

High Performance Liquid Chromatograph



TL-3000LC

Introduction:

TOPLAB INDIA'S TL-3000LC HPLC configuration is pump, detector, injector, solvent tray (for bottles), column and software.

The installation and adjustment process is very easy. The system running is reliable and operation is convenience that can be competent the routine laboratory's utilizations.

Analytical HPLC System

› High pressure pump: TL-3000-I/B/Q

- Diameter of the plunger and the cam stroke are re-optimization to further increase the flow rate accuracy and repeatability ;
- Instrument motherboard adopt design together for upgrade CPU motherboard and function board that are facilitate production and maintenance ;
- Initialized 10 points calibration for pressure to ensure the linear pressure in whole pressure range;
- Firmware can be updated online via the network ;
- Pump can be controlled by panel and computer software
- Support low-pressure gradient mode. The main pump drives gradient organizations to achieve gradient elution.

Technical Specification:

- Isocratic Pump HPLC System (TL-3000-I)
- Binary gradient pump HPLC system (TL-3000-B)
- Quaternary gradient Pump HPLC System (TL-3000-Q)
- Double-plunger tandem reciprocating pump
- Flow range: 0.000 – 10.000 mL/min
- Flow rate accuracy: $\leq \pm 0.2\%$ (1.000mL/min, 8.5MPa, water, RT)
- Flow rate precision: $\leq 0.075\%$ (1.000mL/min, 8.5MPa, water, RT)
- Flow rate repeatability: $\leq 0.15\%$
- Max. Work Pressure range: $\leq 42\text{Mpa}$ (0 -5ml/min)
- Gradient accuracy: $\pm 2\%$
- Gradient repeatability: $\leq 0.2\%$
- Automatic plunger washing
- CAN communication
- Voltage/frequency: AC 100V~240V/50-60Hz
- GLP: running/maintenance history available

› UV-VIS Detector: TL-3000UV

- The system built-in 10-point wavelength calibration program makes full compliance with the wavelength accuracy and repeatability requirements.
- Make deuterium lamp and tungsten lamp on-line simultaneously (190~800) nm.
- The detector has a power-off protection function that automatically records the detector parameters for the last record.

Technical Specification:

- Dual Wavelength
- Detection wavelength: 190nm ~ 800nm
- Optical path: 10mm
- Bandwidth: 8nm
- Flow cell volume: 10 μ l
- Baseline Noise: $\leq \pm 0.35 \times 10^{-5}$ AU (static, 254nm, 50Hz, 1.0s)
- Baseline Drift: $\leq \pm 0.5 \times 10^{-4}$ AU/h (static, 254nm, 50Hz, 1.0s)
- Minimum detection limit g/mL: $\leq 4 \times 10^{-9}$ g/ml (Naphthalene/methyl alcohol solvent)
- Wavelength accuracy: ± 0.75 nm
- Wavelength RSD: ± 0.2 nm
- Refractive index: [-0.015,0] (methane cyclohexane)
- Stray light: $\leq 10^{-4}$ (water acetone)
- Linear range: $\geq 1.0 \times 10^4$ (2% isopropanol acetone)
- Automatic leaking alarm
- CAN communication
- Power: 200W
- GLP: running/maintenance history available
- Voltage/frequency: AC 100V~240V/50-60Hz

› Degasser: TL-3000DG

- Degassing volume 286 μ l, faster solvent displacement
- 1-6 channel selectable
- Intelligent degassing to avoid baseline interruption
- Optional solvent selection valve to achieve more input

› **Column Oven: TL-3000CO**

- Heating method: semiconductor heating/cooling
- Temperature: lower than ambient temp. 5°C to 80°C
- Temperature accuracy/stability: $\pm 0.5^{\circ}\text{C}$ / 0.05°C
- Temperature ramp speed: in 15min from 20 to 50°C
- Temperature cool-down speed: in 15min from ambient temp to ambient temp - 5°C
- LC column capacity: 2
- Over-heating alarm: recoverable thermal protector
- GLP: running/maintenance history available
- Voltage/frequency: AC 100V~240V/50-60Hz

› **Auto Sampler: TL-3000AS**

- Injection volume variable
- Injection way: partial or full-loop
- Injection volume : 1-100ul(standard)/0.1-2000ul(optional)
- Sample volume: 96 vials/ 180 vials (2ml)
- Injection accuracy: RSD<0.5%
- Linear range: R>999
- Pressure range: 50Mpa / 42MPa
- Cross contamination: $\leq 0.01\%$
- Repeating injection times: 100000
- GLP: running/maintenance history available
- Voltage/frequency: AC 100V~240V/50-60Hz

› **LC Workstation Software & Clarity software: TL-3000WS**

- .txt, CSV, AIA/cdf, pdf format compatible to link with MS office, LIMIS and third party CDS for data transfer.
- GLP/FDA CRF21 PART 11 compliance including privilege management, log management and audit tracking.
- IQ/OQ module available including OQ/PV and software IQ/OQ confirmation.
- EU GMP compliance.
- Friendly man-machine interface (PID / alarm setting).
- Compatibility with Windows, Windows 7 & Windows 10 etc.