FPLC System Specification

1. The system should be inert and biocompatible with all purification and development work from microgram to gram scale.
2. The system should deliver a flow rate of 0.001 mL/min to 10 mL/min or higher with a flow rate accuracy of ±2%, and a pressure limit of 25 Mpa.
3. The system pump should be binary, of piston make, must be capable of delivering solutions/mixtures with a viscosity between 0.5 to 10.8 cP, and have a proper mixer module with a magnetic stirrer to generate gradient.
4. The system should be touch screen enabled, modular, and upgradeable to include hardware components to suit user applications.
5. The system must be equipped with a conductivity monitor capable of reading in the range of 0.01-999.9 mS/cm with an accuracy of ±2%.
6. The system should have the capability of running with automatic pressure-flow modulation option.
7. The UV lamp should come with minimal warmup time and come with a 5 mm analytical flow cell.
8. The detector should allow simultaneous detection of 4 wavelengths between 190-800 nm.
9. The UV module of the system must be able to read absorbance range from 0 to +3000 mAU; with linearity of ± 5% within 0 to 2500 mAU and can be turned off when desired.
10. The fraction collector should be equipped with a 3-port diverter valve.
11. The system must be capable of automated sample injection with the option of loop selection for different sample volumes.
12. The software should be capable of manual runs as well as user-defined and pre-defined method runs. External design of experiment package should be available.
13. The software must have a detailed evaluation segment for peak integration, evaluation, peak smoothening, peak offset adjustment, peak overlay comparison of results and automated quantification of peak fractions.
14. The software should come with inbuilt library with prepacked column information; it should be an inbuilt function phase able to import data file from other FPLC platforms, can perform column performance test as an
15. The software should be inbuilt into the touchscreen panel of the system as well.
16. The system should be supplied with a XY fraction collector with
    - Adequate protection from spillage with drop sync upto 2 ml/min
    - Ability to accommodate tubes of 1.5, 2, 15, 50 ml as well as 24, 48, 96 deep well plates or large rack to handle 250 ml bottles.
    - Ability of automatic detection of cassette type by the sensor
    - Automatic peak recognition using control software.
    - Fraction collector should be capable of being used in time, volume or peak recognition mode.
17. The system should have upgradable modular capability to be integrated using I/O box with third party Detectors and Auto samplers.

18. Software should have unlimited user installations, freely upgradeable to support latest features along with free firmware upgrade.
19. The system should have an option of upgrading to multiple column control valves and each valve should allow connection of up to five columns and have an integrated bypass function, which enables washing of the system without removing the column and allows reverse flow for increased application flexibility post-purchase.
20. The system should have installations in various institutes of repute etc.
21. The system should be provided with a compatible high configuration Laptop/Desktop.
22. The automated purification system must carry a warranty of a minimum of 1 year.
23. Installation and training: Vendor must take care of on-site installation, demonstration, and training by a well-trained engineer. Required training for the smooth operation of the instrument should be provided free of charge during and after installation.
24. A list of users of the quoted equipment within the country should be enclosed (A list of at least 15 users must be enclosed)
25. An original catalogue from the manufacturer with technical specifications and relevant application notes must be enclosed.
26. The vendor must provide a certificate saying that prompt after-sales service such as regular maintenance, troubleshooting, and fixing will be carried out by company-trained engineers.
27. The vendor should provide a demonstration of the equipment as and when asked before finalizing the purchase.