

Addendum 02

The Pre – Bid Meeting was held on **30/10/2019** at **3.00 p.m.** in the **CCMT Hall**, NITK Surathkal for the purchase of “**Ion Chromatography**” (**Tender Notification No: NITK/CRF/ION CHROM/04 Dated: 30/09/2019**). The following queries were discussed & the Reply/Clarification given to the prospective bidders.

Queries & Reply/Clarification

Sl. No.	NITK Tender Specifications	Questions asked by the vendor	Reply/Clarification	Changes to the Tender
1	<p>Point 1: Ion Chromatography System should be nonmetallic PEEK based compatible for 0-14 pH & 100% RP organic solvent with built-in low/ high pressure dual pump Quaternary Gradient Pump for simultaneous analysis. And to provide multiple flexibility of detection of complex sample matrix by gradient and Isocratic mode and to analyse various Anions like Cl-, F-, Br, PO4-3 ,SO4-3 , PO4, Nitrate, Nitrate, Oxalate, Glycolate, Benzoate, Molybdate, Organic acids, etc., Cations like Na+, K, Li+, NH4+, Ca+ , Mg, Amines like propylamine and cyclohexylamine etc detection by conductivity. Carbohydrates, Cyanide, sulfide etc. detection by amperometry . Transition metals with iron and chromium speciation should be determine by using UV-Vis detector and post column reagent assembly.</p>	<p>The above highlighted specifications is in favour of one particular manufacturer. All of the applications mentioned above are done with Metrohm ion chromatography by isocratic mode only. In addition Metrohm's knowhow can also address all other applications in isocratic mode which is simple and straightforward. We can run two applications in parallel in isocratic mode in Metrohm Dual channel system. Still if you want to perform gradient separations , we can combine the pumps</p>	<p>Main Objective: To analyse both anions and cations simultaneously.</p> <ul style="list-style-type: none"> ● In Quaternary gradient pump, one can utilize 4 solvents for all combinations of gradients which expands the capability of IC. This will include low & high concentration of eluent; organic & washing solvents. The complete gradient allow us to separate inorganic, organic oxi anions, cation and amines in fastest way maintaining the resolution intact. The washing / regeneration solvent will make sure the column can be clean within the run or after finishing the sequence in same program. We need to do the applications with proper resolutions, shortest run time. ● Quaternary gradient pump allow the combination of ternary, Binary, isocratic and quaternary as well. 	As per the tender document

		and run high pressure gradient application which is the well accepted and the norm in the analytical industry Hence we request to change the specifications to two numbers of isocratic pumps.	<ul style="list-style-type: none"> The quaternary gradient system of IC can be used as a HPLC for reverse phase applications (all HPLC demands quaternary gradient applications). This increases application capability of IC as well. 	
2	System should have capability of consumable device monitoring with RFID tags.	Point 1 Contd.: Similarly, The specs of RFID tags also pertains to particular manufacturer. We use memory chip which is also used for the same purpose. Hence we request to change the specifications to RFID / Chip based technology	The RFID tags are available for all consumable items including columns without any extra pricing. However, committee accepts to consider the request of Methrom	Committee decided to modify it as “System should have capability of consumable device monitoring with RFID tags/Chip based technology” .
3	Field upgradability option for eluent generator with KOH and MSA cartridges	Eluent generator is the technology used by particular manufacturer. The technology is patented. But Metrohm has different technology to address your requirement for production of eluents which does not make you rely on cartridges from the manufacturer and which does not narrow	<ul style="list-style-type: none"> Our applications demands composition as well as concentration gradient and so we need Eluent generator to meet the purpose. The choice of eluents asked are additional/upgradability options i.e. KOH and MSA and not mandatory. 	As per the tender document

		<p>the choice of eluents to only KOH or MSA. Our technology is much better and cost effective and you have choice of eluents and even you can use organic modifiers in the eluent upto 50% Hence we request to change the specs to suitable eluent production / generation system</p>		
4	<p>Non metallic PEEK base compatible for 0-14 pH & RP compatibility for 4 solvents gradient as per the following specification. The pump housing must have two quaternary gradient pumping systems in same housing to do simultaneous analysis. Quaternary gradient pumps must support an unlimited number of linear, convex, concave eluent gradient profiles.</p>	<p>Point 2: The above highlighted specifications is in favour of one particular manufacturer. All of the applications mentioned above are done with <u>Metrohm ion chromatography by Isocratic mode only</u>. In addition Metrohm's knowhow can also address all other applications in isocratic mode which is simple and straightforward. We can run two applications in parallel in isocratic mode in Metrohm Dual channel system. Still if you want to perform gradient separations, we can combine the pumps and run high-pressure</p>	<ul style="list-style-type: none"> • The dual quaternary gradient will allow doing both Anion and Cation or any two different application in <u>gradient mode simultaneously</u>. • Combining pump cannot form actual gradient as its not inbuilt hardware as we believe. 	As per the tender document

		<p>gradient application, which is the well accepted, and the norm in the analytical industry Hence we request to change the specifications to two numbers of isocratic pumps.</p>		
5	<p>Electrochemical Detector and Cell Kit for Carbohydrates , Amino acid, cyanide , sulphide analysis</p> <p>The cell electrodes must be available in the following options: gold for Carbohydrates analysis. Disposable electrodes options must also be available made from the same material to provide ease of use. Ag/AgCl pH reference electrode must be quoted as optional.</p> <p>Cell volume : <0.2 µL</p> <p>Counter Electrode : Titanium.</p> <p>Reference Electrode : Ag / AgCl Combination.</p> <p>Working Electrodes : Silver/Platinum/Glassy carbon/AAA</p>	<p>Metrohm has better and stable electrodes which can be reused and polished number of times. This helps the customer in saving the running cost. This also does not make you rely on the supplier everytime. We have SST as the counter electrode and our cell volume is less than 0.35uL for 3mm WE and 0.1uL for 2mm WE. The mentioned specs above pertains to particular manufacturer and hence we request you to change the specs.</p>	<p>Since the eluent need for amperometry applications are alkali, the cell body needs to be non-SS. Disposable electrodes (Optional/additional feature requested) provides ease of use, as the complete batch of work can be finished nonstop.</p>	<p>As per the tender document</p>

6	Automated sample for loading of samples having a capacity of 50 Poly vials of 5ml or 0.5 ml vial size, With caps of 20 um filter pore size, with simultaneous injection facility	<p>Whichever manufacturer it is , everyone uses 4-10um particle size. 20um filter pore size does not help in filtering the samples. This again favors one manufacturer and locks us out in the specifications.</p> <p>Metrohm has better feature with 0.2um filter being used in the inline ultrafiltration technology. Definitely we have a better technology.</p> <p>Hence we request you to change the specifications to 0.2um.</p>	Discussed and resolved to change as “Automated sample for loading of samples having a capacity of 50 Poly vials of 5ml or 0.5 ml vial size, With caps of less than 10 um filter pore size, with simultaneous injection facility “	Committee decided to modify it as “Automated sample for loading of samples having a capacity of 50 Poly vials of 5ml or 0.5 ml vial size, With caps of less than 10 um filter pore size, with simultaneous injection facility”
7	<p>Suppressor - Online Self Regenerating membrane base Suppressor for both anions and Cations application to eliminate counter ions from solvent & sample. Suppressors should utilize electrolytic suppression. Suppressors should automatically produce regenerant required for the application & provide continuous regeneration, so as to reduce background conductivity and enhance detection limit with day to day consistency with low noise and drift. Suppressor device must be able to suppress carbonate, hydroxide, or methanesulfonic acid eluents as required for EPA, ASTM, ISO, or other standardized methods. The suppressor must be operated continuously without the need of switching</p>	<p>The above highlighted points are favouring one particular manufacturer. This is patented technology and this does not allow us to participate at all.</p> <p>Metrohm packed bed suppressor is a superior technology, which is accepted by ASTM, which is a independent body. Even Thermo Dionex in one of the patents had accepted that the membrane based self-regenerating give lot of</p>	Supresors we are looking at should do gradient applications, resist most of the organic solvents and most common-mobile phase additives, auto regereratable without much attention to have continuous operation, have good gradient separation efficiency and low dead volume. So the committee resolved to retain the specification as such.	As per the tender document

	motors and based on a single membrane based ion exchanger. Suppressor must have 2mm ID to match the 2mm chemistry of columns	problems and thus packed bed is better in daily use. We can always furnish the details of both ASTM and Patent document.		
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It is decided to extend the Bid submission date by four weeks after displaying Addendum 02

Last date for request tender document : 11/12/2019, before 3.00 p. m.
Last date for Bid submission : 11/12/2019, before 4.00 p. m.
Bid opening date(tentative) : 13/12/2019 @ 3.00 p.m.

Sd/-
Buyer
(Dr. Arun Kumar Thalla)

Sd/-
Chairman
Central Research Facility
NITK, Surathkal