

# 31



**E**classical 3100  
HPLC

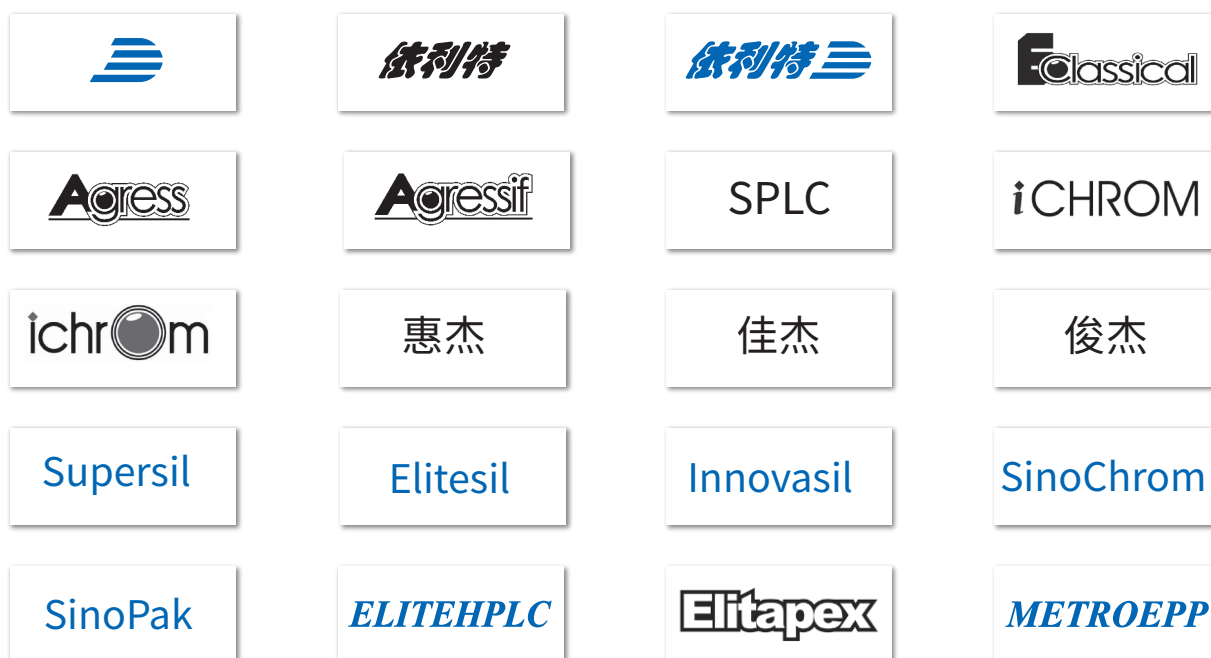


# Company Profile

Dalian Elite Analytical Instruments Co., Ltd. and Elite (Suzhou) Analytical Instruments Co., LTD. (collectively, Elite Instruments) specialize in the research, development, and production of LC systems. Elite is the leading drafter of national standards for LC industry such as HPLC, chromatography workstations and columns.

Dalian Elite analytical Instrument Co., Ltd. is located in the coastal city of Dalian. The company has established the Liaoning Elite Chromatography Technology Innovation Platform and the Liaoning Dalian Elite Analytical Instrument Engineering Technology Research Center, and has obtained ISO 9001 quality management system certification. We have completed national science and technology research projects under the Ninth, Tenth, and Eleventh Five-Year Plans, and have won numerous provincial awards, as well as the BCEIA Gold Award and the CISILE Independent Innovation Gold Award on multiple occasions. The company adheres to the principle of independent innovation and R&D, holding over 40 core intellectual property rights and more than 20 registered trademarks, and has passed intellectual property management system certification.

Elite (Suzhou) Analytical Instrument Co., Ltd. is located in the Suzhou Nano Industrial Park and was awarded the title of "2019 Bright New Talent Enterprise". The Suzhou facility also hosts an Academician Workstation. With innovation as its core goal, the company is dedicated to developing more stable and efficient liquid chromatography instruments.



# INHERIT THE CLASSICS, POURING EFFORTS TO BUILD

Heritage of Technology, Continuation of a Classic, Complete Upgrade

INHERIT THE CLASSICS, EVOLVE WITH INNOVATION



## 🔍 New exterior design

- A newly designed, high-end control panel that is both elegant and modern.
- The curved panel integrates seamlessly with two-color silicone keys for an optimal tactile experience.
- A high-definition VFD display provides clear, easy-on-the-eye viewing for the best sensory effect.
- The autosampler features a new door design with a panoramic window, allowing convenient real-time observation of the sample.

# EClassical 3100 HPLC

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## Enhanced Capabilities

- An optimized secondary spectrum elimination function that greatly improves reliability.
- Improved heat dissipation efficiency for the deuterium lamp, reducing baseline drift.
- A chromatography data workstation that provides stable real-time feedback and control of the main status and parameters for each unit module.

## Stable Communication

- An isolated DA output module that ensures more stable analog signal output; as an optional module, it can meet specific customer requirements for fraction collection.
- The standard communication interface uses a more applicable USB interface, incorporating imported USB chips and advanced magneto-optical isolation technology to ensure instrument stability.
- The communication between unit instruments employs mature and flexible RS-485 technology, and uses "avalanche diodes" instead of "TVS tubes" to ensure communication reliability and enhance instrument control stability.

## Excellent Performance

- The high-pressure constant-flow pump maintains low-pulsation operation for stable mobile phase delivery.
- PID control with segmented settings, combined with temperature calibration curves and single-point correction, ensures accurate and reproducible column temperature.
- The autosampler delivers excellent repeatability and linearity.

## User-Friendly Design

- Integration of the S3100 Autosampler significantly enhances overall system automation and analytical productivity.
- The optimally positioned flow cell ensures seamless integration with the system, simplifying tubing connections and minimizing extra-column dispersion.
- Multi-level fault warnings and alarms allow prompt operator awareness of instrument status, ensuring safety for both operator and instrument.

## Versatile System Configuration

- A modular design enables flexible configuration to meet diverse application needs, including isocratic, binary high-pressure, and quaternary low-pressure gradient systems, as well as DAD configurations.
- A wide range of optional modules is available, including the O3100 column oven, S3100 autosampler, DG3100 degasser, F3310 fraction collector, along with detectors for post-column derivatization, differential refractive index, evaporative light scattering, and laser-induced fluorescence.

# P3100 High-Pressure Constant-Flow Pump Series

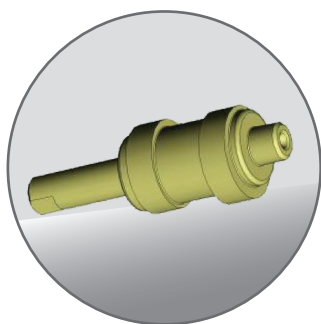


## Specification

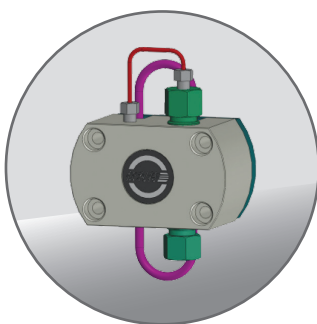
Flow range	0.001-10.000 mL/min (step 0.001 mL/min)
Flow accuracy	$\leq \pm 0.2\%$ (at 1.000 mL/min, 8.5 MPa, water, RT)
Flow precision	RSD $\leq 0.06\%$ (at 1.000 mL/min, 8.5 MPa, water, RT)
Maximum pressure	45 MPa (0.001-5.000 mL/min) 20 MPa (5.001-10.000 mL/min)
Delay volume	$\leq 500 \mu\text{L}$
Dimensions/weight	420 × 300 × 175 mm (L × W × H)/12 kg
Power supply	AC 220 V $\pm 10\%$ , 50 Hz/80 W

## Features

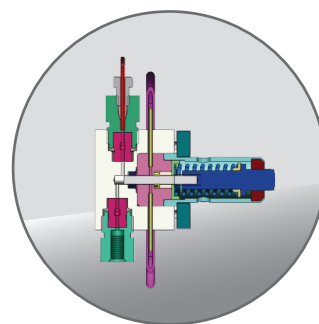
- Tandem dual-piston pump with a one-piece pump head and a cam stroke of only 2 mm.
- Stepper motor interpolation control for improved accuracy and repeatability at low flow rates.
- Selected high-quality imported key components ensure long-term operational stability and durability.
- Real-time pressure monitoring with high/low-pressure alarms and other safety functions.
- Microcontroller and SPI bus technology reduce board size and component count while increasing reliability.
- 20 x 2 VFD (Vacuum Fluorescent Display) provides a user-friendly interface for easy and flexible operation.



Cam



Pump head



FIFO

# UV3100/UV3110 UV-Vis Detector

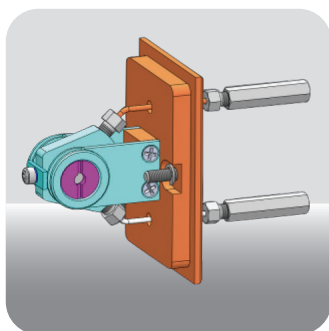


## Specification

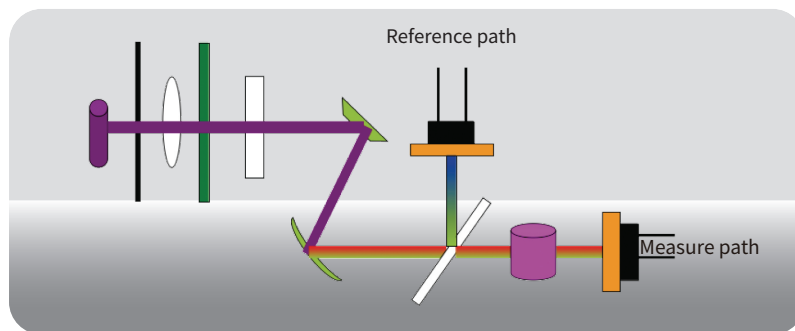
Wavelength range	190-700 nm
Baseline noise	$\leq \pm 0.5 \times 10^{-5}$ AU (static, at 254 nm)
Baseline drift	$\leq 1.0 \times 10^{-4}$ AU/h (static, at 254 nm, 20 Hz)
Dimensions/weight	420 × 300 × 175 mm (L × W × H)/16 kg
Power supply	AC 220 V $\pm$ 10%, 50 Hz/100 W

## Features

- Vertical duct design with improved aerodynamics for targeted heat dissipation.
- Reduced baseline drift and noise.
- Time-wavelength programming function.
- Redesigned, compact flow cell and mechanical structure.
- Optional analog output (DA) functionality.
- Dual-wavelength mode for simultaneous monitoring at two wavelengths.



Detection cell



Optical diagram

# DAD3100 Diode Array Detectors

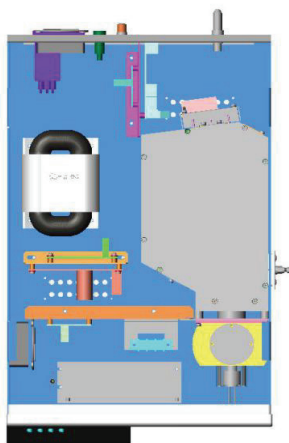


## Specification

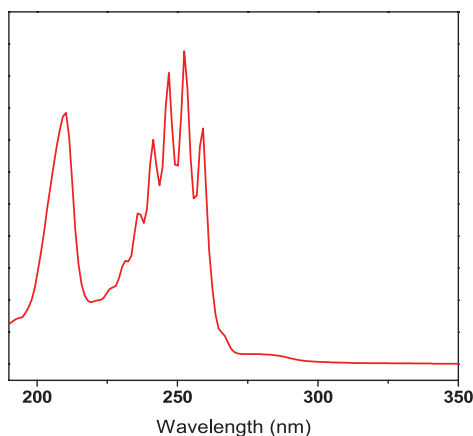
Wavelength range	/	190-800 nm
Baseline noise	/	$\leq \pm 1.0 \times 10^{-5}$ AU
Baseline drift	/	$\leq 2.0 \times 10^{-4}$ AU/h
Dimensions/weight	/	420 × 300 × 175 mm (L × W × H)/18 kg
Power supply	/	AC 220 V ± 10%, 50 Hz/80 W

## Features

- Patented "Two-Elimination Optical Spectroscopy Device for Chromatographs".
- Optically isolated internal architecture and stable, reliable heat dissipation technology.
- Integrated with the chromatography data workstation, offering full analysis automation and audit trail functionality.
- Supports advanced features such as multi-channel wavelength detection, adjustable acquisition frequency and wavelength range, spectral library search, and peak purity calculation to meet user needs.



Three-dimensional internal structure layout



Spectral resolution (characteristic "five-finger" peak of benzene)

# MFD3100 Multi-Wavelength Fluorescence Detector

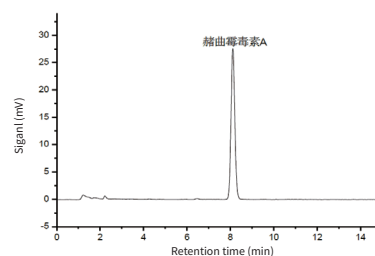


## Specification

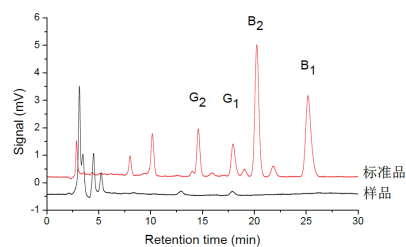
Optical system	Confocal
Light source	3 LEDs (standard)
Wavelength range	Excitation: 360-370 nm/382-392 nm/324-350 nm Emission: 414-479 nm
Wavelength accuracy	± 3 nm
Baseline noise	Static: $\leq 5 \times 10^{-5}$ FU
Baseline drift	Static: $\leq 5 \times 10^{-4}$ FU/h

## Features

- Fully automatic self-test upon startup detects internal circuit faults promptly.
- A high-precision, self-calibrating ADC and a new confocal optical system enhance detector sensitivity, ensuring improved wavelength accuracy and repeatability.
- A proprietary LED source auto-switching device improves optical positioning accuracy for more precise wavelength selection.
- The automatic calibration of the optical path optical axis system ensures the accuracy and repeatability of the output wavelengths of different wavelengths of UV LEDs, greatly reducing the time for optical path commissioning and effectively improving detection efficiency.
- Three standard LED sources enable not only free switching but also optimized light output.
- Five sensitivity levels and three gain settings meet detection needs across various concentrations.
- When used as a dedicated aflatoxin detector, its patented technology offers high sensitivity, ease of operation, and low maintenance costs.
- LED light sources can be customized or replaced upon request to meet specific analytical needs.



Typical spectrum of ochratoxin A



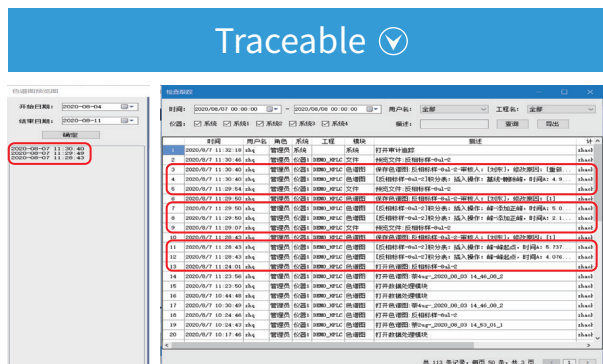
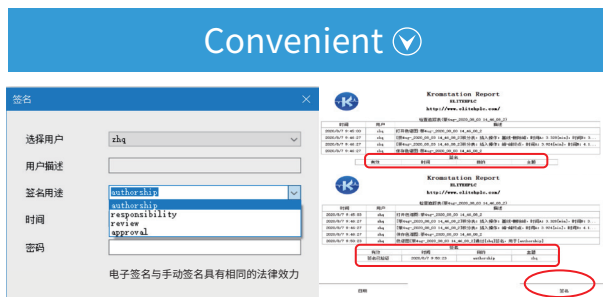
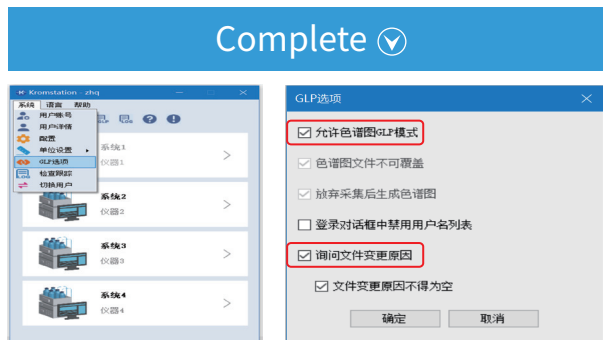
Determination of aflatoxins B1, B2, G1 and G2 in maize

# Chromatography Data Workstation

The Kromstation chromatography data workstation is the LC system workstation software developed by Elite, which is CNAS certified. With Kromstation you can control the LC and complete various operations with a personal computer, with superb database, audit trail, GLP compliance, data archiving and backup, electronic signature, user permissions, networked administration and other functions; the interface is simple and easy to get started.

## Features

- Audit trails and electronic signatures comply with CFDA data integrity management specifications.
- System management functions meet the security requirements of various workflows.
- Provides multi-level access management and electronic approval for analysis data stored in the database.
- Detailed user information can be saved to create a review history.
- Customized reports are available, combining multiple data items.



# S3100 Autosampler

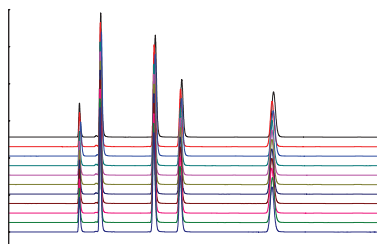


## Specification

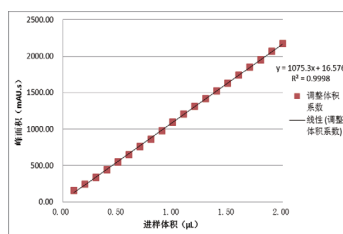
Injection volume range	/	0-100 $\mu\text{L}$ (step 0.1 $\mu\text{L}$ )
Sample capacity	/	120 vials
Carryover	/	< 0.01%
Injection precision	/	RSD < 0.3% (Full loop injection, 20 $\mu\text{L}$ loop) RSD < 0.5% (Partial loop injection with loss) RSD < 1.0% (Partial loop injection with loss)
Dimensions/weight	/	540 $\times$ 400 $\times$ 300 mm (L $\times$ W $\times$ H)/23 kg
Power supply	/	AC 220 V $\pm$ 10%, 50 Hz/30 W

## Features

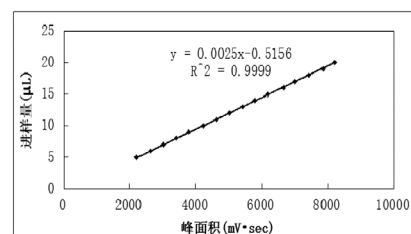
- Improved positioning accuracy with 8-position calibration.
- Tray and needle move relative to each other, shortening the injection cycle.
- A new injection mode that greatly optimizes tubing connections.
- Unique sample needle design to prevent clogging.
- Excellent mechanical precision and stability.
- Operated via independent software, compatible with a wide range of HPLC models.



Chromatogram demonstrating injection repeatability



Autosampler linearity over 0.1-2  $\mu\text{L}$



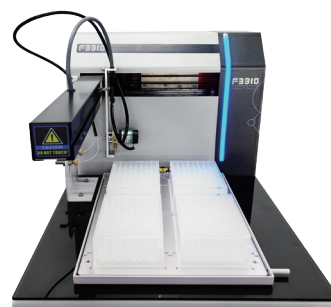
Autosampler linearity over 5-20  $\mu\text{L}$

# F3310 Fraction Collector

F3310 fraction collector is an automatic fraction collection device launched by Elite, and can meet the collection requirements of both analytical samples and preparative samples, including but not limited to HPLC system, chromatography purification system, and biochemical product preparation and purification applications.

## Features

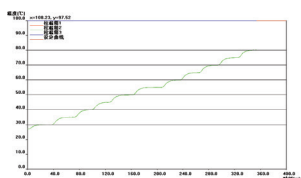
- Features a blue breathing light strip that indicates different instrument statuses (Operation, Collection, Fault), providing an intuitive and tech-savvy display.
- Ensures high-precision mechanical arm movement with a belt pulley drive system, guaranteeing accurate collection positioning during high-speed operation.
- Allows software-based delay volume setting for more precise collection.
- Compatible with various 96-well plates and standard test tube racks on the same main tray base.
- Offers multiple collection modes to meet the needs of various samples and applications.
- Includes an intelligent leak alarm function that promptly detects leaks caused by instrument faults.
- The workstation allows intelligent and visual setup of different tray types, facilitating convenient collection.
- The workstation software visually displays collection status correlated with absorption peaks for easy indexing.



## Specification

Technical parameters	Specifications
Move mode	X-Y axis
Digital communication interface	TCP Protocol
Collection container type	2 x 21 holes\30 mm\50 mL
	2 x 40 holes\20 mm\20 mL
	2 x 60 holes\16 mm\15 mL
Collection method	2 x 90 holes\13 mm\8 mL
	2x double 96 well plate\0.5-2 mL
Flow rate range	Collect by time, Collect by level, Collect by peak (Collection of time, threshold, and slope combinations)
Position accuracy	0.5-50 mL/min
Maximum pressure	0.1 mm
	0.3 MPa

# O3100 Column Oven



Linear temperature gradient curve

## Features

- A 32-bit ARM processor serves as the main control chip, delivering faster computation and higher integration.
- AC phase modulation, combined with temperature calibration curves and single-point correction, ensures accurate and reproducible temperature control within the set range, reducing stabilization time to under 30 minutes.
- Embedded software incorporates digital PID algorithms for faster heating, shorter stabilization time, and reduced temperature overshoot.

## Performance indicators

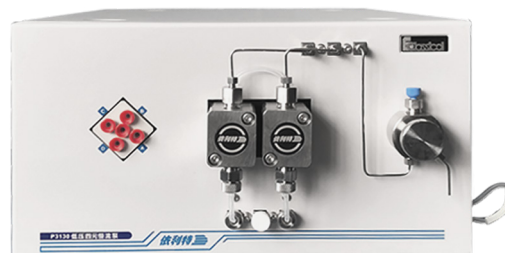
Temperature control range	From 5 °C above ambient to 80 °C
Temperature control accuracy	≤ 0.1 °C
Dimensions/weight	420 × 300 × 120 mm (L × W × H)/7 kg
Power supply	AC 220 V ± 10%, 50 Hz/130 W

# P3130 Low-Pressure Quaternary Constant-Flow Pump

The P3130 Low-pressure quaternary constant-flow pump is a high-performance, independently developed solvent delivery module. It offers flexible integration with various HPLC detectors, autosamplers, column ovens, and other units, and can also be used as a standalone infusion tool. The system delivers flexible mobile phase ratios to support both routine analysis and method development.

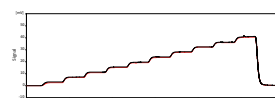
## Features

- 5 mm parallel dual-plunger design for enhanced flow stability and extended solenoid valve life.
- 5 ms high-speed solenoid valve reduces opening dead time, minimizes heat generation, and improves proportioning accuracy.
- Symmetric proportional distribution ensures precise mixing; step-test error at 1% is < 1%, delivering excellent flow reproducibility.

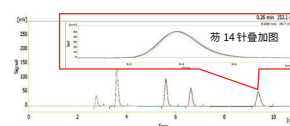


## Specification

Flow range	0.001-10.000 mL/min
Gradient accuracy	≤ ±1.0%
Maximum pressure	63 MPa
Retention time repeatability	≤ 0.1%
Protocol	UDP Protocol
Mixing volume	750 μL
Dimensions/weight	400 × 300 × 180 mm (L × W × H)/15 kg
Power supply	AC 220 V ± 10%, 50 Hz/100 W



Step-rest error at 1%: < 1%



RSD of retention time ≤ 0.1% (n = 14)

# DG3 100/DG3110 Degasser

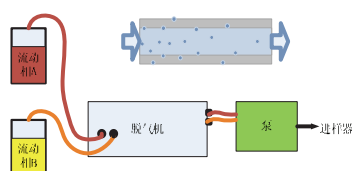


## Features

- Efficiently removes dissolved gases from the mobile phase via automatic, continuous vacuum degassing.
- Utilizes stepper motor microstepping control to enable continuous low- and high-speed pump cycling, minimizing baseline fluctuation, noise, and wear.
- Incorporates an imported Teflon® AF degassing membrane for effective degassing, a minimized internal void volume, and excellent chemical resistance.
- Compact and space-saving design for easy integration with any HPLC system, making it an ideal companion module.

## Specification

Online degassing	Built-in for binary & quaternary
Max flow rate per channel	10.000 mL/min
Flow channel inner diameter	1.143 mm
Channel volume	480 μL/channel
Liquid contact material	PEEK, Teflon® AF
Dimensions/weight	250 × 95 × 155 mm (L × W × H)/1.5 kg
Power supply	AC 220 V ± 10%, 50 Hz/20 W



Schematic of the degassing principle

## RC3100 Solvent Controller

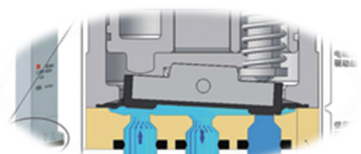
The RC3100 solvent controller is an integrated device independently developed by Elite to address solvent-switching needs in LC. It enables one-touch switching between binary, ternary, and quaternary solvent modes and supports unattended automated sequence analysis, improving instrument utilization during working hours. Compatible with any liquid chromatograph, the RC3100 offers flexible, seamless system upgrade and integration.



### Features

- Press and hold for 1 s to switch flow paths manually, enabling quick and convenient flushing.
- Automatically recalls the last used flow path on startup.
- Enables automated sequence analysis under different mobile-phase conditions for unattended operation.
- Rapid binary, ternary, and quaternary switching in isocratic or gradient modes, increasing workflow efficiency by 63%.
- Supports sequence-ID recognition and multi-unit control.

### Specification



Flow range	≤ 10 mL/min
Switching speed	≤ 100 ms
Inner chamber volume	≤ 40 μL
Maximum pressure	0.3 MPa
Protocol	UDP
Liquid contact material	316L/PFA/FFKM

## RI-201H Differential Refractive Index Detector

The RI-201H differential refractive index detector is a widely used, general-purpose detector for liquid chromatography, ideal for GPC and carbohydrate analysis. It offers reliable performance and straightforward operation.

### Features

- Quick and stable startup.
- Dual temperature control for significantly reduced drift from ambient.
- Shares the same optical system as the RI-101.
- Cost-effective.
- USB interface included.



### Specification

Measurement range	0.25-512 μRIU
Linear range	≥ 600 μRIU
Temperature control	Off/30–50 °C (1 °C step)/77 °C fuse protection (dual zone)
Dimensions/weight	400 × 260 × 150 mm (L × W × H)/12 kg
Power supply	AC 100-240 V ± 10%, 50/60 Hz, 150 VA max

# D3250 Fluorescence Detector

The D3250 fluorescence detector is a multi-signal fluorescence detector with fast online scanning capability and spectral data analysis. As a detection unit for HPLC, it can be conveniently integrated with other modules, such as various LC pumps, autosamplers, and column thermostats.

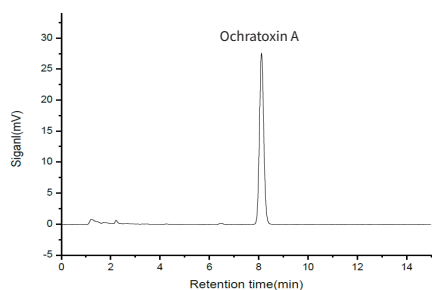
## Features

- Analog signal output.
- Very high sensitivity:  $S/N \geq 3000$  for Raman spectrum of water.
- Thermostatted flow cell: an optional thermostated cell is available to minimize the effect of ambient temperature fluctuations.
- Fully automated startup self-test function for prompt detection of internal circuit faults.
- Variable slit: the emission monochromator slit width is adjustable (15 nm or 30 nm); the 30 nm setting enables high-sensitivity analysis.
- Built-in Hg lamp for wavelength verification: the 254 nm emission line is used to calibrate the UV wavelength region.
- The lamp and detection cell are front-replaceable without positional adjustment, greatly simplifying maintenance.

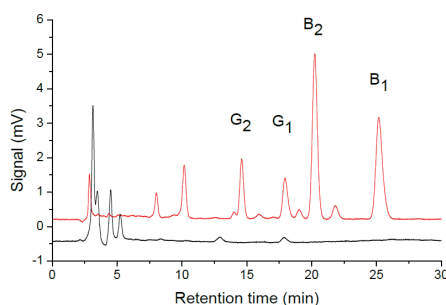


## Specification

Detector type	/	Multi-signal fluorescence detector with fast online scanning capability and spectral data analysis
Light source	/	Xe Lamp
Wavelength range	/	Excitation: 200-850 nm Emission: 250-900 nm
Response time	/	10-2000 ms, 7-segment switching
Sensitivity	/	Raman spectrum of Water $S/N > 3000$
Wavelength repeatability	/	$\leq \pm 0.2$ nm
Wavelength accuracy	/	$\leq \pm 3$ nm
Baseline noise	/	$\leq 2 \times 10^{-5}$ FU
Baseline drift	/	$\leq 5 \times 10^{-5}$ FU/h
Linear range	/	$\geq 10^3$



Typical spectrum of ochratoxin A



Determination of aflatoxins B1, B2, G1 and G2 in maize

# Post-Column Derivatizer

Post-column derivatization (also called post-column derivatization reaction) is a process in which a compound lacking detectable properties is converted into a derivative with specific, measurable characteristics.

## PD3100 Post-Column Derivatizer

The PD 3100 post-column derivatizer features an advanced design with a non-metal flow path, precise temperature control, and easy connectivity to HPLC systems. This ensures simple, efficient, and accurate liquid chromatography analysis.



### Features

- Integrates dual derivatization reactors, dual independent precision temperature-control modules, and a cooler in one unit.
- Fully inert flow path; wetted materials include PEEK and Teflon FEP for broad compatibility.
- Independent temperature control with intelligent auto-adjustment and over-temperature cutoff protection.
- Adjustable back-pressure valve reduces detector stabilization time.
- Wide chemical compatibility with common acids, bases, organic solvents, and surfactants; pH range 1-14.

### Specifications

Temperature range	From 3 °C above ambient to 155 °C
Temperature control accuracy	± 0.1 °C
Temperature control precision	± 0.2 °C
Dimensions/weight	420 × 260 × 100 mm (L × W × H)/9.3 kg
Power supply	AC 100-240 V, 50/60 Hz, 320 W

## PD 3110 Photochemical Derivatizer

The PD 3110 photochemical derivatizer is designed for the analysis of aflatoxins and sulfonamides, and is compatible with liquid chromatographs from all major brands. It operates on the principle of enhancing the fluorescence intensity of analyte derivatives through UV irradiation, followed by detection with a fluorescence detector.

### Features

- Low operating cost with no derivatization reagents required.
- No interference with the HPLC system.
- Rapid and low-toxicity process.
- Simple operation.

### Specifications

UV lamp wavelength	254 nm
Derivative volume	0.5 mL
Pressure resistance	300 psi
Dimensions/weight	350 × 130 × 110 mm (L × W × H)/2.7 kg
Power supply	AC 220 V, 50 Hz/11 W

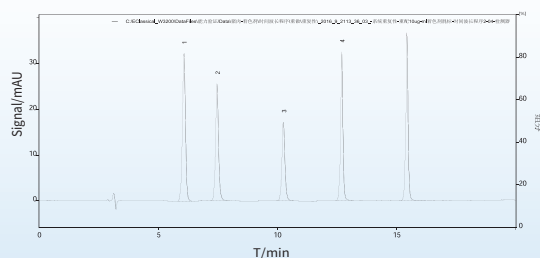


# Application Examples (Food)

## Analysis of Synthetic Colorants in Meat Products

Column: Supersil ODS2 5  $\mu\text{m}$  4.6  $\times$  250 mm  
 Mobile phase: A: 0.02 mol/L ammonium acetate solution,  
 B: methanol; gradient elution  
 Flow rate: 1.0 mL/min  
 Detection wavelength: 254 nm  
 Injection volume: 10  $\mu\text{L}$   
 Column temperature: 35°C

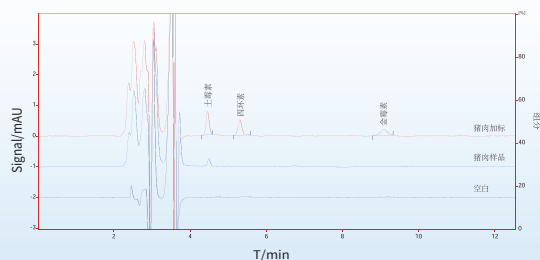
Time/min	Gradient condition	
	A%	B%
The initial	80	20
6	65	35
15	40	60
20	80	20
30	80	20



1. Tartrazine; 2. Amaranth; 3. Ponceau 4R; 4. Sunset yellow FCF; 5. Allura red AC

## Analysis of Tetracycline Antibiotics in Meat Products

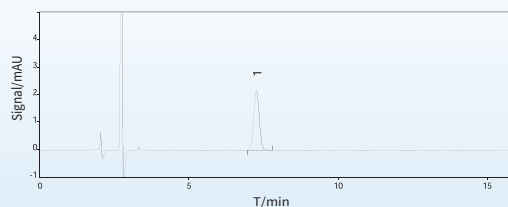
Column: SinoChrom ODS-BP 5  $\mu\text{m}$  4.6  $\times$  250 mm  
 Mobile phase: acetonitrile:sodium dihydrogen phosphate  
 buffer solution = 27:73  
 Flow rate: 1.0 mL/min  
 Detection wavelength: 355 nm  
 Injection volume: 20  $\mu\text{L}$   
 Column temperature: 30 °C



## Analysis of Vitamin B12 in Food

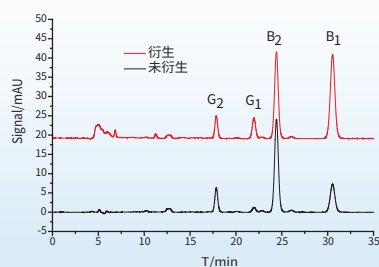
Column: Supersil ODS2 5  $\mu\text{m}$  4.6  $\times$  250 mm  
 Mobile phase: A: Dissolve 0.87 g of dipotassium hydrogen  
 phosphate and 0.41 g of potassium dihydrogen phosphate in water  
 within a 1000 mL volumetric flask. Add 115 mL of acetonitrile, then  
 dilute to the mark with water and mix thoroughly.  
 B: A mixture of water, acetonitrile, and phosphoric acid in a volume  
 ratio of 499:499:2  
 Flow rate: 1.2 mL/min  
 Detection wavelength: 361 nm  
 Injection volume: 10  $\mu\text{L}$   
 Column temperature: 40 °C

Time/min	Gradient condition	
	A%	B%
0	100	0
13	100	0
28	0	100
38	100	0
50	100	0



## Analysis of Aflatoxin in Honey

Column: SinoChrom ODS-BP 5  $\mu\text{m}$  4.6  $\times$  200 mm  
 Mobile phase: methanol:acetonitrile:water = 20:20:60 (v/v/v)  
 Flow rate: 0.8 mL/min  
 Detection wavelength: excitation 360 nm, emission 450 nm  
 Injection volume: 20  $\mu\text{L}$   
 Column temperature: ambient

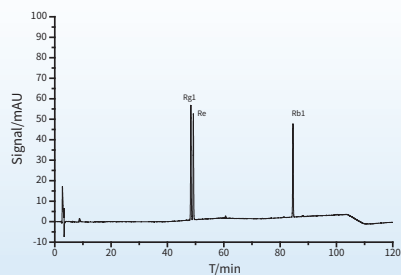


# Application Examples (Traditional Chinese Medicine)

## Analysis of Ginsenoside

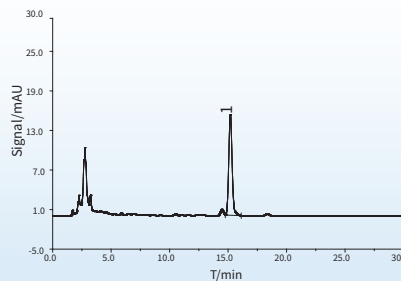
Column: EliteUQ GIN C18 column for ginseng  
 Mobile phase: acetonitrile (A); water (B); gradient elution  
 Flow rate: 1.0 mL/min  
 Detection wavelength: 203 nm  
 Injection volume: 10  $\mu$ L  
 Column temperature: 40  $^{\circ}$ C

Time/min	Gradient condition	
	A%	B%
0-35	19	81
35-55	19 $\rightarrow$ 29	81 $\rightarrow$ 71
55-70	29	71
70-100	29 $\rightarrow$ 40	71 $\rightarrow$ 60
100-105	40 $\rightarrow$ 19	60 $\rightarrow$ 81
105-120	19	81



## Analysis of Porphyra

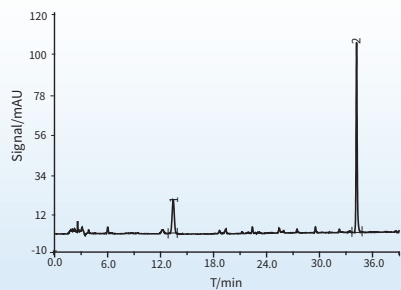
Column: Supersil ODS2 5  $\mu$ m 4.6  $\times$  150 mm  
 Mobile phase: methanol  
 Flow rate: 1.0 mL/min  
 Detection wavelength: 283 nm  
 Injection volume: 5  $\mu$ L  
 Column temperature: ambient



## Analysis of Roasted Licorice

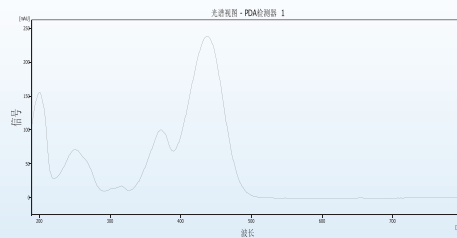
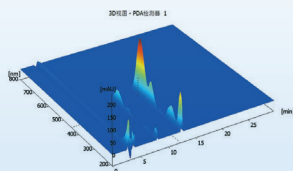
Column: SinoChrom ODS-BP 5  $\mu$ m 4.6  $\times$  200 mm  
 Mobile phase: A acetonitrile, B 0.05% H<sub>3</sub>PO<sub>4</sub> solution (gradient elution)  
 Flow rate: 1.0 mL/min  
 Detection wavelength: 237 nm  
 Injection volume: 10  $\mu$ L  
 Column temperature: ambient

Time/min	Gradient condition	
	A%	B%
0-8	19	81
8-35	19 $\rightarrow$ 50	81 $\rightarrow$ 50
35-36	50 $\rightarrow$ 100	50 $\rightarrow$ 0
36-40	100 $\rightarrow$ 19	0 $\rightarrow$ 81



## Gold Amine O

Column: SinoChrom ODS-BP 5  $\mu$ m 4.6  $\times$  250 mm  
 Mobile phase: acetonitrile: 0.025 mol/L KH<sub>2</sub>PO<sub>4</sub> (containing 0.2% triethylamine, pH adjusted to 3.0 with H<sub>3</sub>PO<sub>4</sub>) = 35:65  
 Flow rate: 1.0 mL/min  
 Detection wavelength: DAD detection  
 Injection volume: 10  $\mu$ L  
 Column temperature: ambient

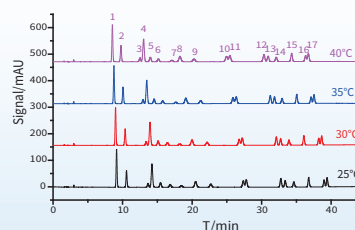


# Application Examples (Environmental)

## Analysis of Polycyclic Aromatic Hydrocarbons

Column: Supersil ODS2 5  $\mu\text{m}$  4.6  $\times$  250 mm  
 Mobile phase: A: acetonitrile, B: water  
 Flow rate: 1.0 mL/min  
 Detection wavelength: 220 nm  
 Injection volume: 10  $\mu\text{L}$   
 Column temperature: 30  $^{\circ}\text{C}$

Gradient condition		
Time/min	A%	B%
0	70	30
16	70	30
40	100	0
45	100	0

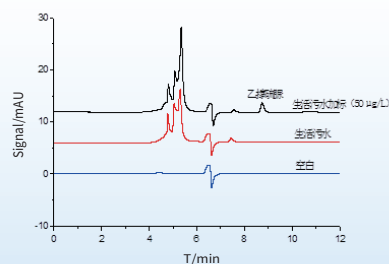


1. Naphthalene; 2. Acenaphthylene; 3. Fluorene; 4. Acenaphthene; 5. Phenanthrene; 6. Anthracene; 7. Decafluorobiphenyl; 8. Fluoranthene; 9. Pyrene; 10. Chrysene; 11. Benzo[a]anthracene; 12. Benzo[b]fluoranthene; 13. Benzo[k]fluoranthene; 14. Benzo[a]pyrene; 15. Dibenzo[a,h]anthracene; 16. Benzo[ghi]perylene; 17. Indeno[1,2,3-cd]pyrene

## Analysis of Ethylene Thiourea in Water

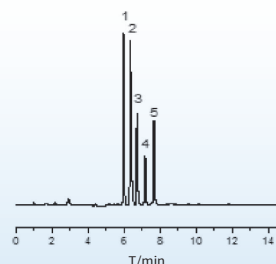
Column: SinoChrom ODS-BP 5  $\mu\text{m}$  4.6  $\times$  250 mm  
 Mobile phase: A: methanol, B: water  
 Flow rate: 0.5 mL/min  
 Detection wavelength: 233 nm  
 Injection volume: 20  $\mu\text{L}$   
 Column temperature: 30  $^{\circ}\text{C}$

Gradient condition		
Time/min	A%	B%
0-10	10	90
10-11	10-100	90-0
11-30	100	0



## Analysis of Five Biogenic Amines in Water

Column: SinoChrom ODS-BP 5  $\mu\text{m}$  4.6  $\times$  150 mm  
 Mobile phase: A: acetonitrile, B: 20 mmol/L ammonium acetate solution  
 Flow rate: 1 mL/min  
 Detection wavelength: 254 nm  
 Injection volume: 10  $\mu\text{L}$   
 Column temperature: ambient

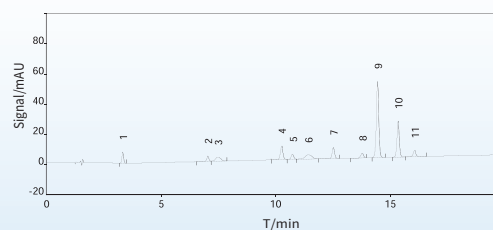


1. Putrescine; 2. Cadaverine; 3. Spermidine; 4. Spermine; 5. Histamine

## Analysis of Twelve Phenolic Compounds in the Environment

Column: Supersil ODS2 5  $\mu\text{m}$  4.6  $\times$  150 mm  
 Mobile phase: A: acetonitrile, B: water  
 Flow rate: 1.5 mL/min  
 Detection wavelength: 223 nm  
 Injection volume: 10  $\mu\text{L}$   
 Column temperature: ambient (25  $^{\circ}\text{C}$ )

Gradient condition		
Time/min	A%	B%
0	15	85
20	40	60
22	15	85



1. 1,3-catechol; 2. Phenol; 3. 2,4-dinitrophenol; 4. 3-methylphenol; 4-methylphenol; 5. 2-methylphenol; 6. 2,4,6-trinitrophenylphenol; 7. 4-chlorophenol; 8. 2,6-dimethylphenol; 9. 2-naphthol; 10. 1-naphthol; 11. 2,4-dichlorophenol



**About Elite**

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