1. Triprolidine 50
	2. Tetracaine 50
	3. Cortisone 50
	4. Dibucaine 50
	5. Furosemide 50

0.20% Area RSD   0.25% Area RSD

0.26% Area RSD

0.24% Area RSD   0.24% Area RSD

Overlay of six consecutive injections with 5 µL sample volume, using the ACC-3000 with pulled loop technique and UV detection at 220 nm. The typical peak area RSD is <0.3% in partial loop mode.

Column:	Acclaim™ 120 PA C16, 3 µm 4.6 × 150 mm
Eluent:	Acetonitrile/KH$_2$PO$_4$ buffer, 20 mmol/L, pH 2.5, 30/70, v/v
Flow Rate:	1.5 mL/min
Inj. Volume:	6 µL
Temperature:	35 °C
Detection:	UV 220 nm
Peaks:	1. Uracil 10 µg/mL
	2. Triprolidine 50
	3. Tetracaine 50
	4. Cortisone 50
	5. Dibucaine 50
	6. Furosemide 50

Cortisone
1 replicate per level

Corr. coeff. 0.99997
Residual %RSD = 0.400

Injector linearity example with partial loop injections (1–13 µL).

The revolutionary Viper™ fingertight fitting system seals at the tip of the capillary and provides a perfect fit every time.

Enjoy Industry-Leading Support

Thermo Fisher Scientific Customer Support Centers are located in the United States, Europe, and Asia. These state-of-the-art laboratories are equipped with the full line of Thermo Scientific LC instrumentation and software capabilities. Support Centers provide accessible locations for advanced training and enhanced application development capabilities. Users can visit these laboratories or sign up to learn new skills in addressing challenging applications, receive training and support, and discover new, innovative HPLC and IC solutions.

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