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Assistant Registrar (Stores & Purchase)

Date: 29.09.2023

CORRIGENDUM – I

SUPPLY OF ULTRA HIGH PERFORMANCE LIQUID CHROMATOGRAPHY SYSTEM

Tender No. IITM/SPS/UHPLC/013/2023-24

1. In Page No. 10 of 20 and Page No. 14 of 20, Solvent Delivery Unit may be read as:

S.No.	Item Name	Specification
1.	Solvent Delivery Unit	<ol style="list-style-type: none"> 1. Pumping Method :Parallel-type double plunger 2. Flow Rate Settings Range: 0.0001 - 5 mL/min 3. System Pressure : Minimum 15000 psi or above 4. Flow Rate Accuracy: ±1% 5. Flow Rate Precision :0.06% RSD or 0.02 minSD 6. Gradient mode: Quaternary low-pressure gradient 7. Gradient Range of Set Concentrations: 0~100% (in 0.1% steps) 8. Gradient Concentration Accuracy: ±0.5% 9. Automatic Rinsing Kit to be built in as standard 10. It must have a leak sensor as safety feature 11. pH Range: 1 – 14 12. It should employ active check valves that allow stable delivery of even non-polar organic solvents. 13. Solvent delivery system should have Auto-Diagnostics for Trapped Bubbles in pump and should have algorithm to assess these distinctive pressure fluctuations caused by trapped bubbles and recover to normal flow automatically without manual interventions. 14. The pump controls should have inbuilt algorithm for flow rate according to oven temperature without exerting extreme pressure on to the column and attain the set flowrate without any manual interference

INSTEAD OF

S.No.	Item Name	Specification
1.	Solvent Delivery Unit	<ol style="list-style-type: none"> 1. Pumping Method :Parallel-type double plunger 2. Flow Rate Settings Range:0.0001 – 10.0000 mL/min 3. System Pressure : Minimum 15000 psi or above 4. Flow Rate Accuracy: ±1% 5. Flow Rate Precision :0.06% RSD or 0.02 minSD 6. Gradient mode: Quaternary low-pressure gradient 7. Gradient Range of Set Concentrations: 0~100% (in 0.1% steps) 8. Gradient Concentration Accuracy: ±0.5% 9. Automatic Rinsing Kit to be built in as standard 10. It must have a leak sensor as safety feature

		<ol style="list-style-type: none"> 11. pH Range: 1 – 14 12. It should employ active check valves that allow stable delivery of even non-polar organic solvents. 13. Solvent delivery unit should come with Reservoir tray and weight sensors to monitor the remaining mobile phase in real time to users on screen and remotely via smart device 14. Solvent delivery system should have Auto-Diagnostics for Trapped Bubbles in pump and should have algorithm to assess these distinctive pressure fluctuations caused by trapped bubbles and recover to normal flow automatically without manual interventions. 15. The pump controls should have inbuilt algorithm for flow rate according to oven temperature without exerting extreme pressure on to the column and attain the set flowrate without any manual interference
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2. In Page No. 11 of 20 and Page No. 14 of 20, Auto sampler with sample cooler may be read as:

S.No.	Item Name	Specification
3.	Auto sampler with sample cooler	<ol style="list-style-type: none"> 1. The auto sampler design should be a flow through design with variable total volume injection. 2. Injection Volume: 0.1 to 50 μL 3. Operating Pressure: 15000 psi or above 4. System injection volume accuracy should be $\leq \pm 1\%$ 5. Injection linearity ≥ 0.9999 6. Injection cycle time (with needle wash): < 30 seconds 7. Samples capacity: 160 (1.5 mL) or above 8. Injection Volume Reproducibility: $RSD \leq 1.0\%$ or better for less than 1 μL injection 9. Carryover: <0.0003% or better 10. Sample cooler temperature setting range :4 ~ 45 $^{\circ}$C 11. Sample cooler temperature accuracy :$\pm 2^{\circ}$C 12. pH Range :1 – 14 13. It should have safety features like leak sensor and automatic rack and vial recognition. 14. Should Equipped with Automatic Pre Treatment facility for diluting samples online, adding internal standard samples online

INSTEAD OF

S.No.	Item Name	Specification
3.	Auto sampler with sample cooler	<ol style="list-style-type: none"> 1. The auto sampler design should be a flow through design with variable total volume injection. 2. Injection Volume: 0.1 to 50 μL 3. Operating Pressure: 15000 psi or above 4. System injection volume accuracy should be $\leq \pm 1\%$ 5. Injection linearity ≥ 0.9999 6. Injection cycle time: ≤ 7 seconds or better 7. Samples capacity: 160 (1.5 mL) or above 8. Injection Volume Reproducibility: $RSD \leq 1.0\%$ or better for less than 1 μL injection 9. Carryover: <0.0003% or better 10. Sample cooler temperature setting range :4 ~ 45 $^{\circ}$C 11. Sample cooler temperature accuracy :$\pm 2^{\circ}$C 12. pH Range :1 – 14 13. It should have safety features like leak sensor and automatic rack and vial recognition. 14. Should Equipped with Automatic Pre Treatment facility for diluting samples online, adding internal standard samples online

3. In Page No. 11 of 20 and Page No. 14 of 20, PDA Detector may be read as:

S.No.	Item Name	Specification
4.	PDA Detector	<ol style="list-style-type: none"> 1. Light source: Deuterium (D2) lamp 2. No. of Diode: 1024 3. Wavelength Range: 190~800 nm 4. Slit width of 1.2 nm or better 5. Wavelength accuracy:±1 nm 6. Wavelength precision: ±0.1 nm 7. Drift: 0.4×10⁻³ of AU/hour or better 8. Noise: 4.5×10⁻⁶ AU or less 9. Linearity should be equal or more than 2.5 AU 10. Flow cell of 8 uL volume and 10 mm cell path length with temperature control of 19 to 50°C should be available 11. Operating pH 1 to 13

INSTEAD OF

S.No.	Item Name	Specification
4.	PDA Detector	<ol style="list-style-type: none"> 1. Light source: Deuterium (D2) lamp, tungsten lamp 2. No. of Diode: 1024 3. Wavelength Range: 190~800 nm 4. Slit width of 1.2 nm and 8 nm for High Sensitivity Mode 5. Wavelength accuracy:±1 nm 6. Wavelength precision: ±0.1 nm 7. Drift: 0.4×10⁻³ of AU/hour or better 8. Noise: 4.5×10⁻⁶ AU or less 9. Linearity should be equal or more than 2.5 AU 10. Flow cell of 8 uL volume and 10 mm cell path length with temperature control of 19 to 50°C should be available 11. Operating pH 1 to 13

CLARIFICATIONS

The following queries raised by the bidder's and clarification of the Committee is given below.

Sl. No.	Tender Page No. & Description	Modification requested	Reason/Remarks	Committee's response
1	General	We found that the class-I local suppliers and Class-II local suppliers are only eligible for participate in this tender. Please be noted that we come under Class of Non local supplier. Kindly include the Non-Local suppliers to bid in this tender.		Non-local suppliers also eligible to participate in this tender since we are asking the quote in multi-currency (INR/USD /EUR) as per DIPP, MoCI Order No. P45021/2/ 2017-PP (BE II) dated 16th September 2020

Sl. No.	Tender Page No. & Description	Modification requested	Reason/Remarks	Committee's response
2	Page 10: Solvent Delivery Unit: pH range 1 to 14	Request you to modify the pH range as 1 to 12 or better	The Flow cells are made of quartz material (for almost all vendors) and by inherent nature damages beyond 10. Hence pH of 14 is to be modified as 12 or above. Also pH 14 on spec sheets are provided by one or few vendor(s).	The current tender specification prevails.
3	Page 11: Autosampler with Cooler: Samples Capacity: 160 (1.5ml) or above	Modification request: The capacity should be 96 samples (2ml capacity) with 4 additional positions for dilutions and derivatization or better/above	Waters incorporates universal tray flexibility and as a norm 2ml vials are commonly supplied. 1.5ml vials leads to non-flexibility for sample capacity expansion without OEM accessories. Also, a full capacity run of 96 samples in UHPLC mode can last between 10 hours to 20 hours depending on run time. 160 samples capacity is one vendor Specific	The current tender specification prevails.
4	Page 11: Autosampler with Cooler: Carryover:	Kindly modify this as 0.002% (without needle Wash)	It is important to indicate test conditions. Carryover performance without Needle wash is a better parameter to measure as it indicates the instrument's raw utmost capability	The current tender specification prevails.
5	Page 11: Autosampler with Cooler: pH Range :1 – 14	Modification requested to 1. To 12 or above	The Flow cells are made of quartz material (for almost all vendors) and by inherent nature damages beyond 10. Hence pH of 14 is to be modified as 12 or above. Also, pH 14 on spec sheets are provided by one or few vendor(s).	The current tender specification prevails.

Sl. No.	Tender Page No. & Description	Modification requested	Reason/Remarks	Committee's response
6	Page 11: PDA detector: Drift: 0.4×10^{-3} of AU/hour or better	Kindly modify as 1×10^{-3} AU/hour/ Degree C or lower	This drift value is even measured with a temperature variable and hence requested to modify as 1×10^{-3} AU/Hr/Deg C. With more variables involved, the measurement values differ	The current tender specification prevails.
7	Page 11: PDA detector: Operating pH 1 to 13	Kindly modify as 1 to 12 or better	Any pH higher than 10 can damage the flow cell which are made of Quartz material	The current tender specification prevails.
8	Page 11: The column oven compartment should have capacity to contain up to 3x300 mm L. column, or 6x100 mm L. column	Kindly modify as 1 column of 15cm length column or better including the guard column	UHPLC systems are meant to work with shorter columns for faster analysis. Any point in time only 1 column can be used. Hence it is immaterial on the column capacity if there is not column switching valve included as standard	The current tender specification prevails.

Sd/-
Assistant Registrar (S&P)