

ULTRA HIGH PERFORMANCE LIQUID CHROMATOGRAPHY SYSTEMS – 4 Nos.**Doc. No: ST/12/UHPLC/2016-17/03****PROPOSED APPLICATION:**

For estimation of vitamins, carotenoids and dietary polyphenols etc.

FEATURES:

UHPLC system configured to achieve, high sensitivity and high resolution

1. Suitable Binary Gradient Pump, Gradient Mixer, P.D.A detector, Fluorescence Detector Online Degassing System, Peltier Temperature Controlled auto sampler and Column Oven Compartment etc to achieve high performance conditions as given above.
2. Single control software to control the total operation of the system. To acquire and process the chromatographic data.
3. **Suitable latest configured personal computer system with color monitor, laser printer, etc to complete the system.**
4. System must be validated with suitable standards.

SPECIFICATIONS:**Binary Gradient Solvent delivery module:**

1. The system should use < 2 micron particle technology
2. Time programming mode
 - Flow rate range: 0.01ml to 2.000 **ml/minute**
 - Pressure range: 15000 Psi or better pressure range
 - Type of gradient: Linear and non-linear
 - Flow rate accuracy: $\pm 1\%$

Online Degasser unit:

- No. of channels: minimum 2 or more
- No. of solvents: 2

Peltier temperature controlled auto sampler

- Injection volume range: 1.0 - 100 micro liters (increment 0.1 micro liters)
- Sample capacity: 75 to 100 with provision for micro inserts
- Injection accuracy: $\pm 1\%$
- Temperature range: 5 – 50 degrees centigrade or more in steps of 1°C

Column oven: It must be peltier controlled Oven

- Oven: Temperature controlled oven (peltier controlled)
- Temperature setting range: 5°C above ambient -65°C or better range with 1°C increment.
- Accuracy: $\pm 1.0^\circ\text{C}$
- Capacity of oven: minimum 2 columns with provision for 30 cm length column

Photo Diode Array detector (P. D .A. DETECTOR)

Wave length range: covering both UV and VISIBLE ranges (approx. 190nm to 600 nm or more)

Accuracy: ± 1 nm

No. of elements: 1024

Flow cell volume: Suitable flow cell with volume for above ultra fast HPLC applications

Source of light: Suitable for covering both UV and visible light range

Noise: 1×10^{-6} AU or better

Drift: 2×10^{-3} AU/hr or better

FLUORESCENCE DETECTOR**Features**

Capable to perform fluorescence measurements and spectrum scans at a selected excitation and emission Wave lengths.

Specifications:

Wave length range: EX: 200 to 700 nm; EM: 280nm to 900 nm

Band width : <10 nm

Light source: suitable for fluorescence application covering the wavelength range above

Wave length accuracy: ± 3 nm or better

Sensitivity: S/N ratio for Raman line of water should be > 2000 or above

Cell volume: appropriate cell with suitable volume for the ultrafast HPLC work.

VOLTAGE OF OPERATION FOR EQUIPMENT: 230V A.C / 50HZ /SINGLE PHASE SUPPLY**OPTIONAL**

Online UPS of suitable capacity for complete system with back up time of one hour

ESSENTIAL

1. INSTALLATION kit for complete installation of system with solvent bottles and solvent bottles tray, VIALS and inserts(minimum 500) for each one of HPLC Equipment
2. Suitable standard columns C -18 (4 columns) and guard column (4 nos) for UHPLC

TERMS AND CONDITIONS:

1. The UHPLC system should carry 3 years comprehensive warranty and 2 years non-comprehensive warranty from the date of installation at the required location
2. The above given specifications and features are only approximate and for the information of bidder to quote for a similar model and make available.
3. The Director, NIN reserves the final right to accept or reject a particular make and model based on the technical suitability as per final requirement and need
4. The accessories supplied should be covered under standard warranty.
5. Accessories viz., branded PC along with latest configuration and printer.
5. The bidder should accept the above terms and conditions in writing