



INDIAN INSTITUTE OF TECHNOLOGY BOMBAY

MATERIALS MANAGEMENT DIVISION

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Technical Specification :

Automated Flash Chromatography system

1. Compact bench top model.
2. Capable of computer controlled delivery of independent **four solvents** inlet for binary gradient, linear mode, isocratic Rf and step Gradient. During the run it should be possible to switch from one binary gradient to other binary gradient without switching off the system.
3. System should be able to purify compounds from 10mg - 25g in normal phase and up to 10g sample in reverse phase.
4. Provision to load sample in the form of solid and liquid. Empty Sample Loader for Liquid & Solids in 2 different sizes (5g & 25g) -10 no's each supplied along with the system. The system to have the facility to use Inject / sample loader with pre or self-packed adsorbent to trap high polar solvent without affecting the sample separation.
5. System Supplied with Variable Wavelength UV Detector range from 200-400nm or better and The detector should have detection range of 0.02 to 10.24 AUFS and system should have facility to upgrade with the **external detector, ELSD or RI** as and when requires.
6. Automatic fraction collection. Fraction tracking facility with peak to tube graphical interface.
7. Touch-screen controlled software for operation of the machine.
8. The system and software should have facility to connect 2 columns in Series/ Tandem Mode to separate the very close TLC spot compound and to increase the sample loading capacity and set the method automatically.
9. **Application software :**
 - Eluting position controllable
 - Simple & easy change of method parameters on the fly

- Automatic method set-up based on **inputting TLC Rf value** for the single target compound and/or multiple targets.
 - Visual indication to predict where and when the target compound will elute.
 - The Software should have capability to display the maximum chargeable (CRUDE) sample volume for the selected column OR select the most suitable column to match the (CRUDE) sample size by just inputting the Rf value.
 - Real time monitoring.
 - Branded PC All in ONE Touch Pad with latest windows based operating system, minimum 4 GB RAM, hard disk 100 GB (minimum) or Built in Touch Pad with storage capacity of up to a minimum of 100GB.
10. The system supplied with TLC Image Reader and software should facility to **calculate the Rf value Automatically and create the chromatography Gradient method automatically.**
 11. System supplied with Racks for 18x150mm test tubes with minimum to have 130 test tubes or above.
 12. The Solvent Level monitoring in each Solvent inlet of pump & Waste Level Monitoring system for physical Solvent management.
 13. Safety features like Rack Sensors to automatic stop of flow if Rack is not in exact position and **Rack NOT** in the Fraction Collector Platform & in Rack all test tubes are filled and Pressure Moderating System .
 14. The System should be capable to use from 4 gm to 300gm disposable pre packed Silica / Reverse Phase Columns.
 15. The following pre packed refillable columns with necessary column adapter & Holders 2 set to be supplied along with the system.
 - a) 40g –Pre packed Silica column - 10 no's
 16. Flexibility to use empty self-packing Glass columns & Polypropylene Pre packed refillable Flash column of Silica & C18-ODS having different sizes 4g to 300g from the principal's manufacture's to be quoted under optional.
 17. Warranty: One year warranty from the date of installation and commissioning.