Commodity Description: Chromatography System

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| --- | --- | --- | --- |
| Item No. | Description | System | Quantity |
|  | Fast Performance Liquid  Chromatography | 1 | 1 |

A. Enduser's Uses

1. Fast Performance Liquid Chromatograph for quantitative and qualitative analysis of a wide range of polysaccharides, proteins, and peptides

2. Analyzers and consumables are entirely included for immediate operation.

3. Analyzers comes with one-year warranty and installation and the operation workshop for user should be included in purchasing analyzer.

4. It should be able to use the column length above 220, 260, 280 mm for new methods must be developed can be applicable.

5. It should have a maximum pressure of 400bar to utilize smaller particle size Resins for higher resolution and faster separations.

6. It is a easy, fast and secure transfer of methods from FPLC columns.

7. UV detectors should have the lowest noise with the uncoated flow cell inside.

8. Leak sensor, air sensor and safe leak handling path are provided for each module including

Fraction collector, quaternary gradient mixer, DOE.

**9. Configration** of goods

Standard chromatography Description

System pump: A high precision pump, which delivers buffer in purification runs.

A high precision pump which delivers sample or bufferin purification runs.

Sample pump: Reads the system pressure after System pump A, System pump B and Sample pump.

Pressure monitors: Prevents the system from siphoning if the flow path afterthe System

pumps or Sample pump is open.

Pump flow restrictor: Mixes the buffers delivered from the system pumps to a homogeneous buffer composition. Three mixer chambers are available for

Mixer

Injection valve: Directs sample onto the column.

Inlet valve for System pump A with seven inlet ports and integrated and air sensor.

Inlet valve A & Inlet valve for System pump B with seven inlet ports and integrated air sensor.

Inlet valve B: Inlet valve for Sample pump with eight inlet ports (seven sample inlets and one buffer inlet) and integrated air sensor.

Sample inlet valve: Quaternary valve Allows automatical mixing of four different solutions.

Connects up to five columns to the instrument, and directs the flow to one column at a time. The Column valve features two integrated

pressure sensors. The valve allows the user to choose flow direction through the column, or to bypass the column.

Column valve : Enables the pH electrode and flow restrictor to be included in the flow path or bypassed during a run. The pH electrode may be calibrated when installed in the pH valve. p

Directs the flow to the Fraction collector, Fraction collector 2 or any of the ten outlet ports or waste.

Outlet valve : Measures the UV/Vis absorbance at up to three wavelengths simultaneously in the range 190-700 nm.

UV monitor U9-M

UV detector U9-D

10. DOE based Software

1) Chromatography Data System for liquid chromatography 1set

|  |  |
| --- | --- |
| Parameter | Data |
| System configuration | Benchtop system, external computer |
| Control system | Software supported |
| Connection between PC and instrument | Ethernet |
| Dimensions (Length x Depth x Height) | 860 x 710 x 660 mm |
| Weight (excluding computer) | 100- 116 kg |
| Power supply | 100-240 VAC, 50-60 Hz |
| Power consumption | 800 VA |
| Enclosure protective class | IP 21, wet side IP 22 |
| Tubing and connectors | Inlet: FEP tubing, inner diameter (i.d.) 1.6 mm,  Tubing connector 5/16″ + Ferrule (yellow), 1/8″  • Pump to Injection valve: PEEK tubing, i.d.  0.75 mm, Fingertight connector, 1/16″  • After Injection valve: PEEK tubing, i.d. 0.50 mm,  Fingertight connector, 1/16″  • Outlet and waste: ETFE tubing, i.d. 1.0 mm,  Fingertight connector, 1/16″ |
| Operating temperature range | 4°C to 35°C |
| Pump type | Piston pump, metering type |
| Flow rate range | 0.001 to 25 ml/min (normal range)  0.01 to 50 ml/min (column packing flow) |
| Flow rate specifications | • Accuracy: ±2%  • Precision: RSD < 0.5%  (Conditions: 0.25 to 50 ml/min, < 3 MPa, 0.8 to 3 cP) |
| Mixing principle | Chamber with a magnetic stirrer |
| Mixer volume | 0.6 ml, 1.4 ml (default) or 5 ml |
| Number of monitors | Up to 2 |
| Wavelength range | U9-M: 190 to 700 nm in steps of 1 nm, up to 3 wavelengths  U9-L: 280 nm |
| Fraction collector F9-R  Vessel types | 3, 5, 8, 15, 50 ml tubes  • 250 ml bottles  • Deep well plates: 96 / 48 / 24 |
|  |  |

11. Accessories

* Inlet Valve Kit
* Outlet Valve Kit
* Fraction Collector
* Column Valve Kit
* Sample Inlet Valve Kit
* Sample pump
* Shipping Charge

12. Software

1) DOE based Chromatography Data System for liquid chromatography for statistical

(2) Intelligent Reporting allows to create state-of-art standard or custom reports for LC data with more efficient result review including graphical visualization of results

(3) enables to calculate concentration and plot different parameters such as pH and conductivity and gradients etc.

(4) New Recalculate Mode allows to quickly apply methods to a set of single injections, parts of sequence or a complete sequence.

(5) It is possible to combine data from different sequences or from a sequence and single runs into a virtual sequence

(6) It handles master methods and sequence methods in a transparent manner.

(7) Users are managed by user privileges and password protection in Shared Services

even on a stand-alone workstation

13. Remarks

1. 1-2 years warranty service shall be provided.

2. On-site installation by certificated engineer

3. Training

**4. ‘위 규격서에서 명시한 제품과 동등 이상의 다른 제품 납품이 가능한 업체는 입찰에 참가할 수 있음’.**