

HPLC SPECIFICATIONS

Semi-preparative cum analytical HPLC system with Binary Pump and Accessories:

- An analytical cum semipreparative HPLC system capable of separating complex samples in milligrams scale.
- System: Fully PC controlled analytical cum semi-preparative LC system with following technical and Performance specification.
 1. Solvent delivery system for semi-preparative and analytical flow rates
 2. Photo Diode Array Detector
 3. Injector
 4. Fraction collector
 5. Chromatography data station
 6. Columns
 7. Installation kit

Binary Solvent delivery system:

- Binary pump capable of handling semi-preparative and analytical flow rates
- High-pressure binary mixing pump in single module.
- Mode of operation: Isocratic and gradient.
- Settable solvent composition: 0-100% within 0.1% increments
- Inbuilt degasser for all the channels
- Flow rate range 0.01 – 50 ml/min, in 0.01 ml/min increments
- Flow precision should be \leq 0.07 % RSD.
- Pressure operating range up to 400 bar (upto 5 ml/min), 200 bar (upto 10 ml/min) or better
- Flow precision <0.1% RSD, or <0.02 min SD whatever is greater, based on retention time at constant room temperature
- Flow rate accuracy \pm 1% or 10 μ l/min whatever is greater
- System should be fitted with leak detector for safe leak handling, leak output signal for shutdown of pumping system.
- The necessary suction/line filters and solvent cabinet

Photo diode array detector suitable for working in both analytical and preparative modes

- Standard flow cells for preparative and analytical operations
- Light source: Deuterium and Tungsten lamps
- More than 512 elements photodiode array device
- Wavelength Range: 190 – 950 nm, settable in 1 nm increments
- Wavelength accuracy \pm 1 nm self-calibration with deuterium lines
- Programmable slit width of 1,2,4,8,16 nm
- Noise specification: $<\pm 0.7 \times 10^{-5}$ AU, at 254 and 750 nm
- Signal drift specification: $<0.9 \times 10^{-3}$ AU/hour at 254
- Linear absorbance range > 2 AU (upper limit)
- Detector should have 1024-element diode arrays for highest spectral resolution. Detector linearity: 5% at 2 AU Propyl Paraben, 257 nm

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- Programmable slit width should be there with 1, 2, 4, 8, 16 nm options for optimizing noise and spectral resolution.
- Wavelength bunching 1 – 400 nm Programmable in steps of 1 nm.
- Radio Frequency Identification Tags for flow cells and UV lamp should be there for improved data traceability.
- Flow cells for both analytical and semi-prep experiments should be provided.

Injector:

- Manual Injector for preparative and analytical applications with 20 µL, 100 µL, 500 µL and 1 mL liter loop.
- Higher injection precision preferable.

Chromatography data station

- Software to control, acquire and process the data with interactive control and display of solvent delivery via controlled network
- All functions and features accessible from a single window
- Wizards to simplify and automate common system functions
- Seamless integration of all the modules should be available
- 3D spectral module should be provided for the diode array detector
- Methods – instrument, processing and reporting parameters in one place
- Diagnostics functions, configuration wizards and Extensive user help

Fraction Collector

- Automatic fraction collector with flow rate 125-200 mL/min
- 36 or more collection of fraction should be possible
- Automated delay calibration must be there.
- Leak sensor should be available.
- Test tube racks and 300 pcs of 15 mL test tubes

Column Compartment:

- Suitable module for column holding should be provided
- Column capacity should be 2 columns or more
- Leak sensors should be provided
- Maintenance and safety related features should be provided

Columns

- C-18 Columns – Analytical - 1 no.
- C-18 Columns – Preparative - 1 no.
- Daicel CHIRALPAK IA (250 X 4.6mm, 5u) - 1 no.
- Daicel CHIRALPAK IB (250 X 4.6mm, 5u) - 1 no.

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Installation Kit:

- Bottles
- Tubings
- Solvent filtration kit and etc.

The system should be upgradable to add auto-sample injector, MS detector, GPC, Method Development, multi detectors. The above system should have the printed catalogues and specifications including instruction/service manual in English and enable to operate the above system between 10 and 40 °C and function with the voltage of 230V, 50Hz power supply.

General Terms and Conditions:

- 1) Minimum 3 years of warranty
- 2) System should be installed by company professional & thorough technical training to be provided in analyzing and troubleshooting
- 3) The vendor should provide the proof for installation of quoted HPLC system in IITs, IISER and IISc with contact details.
- 4) The vendor should have installed at least 25 HPLC systems in reputed institutions like IITs, IISER and IISc.