



# E-Chrom Tech Co., Ltd.

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## A02- Liquid Chromatography



**High-pressure Gradient System**



**Isocratic System**

### Descriptions

#### High-pressure Gradient System

- A. High-pressure pump: 2 pcs
- UV/VIS detector: 1 piece
- High-pressure 6-port injector: 1 piece
- C18 column 5 $\mu$ m ID4.6  $\times$  200mm: 1 piece
- Gradient control module: 1 unit
- High-pressure gradient mixer: 1 piece
- Single channel chromatography data system: 1 unit

- B. High-pressure pump: 2 pcs
- Diode array detector: 1 piece
- High-pressure 6-port injector: 1 piece
- C18 column 5 $\mu$ m ID4.6  $\times$  200mm: 1 piece
- Gradient control module: 1 unit
- High-pressure gradient mixer: 1 piece
- DAD Data-Processing Software: 1 unit

#### Isocratic System

- A. High-pressure pump: 1 piece
- UV/VIS detector: 1 piece
- High-pressure 6-port injector: 1 piece
- C18 column 5 $\mu$ m ID4.6  $\times$  200mm: 1 piece
- Single channel chromatography data system: 1 unit

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## Features & Specifications



### P230 High Pressure Pump (Analytical)

#### Features

- The P230 Pump is a dual plunger solvent delivery system. The mechanical design includes short plunger stroke technology with two check valves. This results in very low pulsation.
- The microprocessor controlled speed regulation leads to a very stable speed of the step motor, driving the plungers.
- Integrated calculation software continuously corrects flow rates according to the system pressure.
- Provide flow rate adjustment function when the actual flow rate is different from the preset.
- The RS232 remote port is designed to control by data system.

#### Specifications

- Flow range: 0.001-9.999mL/min, with 0.001mL/min increment
- Flow accuracy:  $\leq \pm 0.3\%$  (1.000mL/min, 8.5MPa, water, ambient temperature)
- Flow stability: RSD  $\leq 0.1\%$  (1.000mL/min, 8.5MPa, water, ambient temperature)
- Max pressure: 40MPa (0.001-4.999mL/min); 20MPa (5.000-9.999mL/min)
- Pressure precision: the displayed pressure error is less than  $\pm 0.3\%$ ;
- Pressure pulsation:  $1 \leq 1.0\%$
- Line voltage: 220V  $\pm 22V$ , 50Hz  $\pm 0.5Hz$
- Power consumption: 180W
- Dimensions: 420mm  $\times$  280mm  $\times$  175mm
- Weight: 20kg



### UV230+ UV/Vis Detector

#### Features

- Diode Array Technology for wavelength change without any mechanical moving parts.
- Dual lamp (deuterium / tungsten) for a spectral range of 190 - 720 nm.
- Programmable change of wavelength (up to 5 steps).
- Serial interface (RS232C) for external control.



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### Specifications

- Wavelength range: 190-720nm
- Light source: Deuterium lamp and Tungsten lamp
- Optical bandwidth: 6nm
- Wavelength accuracy:  $\pm 0.5$ nm
- Wavelength repeatability:  $\pm 0.1$ nm
- Wavelength programmable time setting range: 0.1-999.9min
- Rise Time: 0.0-9.9s
- Linear range:  $\geq 1.5$ AU (5%)
- Baseline noise:  $\leq \pm 3 \times 10^{-5}$  AU (empty cell, 254nm, 1.0s)
- Baseline drift:  $\leq 5 \times 10^{-4}$ AU/h (empty cell, 254nm, time: 60min)
- Analytical flow cell :optical path length 10mm; volume 10 $\mu$ L
- Semi-preparative flow cell: optical path length 3mm; volume 5 $\mu$ L
- Micro flow cell: optical path length 3mm; volume 1.2 $\mu$ L
- Power requirements: 220V, 50Hz
- Power consumption: 110W
- Dimensions: 420mm  $\times$  280mm  $\times$  175mm
- Weight: 8kg



### DAD230 Diode Array Detector

#### Features

- A full-closed optical system and quartz light fiber based transmission technique was used.
- High spectral resolution and detect sensitivity were obtained.
- Combined with the powerful data system (DAD Data System Workstation), the instrument can provide a lot of information including chromatogram, spectra of components, three dimension information and peak purity results.

#### Specifications

- Wavelength Range:
  - 199-618nm (512 Diodes)
  - 190-1015nm (1024 Diodes)
- Light source: Deuterium lamp and Tungsten lamp
- Number of Diodes: 512/1024
- Array Resolution: 0.8nm



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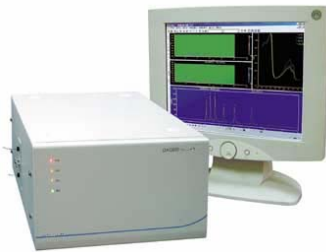
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- Spectral Resolution: 1.2nm
- Wavelength Accuracy:  $\pm 0.5$ nm
- Wavelength Repeatability:  $\pm 0.1$ nm
- Rise Time: 0.1-9.9s
- Baseline Noise:  $< \pm 1.5 \times 10^{-5}$  (AU); N<sub>2</sub> in empty cell, 254nm, 1.0s
- Baseline Drift:  $< 5 \times 10^{-4}$  (AU/h) N<sub>2</sub> in empty cell, 254nm, time: 60min
- Flow Cell:
  - Analytical flow cell :optical path length 10mm; volume 10 $\mu$ L
  - Semi-preparative flow cell: optical path length 3mm; volume 5 $\mu$ L
- Micro flow cell: optical path length 3mm; volume 1.2 $\mu$ L
- Operating Temperature: 4 to 40°C
- Operating Humidity: < 80%, non-condensing
- Power requirements: 110/220V, 50/60Hz
- Power Consumption: 110W
- Dimensions: 420mm  $\times$  280mm  $\times$  180mm
- Weight: 8kg



### DAD Data Working Station

- To guarantee DAD system a stable operation under Windows 9x, we adopt virtual driver. With a friendly interface and strong function DAD data-processing platform, users can conveniently observe and process contour map, spectrogram, chromatogram and three-dimensional spectrogram-chromatogram. With sufficient functions of chromatographic data processing and quantitative calculating, arbitrary revolving and parts magnifying, users can obtain more vivid visual effect and results analysis.
- DAD workstation can provide all kinds of chromatograms, including single wavelength, arbitrary two-wavelength absorbance, wavelength time procedure, max absorption wavelength and total absorption, and among them, the most sensitive detection method is max absorption wavelength chromatogram, while the best method to quantitate reproducibility is total absorption chromatogram.
- DAD system provides many discrimination methods on peaks purity, including contour map, three-dimensional spectrogram-chromatogram, overlap spectrogram, wavelength comparison diagram and peaks purity calculating method.
- Users can conveniently built their ultraviolet spectrogram gallery with the



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multifunctional spectrogram gallery managing and searching procedure, and the programme can auto-pick spectrogram to each peak from spectrogram, chromatogram and three dimensional data; auto-search spectrogram gallery; users can also add the auto-picked spectrogram into appointed gallery.