INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
MATERIALS MANAGEMENT DIVISION
Powai, Mumbai 400076.

Ref. PR No. 1000048768 Rfx. No. 6100002270

Item Description – **High Performance Liquid Chromatography (HPLC) System**

Sr. No	Item Description	Detailed Technical Specification	Technical Compliance (Yes / No)	Additional Information (if any)
	High Performance Liquid Chromatography (HPLC) System	The Semi-Preparative HPLC system should be suitable for both Analytical separations for Method development and Purification solutions with specifications as mentioned below: Semi-Preparative HPLC system capability: -The purpose of this system is to perform effective Analytical separations and purification of small molecules in milligrams level. System configuration should include Binary Pump with flowrate 20ml/min or higher and should be capable of providing equivalent performance in both analytical and semi-preparative modes, with Manual Injector, Preparative and Analytical column of same chemistry, Column holder, PDA Detector, automated Fraction Collector and Chromatography Software to control the Semi-Preparative HPLC system from windows 11 based PC. It should also include necessary tubing, nuts, ferrules, joints etc. for smooth installation and operation of the HPLC instrument.		
1.	**Solvent Delivery System (Binary Gradient)**	High Pressure Mixing Binary Gradient Pump having capability to deliver both Analytical and Semi-Preparative flow rate with high accuracy,		

		precision to achieve chromatographic reproducibility with maximum operating pressure 5000 psi or more for the entire flow range up to 20ml/min or higher. Gradient delay volume of the Binary should be 250 micro litre or more. It should be supplied with reservoir tray with 4 solvent bottles complete with fittings.		
2.	**Manual Sample Injector**	The manual Injector must be flexible to inject both analytical and semi-Preparative samples mounted on the same panel/injector holder. It should be provided with Sample loops 20 micro litre for analytical sample and Semi-Preparative Sample loops 100 micro litre,500 micro litre, 2ml loop or higher for purification. HPLC glass syringes (100 micro litre and 2 mL) with blunt end needles to be provided.		
3.	**Photodiode Array Detector**	The PDA detector should be suitable for both analytical method development, trace level impurity detection, quantitation and Semi-Preparative purification applications. PDA detector should be controlled by Chromatography Software and have spectral analysis capabilities for compound identification with both 2D and 3D chromatography, reliable peak purity analysis. Wavelength range: 190 to 800nm Bandwidth: 1.2nm Wavelength Accuracy: ± 1nm Linearity: ≤ 5% at 2.0AU Baseline Noise: ≤ 10 X 10-6 AU, 254nm, dry analytical flow cell. Drift: ≤ 1 X 10-3 AU/hr 254nm, dry analytical flow cell. Photodiodes: 512 or higher Sampling Rate: up to 80 points / second Light Source: Deuterium/Tungsten Lamp with 2000hrs warranty Path length: 10mm Pressure Limit of Flow cell: 1000psi In addition to Analytical flow cell, PDA detector should include a Semi-Preparative flow cell for ease of operation. A dual inlet analytical cum		

		semi-preparative flow cell having temperature control is preferred.		
4.	**Automated Fraction collector**	Supplier should include an automated Fraction collector to be controlled by their respective Software or operated from the key pad /console with flexible collection racks and vessel options. It should be able to handle semi-preparative level flow rate up to 20ml/min or higher and have various modes of fraction collections like time, threshold, volume, manual and pooling of repeated runs into common vessels.		
5.	**Chromatography Software**	Latest, genuine and original license/authentic Windows 11 based chromatography software should be provided to control of HPLC system including Binary Pump, PDA Detector and perform automated Fraction Collection. The software should have capability to acquire analytical separation data, method creation, process and report data and assist in scale-up procedure for Semi-Preparative purification of compounds. The quoted software should have the capability of programming different gradient curves for Method development. The software should have single window operation for user convenience. Trend plot and Library creation facility is desired.		
6.	**PC, UPS and Pre-Installation requisites**	Institute will provide the required PC, Printer, UPS, Sample + Solvent filtration assembly and sonicator at the time of installation. However, vendor should provide the details /specification of PC, UPS capacity etc. for their respective system/software in their bid, so that Institute can make necessary arrangements at the time of installation. Also, vendor should provide site preparation checklist.		
7.	**Warranty**	The system should carry a warranty of 3 years. 1 year's standard warranty and additional 2 years Warranty after completion of standard warranty. Warranty should include Travel and Labor expenses of Customer Engineer service Parts used for repairs.		
8.	**Note**	1. The price quoted should be on door delivery basis inclusive of all taxes at IIT Bombay		

		2. The tendered price should include delivery, installation, commissioning, training of Semi-Preparative HPLC system. At least two training sessions in a year need to be conducted during the period of Warranty depending upon customer demand. 3. The company should provide a certificate stating that the spares of the quoted equipment are available at least 10 years after from the date of installation. 4. All required kits, tubing, joints, tool kit etc. essential for running and maintenance of the system shall be supplied. 5. Vendor should have experience of supplying to research institutes for 5 years and train the users. To provide prompt technical service and Applications support vendor should preferably have a local service centre/labs in Mumbai to increase the uptime of the instrument. Vendor should have plenty of installations of HPLC systems including Semi-Prep Systems in India both in academia and industry and have a reputation in the market for their after-sales support and should maintain adequate spare parts stock in India to provide immediate support.		