

NIPER-G/PUR/GLOBAL/2018/01

Technical Specification for Analytical HPLC with PDA & Fluorescence detector

S. No.	Fully automated analytical high performance liquid chromatography system with single point software control for all the modules of HPLC with the following specifications and the model quoted should be of latest configuration by the company	
	Specification as per the Tender Notification in Chapter 4	Amended Specifications as per the Pre Bid meeting held on 22-02-2018 in Chapter 4
1.	No change	
	<p>Solvent delivery system (Pump, Quaternary Gradient)</p> <ul style="list-style-type: none"> The system should have Quaternary gradient pump and support minimum of four solvents. The system should work in isocratic and gradient modes. The system should have capability to perform low pressure quaternary gradient mixing ability. 	
	<ul style="list-style-type: none"> Vacuum degassing (5 channel): The built in online degasser with at least one channel per solvent and one channel for sample manager wash solvents should be quoted. The degassing has a provision to effective remove/reduce ghost peaks. 	<p>Vacuum degassing (4 channel): The built in online degasser with at least one channel per solvent and one channel for sample manager wash solvents should be quoted. The degassing has a provision to effective remove/reduce ghost peaks.</p>
	<ul style="list-style-type: none"> Operating pressure should be 6000 psi or better suitable for both analytical and semi-preparative applications 	<p>Operating pressure should be 5000 psi or better suitable for both analytical and semi-preparative applications</p>
	<ul style="list-style-type: none"> Flow rate should be 0.1 to 10 mL/min with at least 0.01 ml increments or better 	No change
	<ul style="list-style-type: none"> It should have leak sensors as standard and safe leak handling 	No change
	<ul style="list-style-type: none"> Flow accuracy should be $\pm 1\%$ or better 	No change
	<ul style="list-style-type: none"> Flow precision should be $\pm 0.06\%$ RSD or better 	No change

	<ul style="list-style-type: none"> Should have pump seal wash function which will be equipped with wash system to flush the rear of the high pressure seal & the plunger 	No change
	<ul style="list-style-type: none"> Injection synchronization between pump and sample manager for retention time reproducibility 	No change
	<ul style="list-style-type: none"> System should work in the pH range of 2 to 12 or more Suitable solvent tray that can accommodate four solvents bottles of capacity and the solvent spill from this tray must not affect the instrument. 	No change
	<ul style="list-style-type: none"> The auto sampler vials/test tubes for fraction collection with variable volume capacity should be provided in addition to the vials/test tubes coming long with the instrument (500 Nos). 	No change
	<ul style="list-style-type: none"> Suitable Rheodyne manual injection valve with sensing switch and with loops of 5, 10, 20, 50 and 100 µl for analytical applications. Additionally these injections loops should be quoted of (Each 2 Nos) apart from the loops comes with the instrument. 	Should quote as optional items
	<ul style="list-style-type: none"> The manual syringes of 50 µl syringe (5 Nos) and 100 µl syringe (5 Nos) should be quoted separately in addition to the syringes comes along with the instrument. 	Should quote as optional items
2.	<p>Auto sampler/Sample manager and column temperature compartment</p> <ul style="list-style-type: none"> The auto sampler tray should have capacity to hold minimum of 200 Nos of 1.5 ml vials. 	<p>The auto sampler tray should have capacity to hold minimum of 100 Nos of 1.5 ml vials or more</p>

<ul style="list-style-type: none"> • Injection volume range should be 0.1 to 1000 μL as standard loop or better with at least 0.1 μl increments 	<p>Injection volume range should be 0.1 to 100 μL as standard loop or better with at least 0.1 μl increments</p>
<ul style="list-style-type: none"> • Accuracy should be less than $\pm 1\%$ or better • The injection precision should be less than $\pm 0.25\%$ or better • Auto sampler with auto-dilution and auto-addition capabilities is preferable • The automated pre/post column derivatization assembly/kit should be provided • It should have capacity to hold two or more columns in column compartment 	<p>No change</p>
<ul style="list-style-type: none"> • The sample carryover should be less than 0.003% or better 	<p>No change</p>
<ul style="list-style-type: none"> • Design must ensure isolation of electrical components from liquid flow path 	<p>No change</p>
<ul style="list-style-type: none"> • Column temperature range should be programmable from ambient (25°C) to 80°C in 1°C increments or more 	<p>No change</p>
<ul style="list-style-type: none"> • Safe leak handling must be provided with leak sensors 	<p>No change</p>
<ul style="list-style-type: none"> • There should be some option to track the column usage information 	<p>No change</p>
<ul style="list-style-type: none"> • Column temperature stability should be $\pm 0.1^{\circ}\text{C}$ or better 	<p>No change</p>
<ul style="list-style-type: none"> • Column temperature accuracy should be $\pm 0.5^{\circ}\text{C}$ or better 	<p>No change</p>
<ul style="list-style-type: none"> • Auto sampler vials (500 Nos each of 1.5 ml or equivalent) should be provided in addition to the vials comes along with the instrument 	<p>No change</p>

	<ul style="list-style-type: none"> The columns C₁₈, C₈, HILIC or equivalent columns specific to pharmaceutical compounds, biomolecules such as carbohydrates, amino acids, fatty acids and chiral separations for analytical applications should be quoted separately (A total of 10 columns should be provided) 	<p>The columns C₁₈, C₈, HILIC or equivalent columns specific to pharmaceutical compounds, biomolecules such as carbohydrates, amino acids, fatty acids and chiral separations for analytical applications should be quoted separately (A total of 12 columns should be provided)</p> <p>C18 column 5μ particle 4.6 x 150mm: 3 number</p> <p>C8 column 5μ particle 4.6 x 150mm: 3 number</p> <p>Hilic column 5μ particle 4.6 x 150mm: 3 number</p> <p>Carbohydrate column: 1 number</p> <p>Aminoacid and fatty acid column: 1 number</p> <p>Chiral column: 1 number</p>
	<ul style="list-style-type: none"> Necessary guard columns with respect to above said columns should be quoted separately (A total of 12 Nos should be provided) 	<p>Suitable Guard column for above mentioned column</p>
	<ul style="list-style-type: none"> Autosampler syringes (5 Nos each for analytical and semi-preparative injections) should be provided 	<p>Autosampler syringes (5 Nos each for analytical injections) should be provided</p>
3.	<p>PDA detector</p> <ul style="list-style-type: none"> Wave length should be in the range of 190-800 nm or more settable in 1 nm increment The temperature controlled flow cells of detector for analytical applications (2 Nos) should be quoted in addition to the ones comes along with the instrument. The D₂ lamps (2 Nos) and W lamps (2 Nos) should be quoted separately in addition to the ones comes along with the instrument 	<p>No change</p> <p>The temperature controlled flow cells/suitable flow cell of detector for analytical applications (2 Nos) should be quoted in addition to the ones comes along with the instrument.</p> <p>No change</p>

	<ul style="list-style-type: none"> The detector must have linearity of 5% at 2.0 AU 	No change
	<ul style="list-style-type: none"> The detector must have wavelength accuracy of ± 1 nm 	No change
	<ul style="list-style-type: none"> The detector must have guaranteed lamp life of not less than 2000 hours 	No change
	<ul style="list-style-type: none"> The detector should have lamp optimization software facility which guarantees low noise performance without lamp change and compensates for lamp degradation over time 	No change
	<ul style="list-style-type: none"> Data acquisition range should be 80 Hz or more 	No change
	<ul style="list-style-type: none"> The detector must able to operate in 3D and 2D simultaneously 	No change
	<ul style="list-style-type: none"> The detector should have low volume long path length flow cells for optimum performance and to achieve highest sensitivity. 	No change
4.	Fluorescence detector	No change
	<ul style="list-style-type: none"> Wavelength range should be 200 to 800 nm 	No change
	<ul style="list-style-type: none"> The low volume flow cell of 8 or 10 μl or less should be provided 	No change
	<ul style="list-style-type: none"> The band width should be 20 nm 	No change
	<ul style="list-style-type: none"> Wavelength accuracy should be ± 2 nm 	No change
	<ul style="list-style-type: none"> Data acquisition range should be 70 Hz or more 	No change
	<ul style="list-style-type: none"> The suitable flow cells for analytical applications should be quoted (2 Nos) 	No change
	<ul style="list-style-type: none"> The detector should have leak sensor facility 	No change
	<ul style="list-style-type: none"> Sensitivity should be $S/N > 1000$ (Raman spectrum of H_2O) 	No change
	<ul style="list-style-type: none"> Wavelength repeatability should be ± 0.25 nm 	No change

	<ul style="list-style-type: none"> • Two spare lamps should be provided separately 	No change
	<ul style="list-style-type: none"> • Lamp life of 2000 hours or more should be guaranteed 	No change
5.	<p>Other specifications</p> <ul style="list-style-type: none"> • The chromatography software should be capable to control all modules such as pump, auto sampler, PDA and Fluorescence detector without any up gradation and have capability to robust peak integration, report formatting, qualitative and quantitative processing with effective detection of low level peaks on noisy or sloping baseline. 	No change
	<ul style="list-style-type: none"> • The system should have software to automatically calculate the HPLC conditions from analytical to semi-preparative and UHPLC applications. 	No change
	<ul style="list-style-type: none"> • A latest suitable and compatible computer (i7/i5 processor, 1 TB HDD, 16GB RAM or more) with 26" TFT monitor and multifunctional laser printer with scanning and auto duplex printing facility for HPLC chromatographs and data (One set) 	No change
	<ul style="list-style-type: none"> • Necessary tool kit for routine maintenance of quoted system 	No change
	<ul style="list-style-type: none"> • Compatible UPS system with at least 10 KVA with built-in isolation transformer capable of taking inductive loads with at least 2 hours backup from Libert/APC with vertical batteries stand to support the whole system (One) 	No change
	<p>Optional items:</p> <ul style="list-style-type: none"> • A stand-alone automated solid-phase extraction system of latest model with at least 6 samples per hour extraction efficiency will all accessories, including computer and software with 21 CFR part 	Computer and software can be omitted

	11 compliance should be quoted separately as an optional item	
	<p>Important Note(s):</p> <ul style="list-style-type: none"> The system should have GLP/GMP compliance and should strictly meet 21 CFR Part 11 guidelines. The system should enable for audit trails, electronic signature and other requirements related to GLP compliance. Further, required IQ and OQ reports should be generated to meet GLP regulatory requirements during installation and operation by your service personnel. All the necessary accessories, consumables, software etc should be quoted 	No change
	<ul style="list-style-type: none"> On-site training should be provided and off-site training at the vendors' authorized training centre in India should be provided for two persons. All logistics and travel costs should be borne by the vendor. 	No change
	<ul style="list-style-type: none"> A good after sales service by the Indian agent/Supplier/Manufacturer should be guaranteed 	No change
	<ul style="list-style-type: none"> All the specifications mentioned above should be in the printed brochure of the company or on the company website and the technical specifications should be quoted with the manufacturer part number. 	No change
	<ul style="list-style-type: none"> Full system from the single vendor and no refurbished parts should be added to the system 	No change
	<ul style="list-style-type: none"> Cost of accessories and/or spares if required should be quotes item-wise separately 	No change
	<ul style="list-style-type: none"> Three years comprehensive warranty 	No change

	should be provided. The warranty shall cover the maintenance of the instrument along with replacement of spares, accessories, consumables etc as and when required for the said warranty period.	
	<ul style="list-style-type: none"> Two years AMC should be quoted for the whole instrument including software workstation, HPLC modules etc. 	No change
	<ul style="list-style-type: none"> Cost of accessories should be quoted item-wise separately 	No change
Miscellaneous	1. If the bidder is unable to show the proof for the technical compliance of specified points in the tender either in the brochure or technical data sheet or instruction manuals the specific point will be considered as does not complies the institutional specification.	No change
	2. Supplier should assure the shifting of the equipment to the new campus within the warranty period without any additional cost	No change
		System should quote for ECD detector as optional item with specifications mentioned below

Specifications for ECD detector

Pulsed Electrochemical Detector:

- Operating Modes: Direct Current, Pulsed Amperometric Detection Scan.
- Potential Range : ± 2000 mV in mV steps(DC, PAD Scan)
- Analog Signal output: ± 1 Volt or ± 10 Volt Selectable.
- Output Resolution: Analog 20 bit DAC, 24 bit RS232 digital communication to chromatography software personal workgroup or client computer.
- Analog signal offset : $\pm 50\%$ of analog signal output, in 10% steps.

- Autozero : Maximum Autozero determined by analog signal potential range, triggered by keypad, event in signal or software control.
- Integrated flowcell & Column volume : 7 °C Above ambient to 45 °C, 0.1 °C Resolution.

DC Range:

- Filter Time Constant : 0.1 to 5.0s in 1, 2, 5 sequence steps.
- Noise : <2pA , Drift : <8pA/hour.

PAD Mode:

- Range : 10 nA to 200 μ A 1, 2, 5 sequence steps

Scan Mode :

- Scan Range : 10 nA to 200 μ A 1, 2, 5 sequence steps

Flow Cell:

- Design : Confined Wall Jet
- Standard Flow Cell : 0.080 μ l minimum Volume, flow rates from 25.000 μ l/min to 2000.00 μ l/min
- Working Electrode Material : Glassy Carbon, Gold, Platinum, Silver.

Sd/-
Purchase officer

General Terms and Conditions applicable to all 13 tenders published in newspaper on 19th February 2018 and exhibited in NIPER Guwahati website.

Following additional information is provided for the information of prospective bidders for 13 different items for which tender inquiry is issued:

1. Payment terms:

Considering the request made by few prospective bidders during the pre-bid conference held in the institute on 22nd February 2018, regarding payment terms related with foreign suppliers it is clarified that the **indicated payment terms in the tender documents still remains unchanged.** However Director, NIPER Guwahati **at his own discretion** can consider any other mode of payment requested by suppliers based on the reputation, credentials of foreign suppliers in the field and also protecting the interests of NIPER Guwahati. **No request for advance payment will be considered.**

2. Clarification with regard to projecting the cost implications of free delivery of the item at NIPER Guwahati premises.

Subsequent to the Pre-bid conference with regard to projection of price for items coming from abroad, the following guidelines may be followed:

- A) The F.O.B. C.I.F., C.I.P. prices as per the suppliers quote should be indicated in foreign currency only
- B) The additional cost towards payments of custom duty against duty exemption certificated provided by the institute, clearance charges, forwarding consignment from port of clearance to NIPER Guwahati premises etc. can be quoted in Indian currency.

For comparing the price with other bids, the institute at the time of preparing comparative chart for the tenders, the total F.O.B., C.I.F., C.I.P. cost will be converted into equivalent Indian currency at the exchange rate prevailing on the date of tender opening i.e. 13th February

2018 at 1500 hours IST and add the equivalent Indian currency value to the clearance and forwarding charges indicated by the supplier.
