

Clarification No:1

EUROPEAID/122834/D/S/TR

“Supply Of Laboratory Equipment For Ministry Of Health Provincial Laboratories And Refik Saydam Hygene Center-Turkey”

Q1. 1. It has been stated on the specifications that the system has to be consisting of one RO system and one Ultra Pure Water system. But it has not been stated what the RO production capacity is? It is a well known fact that the Production Capacity of an Ultra Pure water system will be limited by the production capacity of a RO systems because these systems are designed in such a way that the Pure water has be stored in order to give the user adequate ultra pure water when needed!

For example, when the production capacity of a RO system is 5 l/hr, the user has to wait 4 hours to get 20 L of Ultra Pure water or 2 hours just to get 10 L of Ultra Pure water, therefore a tank in between the RO system and the ultra pure system is commenly used.

Regarding the reasons above, what will be minimum production capacity of RO system, ?

A1. Please see Corrigendum No.2, Article 12.

Q2. It has been stated on the technical specs of the accessories that, there should be a 20 L capacity tank is required.

We assume the tank will be used for Pure Water (RO water)storage, the technical specs of the tank are very important. The reason we are asking this question is, there many different types of tanks for Pure Water storage in the Market but many of them do not comply the Standard of “ISO TS EN ISO 3696- Water for Analytical Laboratory Use-Specifications and The Test Methods”. For example, in section 6, the technical specification of tank which the pure water will be stored in, is clearly defined. In the definition, it is stated that the tank should be clean, made of inert materials, rinsed with the pure water before the Pure Water stored and most important is it has to be “Air-tight”. It is the most important specification because it should also be noted that purified water would absorb a significant amount of carbon dioxide from the atmosphere as soon as it is exposed. There is a possibility that the Carbon dioxide could cause isobaric interference of calcium and as a result of the isobaric reaction of the calcium, the Conductivity and the TOC level of the pure water will always increase. On the other hand, if the tank is “Air-tight” as it is stated in the ISO guidelines, there will be no chance that the pure water will get in touch with carbon dioxide. In addition to all, if the tank is not an air-tight tank, there should be an air filter only to prevent any contamination of bacteria (but can not avoid the conductivity and the toc level to rise) which will also lead your Institute to an additional consumable of filters to purchase!. **Can you give more detailed specification about the tank whether it will be “air-tight or not?”**

A2. It is not stated in the specifications that whether the tank will be air-tight or not, it is you choice to offer a tank being air-tight or not.

Q3. It has been stated in the technical specs that “the system should have a UV lamp to reduce the TOC level”. The TOC level of the Ultra Pure Water is very important in some Analytical Methods or with some instruments like HPLC. For example:

“The importance of the solvent purity increases inversely with the detector wavelength being used with the HPLC method. The lower the wavelength, the higher the water purity must be to avoid interference. At wavelengths above 250 nm, a laboratory may even get by with bottled water or deionised water. However, when working with wavelengths below 250 nm, specially treated deionised water is required. Even at the higher wavelengths, it is possible to detect unwanted peaks due to concentration effects if too much organic carbon is present in the water. Bottled water for instance, will absorb contaminants from the atmosphere every time the bottle is opened. This water may already contain interfering organic material that leached from the bottle or cap. In any case, it is difficult to control this type of contamination due to exposition to air. Deionised water produced from a system that is not designed for chromatography work can also present problems. These systems may not contain an ultraviolet (UV) oxidation chamber to further reduce organic contaminants. Proper pre-treatment coupled with UV radiation provides the most consistent purified water with the lowest background organic carbon levels. Many HPLC procedures utilize UV detection for sample analysis. By providing UV radiation|oxidation at 185 nm wavelength in the water treatment system, most if not all potentially interfering organic compounds are eliminated.”

As a summary, it is very important the system provides the users minimum TOC level. The minimum TOC level, can be reached by a Water system in these days, is even <1 ppb. The system which are providing Ultra Pure Water with a TOC level of 1-?, do not supply the user a constant value of TOC level although it is one of the most important aspect in HPLC and many different analytical analysis. **Can you give detailed specifications of the required TOC level for the Ultra Pure Water?**

A3. It is specified in the specifications that the equipment should have one UV lamp to provide low TOC value, and no numerical value is given. Therefore it is your choice to offer any TOC level that you think it will improve the quality.

Q4. It has not been clearly stated in the technical specification whether the institute will work only with water based samples or they will work with sample which has particles? The reason we are asking this question is, if they are going to work with samples which have higher level of viscosity or hard particles, the users will need a pre-filtration step in the Membrane filtration system. This will include another attachment to the system so that they filter the particles by a pre-filter and than make the Membrane filtration. **Does the system in tender include also a pre-filtration step?**

A4. No it does not

Q5. It is not clear in the technical specifications either the “Membrane Filtration System” is only a Stainless steel Manifold or a complete system. The stainless steel manifold is the

device which the membrane filters are placed on to and used for the filtration purposes. On the other hand, the manifold will not work independently. The system needs a Vacuum Pump to create the vacuum, a vacuum Erlenmeyer to collect the filtrate, the tubings, an Air filter just to protect the Pump from any liquid which may come to the pump during the work, a Forcep to take the Membrane filter out of its own pack and place it on to the manifold without touching it and also without destroying it. So, Can you please open up more the technical specifications and specify more what the system totally consist of?

A5. Please see Corrigendum No. 2 Article 13

Q6. LOT 1, Item 1.5. Gas Chromatograph with FID

LOT 1, Item 1.7. GC-MS System ,Autosampler (EI)

Inlets: Four: split/splitless inlets , PTV on column By “four” inlets did you mean “four different types of inlets can be installed but not all of them at the same time” ?

A6. Four inlets mean: two inlets for injectors, two inlets for detectors. The offered system meets the requirement of four inlets.

Q7. LOT 1, Item 1.1. Gas Chromatograph with FID and ECD:

LOT 1, Item 1.2. Gas Chromatograph with FID,ECD and HeadSpace

LOT 1, Item 1.5. Gas Chromatograph with FID

Flame ionisation detector:

“Minimum detectable amount: better than 0.5 pg C/sec. for pentane, propane, nonane, hexadecane.”

Our FID’s detectivity value is 2 pg C/second.

To our knowledge there is no GC-FID detector in the world which can detect up to 0.5. pgC/sec. Is this acceptable?

A7. Please see Corrigendum No.2, Article 1

Q8. LOT 1, Item 1.1. Gas Chromatograph with FID and ECD:

LOT 1, Item 1.2. Gas Chromatograph with FID,ECD and HeadSpace

LOT 1, Item 1.3. Gas Chromatograph with ECD, FPD and Purge and Trap

Column oven:

Temperature control: between 4-450 °C Column oven’s temperature ranges generally starts from ambient +4 °C. In order to provide 4 °C in the column oven, a cryogenics option has to be quoted .

Please advise if cryogenics is required to go down to -99 °C with liquid N₂ ? If cryogenics is not required , then can you please change it as ambient +4 °C.

A8. Please see Corrigendum No. 2, Article 4

Q9. LOT 1, Item 1.1. Gas Chromatograph with FID and ECD:

LOT 1, Item 1.3. Gas Chromatograph with ECD, FPD and Purge and Trap

LOT 1, Item 1.5. Gas Chromatograph with FID

LOT 1, Item 1.7. GC-MS System ,Autosampler (EI)

Autosampler:

“Must have 2 washing and 2 waste bottles.”

Our system has 3 washing and 1 virtually unlimited waste drain. Waste drain volume depends on waste reservoir bottle volume. Is this also acceptable?

A9. The offered washing and waste bottle are acceptable since they fulfil the requirement stated in the tender specifications

Q10. LOT 1, Item 1.1. Gas Chromatograph with FID and ECD:

LOT 1, Item 1.3. Gas Chromatograph with ECD, FPD and Purge and Trap

LOT 1, Item 1.5. Gas Chromatograph with FID

LOT 1, Item 1.7. GC-MS System ,Autosampler (EI)

Autosampler:

“Must have 2 different injection modes (slow, normal, rapid) which can be selected from gas chromatography keyboard”

Our system has following 8 injection modes and one of them is user defined mode which allows programming of all injection parameters .

Injection speeds are selectable up to 50 ul/seconds. So it can be selected for the operations of slow, normal and rapid as you want. Is this also acceptable ?

A10. The offered injection mode is acceptable since it fulfills the requirement stated in the tender specifications

Q11. LOT 1, Item 1.1. Gas Chromatograph with FID and ECD:

LOT 1, Item 1.3. Gas Chromatograph with ECD, FPD and Purge and Trap

LOT 1, Item 1.5. Gas Chromatograph with FID

LOT 1, Item 1.7. GC-MS System ,Autosampler (EI)

Autosampler:

“Must have a variable injection syringe able to inject sample volumes up to 50 µl in steps of 0.5 µl.”

Our system has a variable injection syringe able to inject up to the following sample volumes:

*0.1-10 ul for 10 ul syringe in 0.1 ul increments.

*0.1-5 ul for 5 ul syringe in 0.1 ul increments

*1-80 ul for 100 ul syringe in 1 ul increments.

Is this also acceptable?

A11. The offered sample volumes together with volume increments are acceptable since the values lie within the application limits of our analyses.

Q12. LOT 1, Item 1.1. Gas Chromatograph with FID and ECD:

LOT 1, Item 1.3. Gas Chromatograph with ECD, FPD and Purge and Trap

LOT 1, Item 1.5. Gas Chromatograph with FID

LOT 1, Item 1.6. GC-MS/MS (EI and CI)

LOT 1, Item 1.7. GC-MS System ,Autosampler (EI)

Accessories:

Micro autosampler syringes (10µl and 50 µl).

Our system uses 10µl and 100 µl syringes. Is this acceptable?

A12. Yes it is acceptable, since the offered volumes fulfill the requirement stated in the tender specifications

Q13. LOT 1, Item 1.2. Gas Chromatograph with FID,ECD and Head Space

Autosampler

Automatic Head Space Sampler

Our Autosampler features headspace, liquid and SPME Injections capabilities. So instead of two separate units one compact unit to perform both liquid and headspace autosampling will be offered. Is this acceptable?

A13. Instead of two separate units the offered compact unit is acceptable.

Q14. LOT 1, Item 1.2. Gas Chromatograph with FID,ECD and Head Space

LOT 1, Item 1.4. Gas Chromatograph with FID and Automatic HeadSpace Sampler

Automatic Head Space Sampler

“Must have 2 different injection modes (slow, normal, rapid) which can be selected from gas chromatography keyboard. “

Injection speed can be programmed between 0.01 ul/sec to 500 ul/sec (so it can be operated at slow, normal and rapid speeds as requested) which can be selected from the keyboard. Is this acceptable?

A14. Yes the offered system is acceptable since it meets the requirement stated in the tender specifications

Q15. LOT 1, Item 1.2. Gas Chromatograph with FID,ECD and Head Space

LOT 1, Item 1.4. Gas Chromatograph with FID and Automatic HeadSpace Sampler

Automatic Head Space Sampler:

“Temperature intervals of sample conditioning, injection and transfer lines”

“Transfer line should have been deactivated and the same transfer line.....”

Our system has no need a transfer line. It has different design which is described in details in the brochure. Is this acceptable?

A15. No it is not acceptable, the offered system needs to be clarified in details to decide whether it will fulfil the requirement

Q16. LOT 1, Item 1.2. Gas Chromatograph with FID,ECD and Head Space
LOT 1, Item 1.4. Gas Chromatograph with FID and Automatic HeadSpace Sampler

Automatic Head Space Sampler

“There should be minimum two spaces available on the sample table for preferential and emergent samples.....”

With headspace this can be handled in a special way. Our System calculates the required time needed for every sample. With a given sample analysis time, cooldown time of the oven the sampler moves a sample from the sample tray to the incubator over a certain time so the incubating time for every sample is the same and the down time is minimized as much as possible to optimize sample throughput. In this way it is difficult to add a priority sample. The incubator oven might be completely filled with samples and it is not useful to remove the sample from the incubator oven first to be able to add a priority sample. In the worst case we might have to wait 6 samples before analyzing the priority sample. But working in this way you will get the best reproducibility because the sampling handling time for all samples is the same. Is this acceptable?

A16. Yes the offered system also fulfils our requirements due to the acceptable explanations.

Q17. LOT 1, Item 1.2. Gas Chromatograph with FID,ECD and Head Space
LOT 1, Item 1.4. Gas Chromatograph with FID and Automatic HeadSpace Sampler

Automatic Head Space Sampler

“When desired, a ”Backflush” accessory to remove undesired components and to shorten the period of analysis, a “Shaker” accessory to shake sample bottles mechanically and a “Cryofocusing” accessory to increase sensitivity, should be able to be connected to the sampler.

There are standard backflush option available in the GC itself.

This will shorten the analysis time.

Agitation (shaker) is standard feature of the system.

It is possible to do cryofocussing with PTV Injector, it can be cooled with LN₂ or LCO₂, when a filled liner is used you cryofocus the sample in the injection liner. There are also Cooled Trayholders with peltier or external liquid can be connected to the system if required in the future. Cooled trayholders are not included in the quotation. Is this acceptable?

A17. Yes it is acceptable since the offered system meets the requirement in an alternative way.

Q18. LOT 1, Item 1.4. Gas Chromatograph with FID and Automatic HeadSpace Sampler Accessories

High pressure sampling accessory to be used in capillary studies

With the syringe used with our system , it is possible to inject in virtually every injection system with all type of columns. So no special high pressure sampling device is required. Is this acceptable?

A18. Yes it is acceptable as long as the offered system meets the requirement stated in the tender specifications.

Q19. LOT 1, Item 1.4. Gas Chromatograph with FID and Automatic HeadSpace Sampler Accessories

Operating cabin enabling to work without influence of dangerous and volatile substances at room temperatures

There is no Operating cabin. Contamination is virtually eliminated with syringe only . Is this acceptable?

A19. No, it is not acceptable.

Q20. LOT 1, Item 1.3. Gas Chromatograph with ECD, FPD and Purge and Trap Detectors : ECD, NPD

Please advise besides ECD if FPD or NPD detector given?

A20. Please see Corrigendum No. 2, Article 6.

Q21. LOT 1, Item 1.4. Gas Chromatograph with FID and Automatic Head Space Sampler:

Requirements

The device should have the property of full automatic floor levelling.

Can you please explain in details what is required with ‘‘Automatic Floor Levelling ‘‘ ?

A21. Automatic floor levelling means the ability of device to arrange itself to provide necessary stability. Please also see Corrigendum No. 2, Article 7.

Q21. LOT 1, Item 1.4. Gas Chromatograph with FID and Automatic Head Space Sampler:

The column oven unit

‘‘... , it should be able to be lowered as much as -80°C, when necessary, by means of separate refrigerating units.’’

Is column oven cryogenic unit required?

A21. Yes column oven cryogenic unit is required.

Q22. LOT 1, Item 1.7. GC-MS System ,Autosampler (EI)

Injection System

Heat rise rate of PTV injection block is 200 °C/min.

Our PTV's heat up rate is 180 °C/min. Is this acceptable?

A22. Yes, it is acceptable since it lies within the application limits of our analyses.

Q23. LOT 1, Item 1.7. GC-MS System ,Autosampler (EI)

Injection System

“Heat programmable on column and PTV injector has solvent this charge mechanism and it should be able to make large volumes of injection (greater than 100µl),....”

Mass Spectrometer

“Must be capable of performing large volume of injections (greater than 100 µl) for the analysis of low concentrations of analyses, thus allowing the analyses of trace ...”

Our injection system can handle 100 ul but it is quite a large amount. The amount also depends on the adsorber in the liner. It can be done but not recommended. Injections up to 50 ul can be done without any problem.

Is it acceptable?

A23. 50 ul was also regarded to be acceptable in accordance with expectations and the related modification was made in the TS. Please see Corrigendum No. 23 article 1.

Q24. Mass Spectrometer

Working range must at least 2-800 Daltons.

Our system has a mass range of 10-800 Daltos.

Is this acceptable?

A24. Yes it is acceptable since the offered range meets the application limits of our analyses.

Q25. Mass Spectrometer

There must be at least two filaments, it must be possible to chose required filament from computer.

Our system has one filament. Is this acceptable?

A25. Yes it is acceptable since according to the explanations below, the difference in the offered system does not cause significant change in our applications

Q26a. LOT 1, Item 1.7. GC-MS System ,Autosampler (EI)

Mass Spectrometer

And mass resolution must be 0.1 amu.

We can measure up to 0.1 mass unit. But the mass resolution is 0.7 u at 1250 u/sec or 0.5 u at 500 u/sec. Is this acceptable?

A26a. Yes it is acceptable since the offered resolution values meet the requirements for our applications.

Q26b. LOT 1, Item 1.7. GC-MS System ,Autosampler (EI)

Mass Spectrometer

“Rather than an electron multiplier, which requires periodical maintenance and part replacement, it must have a photomultiplier detector with a relatively.....”

Our system has Electron multiplier detector. Is this acceptable?

A26b. Please see Corrigendum No. 2, Article 8.

Q26c. LOT 2, Item 2.1. Spectrophotometer UV-VIS

Photometric range: Capable of measuring 0 – 3 Absorbance, 0 – 100 % transmission, 0 – 9999 concentration

Regarding to the photometric range following specs are published in our printed material. Is this acceptable?

Photometric Range: 3.7 Abs ,

Photometric Display : +/- 9.9999 Abs and +/- 200 %T

A26c. Yes it is acceptable since the offered photometric values meet the required specifications, stated in the tender dossier.

Q27. LOT 2, Item 2.1. Spectrophotometer UV-VIS

Other properties: Absorbance resetting stability must be better than $\pm 0.004 A$

We do not have a specification listed in the name of “absorbance resetting stability”, we can list the Photometric Stability specification as follows: After 2 hour warm up, 500 nm, 2 nm SBW, 1 sec Signal Averaging Time (Abs/hour): < 0.0003 Is this acceptable?

A27. Yes it is acceptable, since the offered photometric stability properties meet the required specifications, stated in the tender dossier.

Q28. LOT 2, Item 2.1. Spectrophotometer UV-VIS

Other properties: The instrument must feature a RS 232 PC port and a printer port.

Our system has GPIB Communication.

Is this acceptable?

A28. Yes it is acceptable, since the offered GPIB communication system also provides communication between PC and the system.

Q29. LOT 2, Item 2.2. AAS with Graphite Furnace, Flame Atomizer and Hydride Generation System

Monochromator : The system must feature a single grating which is capable of performing dual blazing in both UV region (236 nm) and VIS region (597 nm)
Dual blazing is a lock out specification for one manufacturer only, there is no other manufacturer who complies this specs.

Can you please delete this specs from the tender specs.?

A29. Your request for the removal of this item from the tender specifications is not acceptable. But the single grating which is capable of dual blazing was also regarded to be acceptable and necessary amendments were made in the TS. Please see Corrigendum No. 2 article 15

Q30A. LOT 2, Item 2.2. AAS with Graphite Furnace, Flame Atomizer and Hydride Generation System

Monochromator : The system features PMT type detector which is capable of measuring both reference and sample beam simultaneously.

This particular statement is a lock out specs for one manufacturer only. Our system has PMT detector with fast sequential measurement of atomic and non-atomic channels. Can you please delete this statement from the tender specs. ?

A30A. Your request for the removal of this item from the tender specifications is not acceptable. Since the PMT detector with fast sequential measurement of atomic and non-atomic channels will not cause any significant change in the performance of analyses, relevant changes in the TS are provided by means of Corrigendum No.2, article 16.

Q30B. LOT 2, Item 2.2. AAS with Graphite Furnace, Flame Atomizer and Hydride Generation System

Accessories: Vapour generation system : All required accessories in order to work with flame, graphite furnace, flow injection, mercury / hydride generation system, and automatic samplers. Note: mercury / hydride generation system technical specifications should be added in detail and should be considered with minimum vapour of metals in door-air. 2 pc of EDL lamp driver or ultra lamp.

Can you please clarify what is requested by ‘‘minimum vapor of metals in-door air’’ ?

A30B. ‘‘Minimum vapour of metals’’ means, a suitable exhaust system should be provided so as to remove the hazardous vapours.

Q31. How many UltrAA Lamps will be powered by the Power Supply?
Which UltrAA Lamps will be supplied with the system?

A31. Two ultra or EDL lamps will be powered by drivers. For the kinds of ultra lamps please see the Corrigendum No. 2, Article 13

Q32. We do not manufacture the flow injection system. Some manufacturers needs to quote flow injection so that they can do hydride generation using this technique. As we will quote the VGA, then we don't need flow injection. The VGA uses the continuous flow technique which enables greater sensitivity. For flame applications, the Sample Introduction Pumping System which is included in our system provides all the capabilities of Flow Injection and more here. Is this acceptable?

A32. The offered VGA system is also acceptable since it meets the requirement of flow injection system

Q33. LOT 2, Item 2.2. AAS with Graphite Furnace, Flame Atomizer and Hydride Generation System

Graphite furnace : ‘Correction of the temperature according to a reference temperature by taking a measurement at every 10 milliseconds’

Temperature correction with our system is not required. Because our system features Predictive Temperature Control which controls the power supply voltage to control the temperature of the graphite tube. This system ensures accurately controlled temperature ramp rates for reproducibility and outstanding temperature control accuracy. Is this acceptable?

A33. Yes, it is acceptable since the offered system provides “Predictive Temperature Control” which does not require correction of the temperature according to a reference temperature.

Q34. LOT 2, Item 2.2. AAS with Graphite Furnace, Flame Atomizer and Hydride Generation System

Autosampler :For both instruments with flame and furnace atomisers Total two autosamplers, one for flame and a separate autosampler for furnace atomizers will be supplied. Is this acceptable?

A34. Yes, instead of one autosampler for both instruments, two separate autosamplers; one for flame and the other for furnace autosampler; are also acceptable.

Q35. LOT 2, Item 2.2. AAS with Graphite Furnace, Flame Atomizer and Hydride Generation System

Furnace autosampler :‘... stock standard solution for forming an automatic calibration curve up to 15 standard point and 1 blank value..’

Our autosampler prepares up to a 10 point concentration or standard additions calibration from one bulk standard. Is this acceptable?

A35. Even if 15 points are said to be required for a calibration curve, 10 points are also enough for a calibration curve and does not make any significant change when compared to the curve by 15 point, therefore it is acceptable.

Q36. LOT 2, Item 2.2. AAS with Graphite Furnace, Flame Atomizer and Hydride Generation System

Furnace autosampler :“.... pipetting which can be adjusted between 1 - 99 μ l with 1 μ l increments at different speeds....”

Our autosampler’s dispensed volume is variable from 1-70 μ l with 1 μ l increments. Is this acceptable?

A36. Yes it is acceptable since the offered 1-70 μ l range meets the required limits of our applications

Q37. LOT 2, Item 2.2. AAS with Graphite Furnace, Flame Atomizer and Hydride Generation System

Bandpass : Minimum 0,2 to 2,0 nm.

At least 2 different slit heights must be selected for each spectral bandwidths The following slit heights are selectable in our system:

Flame System: minimum 0,2 , 0.5 and 1 nm plus reduced height 0.5 nm slit for graphite furnace operation.

Furnace System: minimum 0,2 , 0.5 and 1 nm plus reduced height 0.5 nm slit.

There are minimum 7 slit height selections total. Is this acceptable?

A37. Yes, it is acceptable since the offered slit heights meet the required specifications, stated in the tender dossier.

Q38. LOT 2, Item 2.2. AAS with Graphite Furnace, Flame Atomizer and Hydride Generation System

Wavelength accuracy : $\pm 0,2$ nm Our system has the following accuracy values:

Wavelength accuracy +/- 0.5 nm & Wavelength repeatability +/- 0.04 nm

Is this acceptable?

A38. Yes it is acceptable since ± 0.5 nm wavelength accuracy is also acceptable due to low (± 0.04 nm) wavelength repeatability.

Q39. LOT 2, Item 2.2. AAS with Graphite Furnace, Flame Atomizer and Hydride Generation System

Other requirements :There must be 8 lamp turret fixed without necessitating any adjustment or chamber Our system is capable of holding 8 lamps in fixed positions – 4 lamps in the flame module and 4 lamps in the furnace module without necessitating any adjustment or chamber .

Is this acceptable?

A39. 4 lamps in flame module and 4 lamps in furnace module, totally 8 lamps in fixed position is also acceptable.

Q40. LOT 2, Item 2.2. AAS with Graphite Furnace, Flame Atomizer and Hydride Generation System

Power supply : Power unit of the system must be capable of feeding at least 8 HCL lamps or 4 EDL lamps, or ultra lamp. No external power source must be needed for runs made with EDL lamps

The lamp supplies in our system is capable of powering up to 8 HC lamps simultaneously or 2 UltrAA lamps. No external power source is required for runs with the UltrAA lamp when used with the Zeeman module.

Is this acceptable?

A41. Yes the offered 2 lamp supply is acceptable since it meets the required specifications stated in the tender dossier.

Q42. LOT 2, Item 2.3. Fourier Transform Infrared Spectrometer (FTIR)

“Quality check for intelligent spectrum quality checking” This is called Spectrum Assure ID and is typical for one manufacturer only. Can you please delete this from the tender specs.

A42. Your request for the removal of this item from the tender specifications was regarded to be acceptable, please see Corrigendum No. 17 Article 2.3.

Q43. LOT 2, Item 2.3. Fourier Transform Infrared Spectrometer (FTIR)

Dynamic limit : Shall be minimum 3.0 Abs

This is a specs which has never been reported by other manufacturer. So we will not be able to report this specs. Can you please delete this specs from the tender ?

A43. Your request for the removal of this item from the tender specifications was regarded to be acceptable, please see Corrigendum No. 17 Article 2.3.

Q44. LOT 1, Item 1.8. HPLC System (HPLC,FLD,Post-Column Derivatization, Autosampler)

LOT 1, Item 1.9. HPLC System (DAD,FLD, Autosampler)

LOT 1, Item 1.10. HPLC System

Flow rate accuracy and reproducibility :Max.± 1 % at 1mL/min water flow

Regarding to the Flow rate specifications , following two specs are published in our printed material. Is this acceptable?

Flow Accuracy : ± 0.5 % at 1mL/min isopropyl alcohol flow

Flow Precision: 0.3% RSD at 1 ml/min MeOH/water

A44.Yes it is acceptable since the required reproducibility value is a way of expressing precision value and the offered precision value meets the requirement.

Q45. LOT 1, Item 1.8. HPLC System (HPLC,FLD,Post-Column Derivatization, Autosampler)

LOT 1, Item 1.9. HPLC System (DAD,FLD, Autosampler)

LOT 1, Item 1.10. HPLC System

LOT 1, Item 1.11. HPLC System (RI-MASS Detector and Autosampler)

Pump flow rate range : 1-10.000 $\mu\text{L}/\text{min}$ and with 1 $\mu\text{L}/\text{min}$ increments

Our system has a pump flow rate range of 10-10.000 $\mu\text{L}/\text{min}$ in 0.01 ml/min steps between 0.00 and 1.00 ml/min and , and 0.1 ml/min steps between 1.0 and 10.0 ml/min. Is this acceptable?

A45. Yes it is acceptable since the offered flow rates meet the requirements of our applications in analyses.

Q46. LOT 1, Item 1.8. HPLC System (HPLC,FLD,Post-Column Derivatization, Autosampler)

LOT 1, Item 1.9. HPLC System (DAD,FLD, Autosampler)

LOT 1, Item 1.10. HPLC System

Gradient composition range : 0-100 % and with 0.1 % increments

Our system has the following specifications:

0-100 % . The solvent compositions are settable to 1%. During gradient run the solvent composition actually changes by increments of 0.1%. Is this acceptable?

A46. As long as the supplier declares 0.1 % increments, yes it is acceptable

Q47. LOT 1, Item 1.8. HPLC System (HPLC,FLD,Post-Column Derivatization, Autosampler)

LOT 1, Item 1.9. HPLC System (DAD,FLD, Autosampler)

LOT 1, Item 1.10. HPLC System

Composition repeatability $< \pm 1$ %

Regarding to the composition repeatability specifications , following two specs are published in our printed material:

Compositional Accuracy: +/- 0.5% Absolute

Compositional Precision: +/- 0.1% Absolute Are these acceptable?

A47. Yes it is acceptable since the required repeatability value is a way of expressing precision value and the offered precision value meets the requirement.

Q48. LOT 1, Item 1.8. HPLC System (HPLC,FLD,Post-Column Derivatization, Autosampler)

LOT 1, Item 1.9. HPLC System (DAD,FLD, Autosampler)

LOT 1, Item 1.10. HPLC System

Flow rate stability $< 0.3\%$ RSD Regarding to the Flow rate stability , following two specs are published in our printed material :

Flow rate precision : 0.3% RSD at 1 ml/min MeOH/water.

Flow rate accuracy : +/- 0.5 % RSD at 1 ml/min isopropyl alcohol

Are these acceptable?

A48. Yes it is acceptable since the offered precision value meets the requirement.

Q49. LOT 1, Item 1.8. HPLC System (HPLC,FLD,Post-Column Derivatization, Autosampler)

LOT 1, Item 1.9. HPLC System (DAD,FLD, Autosampler)

LOT 1, Item 1.10. HPLC System

LOT 1, Item 1.11. HPLC System (RI-MASS Detector and Autosampler)

Gradient dead volume : Max. 700 μ L

Our system has a dead volume specification of 700+1 ul .

Is this acceptable?

A49. Yes it is acceptable, since it does cause any significant change in the results of applications

Q50. LOT 1, Item 1.8. HPLC System (HPLC,FLD,Post-Column Derivatization, Autosampler)

LOT 1, Item 1.9. HPLC System (DAD,FLD, Autosampler)

LOT 1, Item 1.10. HPLC System

Column Oven Temperature Range : +10 $^{\circ}$ C - +80 $^{\circ}$ C Our system has the temperature range of ambient+5 $^{\circ}$ C - +90 $^{\circ}$ C without Cooling and Ambient minus 18 $^{\circ}$ C - +90 $^{\circ}$ C with cooling. Please clarify if cooling is required or not?

A50. Yes it is required.

Q51. LOT 1, Item 1.11. HPLC System (RI-MASS Detector and Autosampler)

Column Oven Temperature Range : +20 $^{\circ}$ C - +80 $^{\circ}$ C

Our system has the temperature range of ambient+5 $^{\circ}$ C - +90 $^{\circ}$ C without Cooling and Ambient minus 18 $^{\circ}$ C - +90 $^{\circ}$ C with cooling. Please clarify if cooling is required or not?

A51. Yes it is required

Q52. LOT 1, Item 1.8. HPLC System (HPLC,FLD,Post-Column Derivatization, Autosampler)

LOT 1, Item 1.9. HPLC System (DAD,FLD, Autosampler)

LOT 1, Item 1.10. HPLC System

Autosampler injection repeatability : better than 0.4% RSD

Regarding to the autosampler's injection repeatability specifications , following specs are published in our printed material.

Injection reproducibility:

< 0.3% RSD full loop injection

< 0.5% RSD with partial loop injection

< 1 % RSD with microliter pickup.

Are these acceptable?

A52. Yes it is acceptable since the offered reproducibility value is better than required repeatability value.

Q53. LOT 1, Item 1.8. HPLC System (HPLC,FLD,Post-Column Derivatization, Autosampler)

LOT 1, Item 1.9. HPLC System (DAD,FLD, Autosampler)

LOT 1, Item 1.10. HPLC System

Autosampler

Sample loss per injection : zero There is no specification given for this item. But when a microliter pickup is used the sample loss will be zero. When however a partial loop fill of full loop injection is done the sample loss will not be zero. Depending on the flush volume the sample loss will increase.

Is this acceptable?

A53. It is acceptable for microliter pick-up but not acceptable for partial or full loop injection.

Q54. LOT 1, Item 1.8. HPLC System (HPLC,FLD,Post-Column Derivatization, Autosampler)

LOT 1, Item 1.9. HPLC System (DAD,FLD, Autosampler)

LOT 1, Item 1.10. HPLC System

LOT 1, Item 1.11. HPLC System (RI-MASS Detector and Autosampler)

AUTOSAMPLER Safety

Leak sensor

Automatic shut down when exceeds given min. and max. values limits Our system has a fixed drain tube to remove condensing water and possible leaked solvent to a flask. Is this also acceptable ?

A54. Yes it is acceptable since it meets the requirement in an alternative way

Q55. LOT 1, Item 1.8. HPLC System (HPLC,FLD,Post-Column Derivatization, Autosampler)

LOT 1, Item 1.9. HPLC System (DAD,FLD, Autosampler)

FLUORESCENCE DETECTOR

Optic system : Halographic monochromator for excitation and emission

Our system has dual monochromator with two gratings .

Is this also acceptable?

A55. No it is not acceptable, detailed information is required to decide whether the offered system meets the requirement.

Q56a. LOT 1, Item 1.8. HPLC System (HPLC,FLD,Post-Column Derivatization, Autosampler)

LOT 1, Item 1.9. HPLC System (DAD,FLD, Autosampler)
FLUORESCENCE DETECTOR

Wavelength reproducibility : ± 0.2 nm

The wavelength reproducibility of our system is ± 0.5 nm.

Is this acceptable?

A56a. Yes it is acceptable since the slight difference between the required and the offered reproducibility values do not cause significant difference

Q56b. LOT 1, Item 1.8. HPLC System (HPLC,FLD,Post-Column Derivatization, Autosampler)

LOT 1, Item 1.9. HPLC System (DAD,FLD, Autosampler)
FLUORESCENCE DETECTOR

Flow cell pressure : min. 14 bar Flow cell pressure of our system is 150 psi (10.13 Bar)

Is this acceptable?

A56b. No it is not acceptable, since according to the laboratory application experiences, a fluorescence detector with 10 bar flow cell pressure can easily be broken. Therefore the TS is prepared in accordance with the expectations.

Q57. LOT 1, Item 1.8. HPLC System (HPLC,FLD,Post-Column Derivatization, Autosampler)

LOT 1, Item 1.9. HPLC System (DAD,FLD, Autosampler)
FLUORESCENCE DETECTOR

Safety

Leak sensor

Automatic shut down when exceeds given min. and max. values limits. This specs is ‘unique’ for one manufacturer because of their stacked units with a pump on top and internal connections. All other system have outside connections and don't require such leak detection system .

Our system can check min. and max. values limits via software.

Can you please delete this statement from the tender specifications?

A57. Sorry, it is not possible to remove this item from the tender specifications. The offered system may not require such leak detection system but then a detailed explanation should be provided about the safety mode of the equipment.

Q58. LOT 1, Item 1.9. HPLC System (DAD,FLD, Autosampler)

LOT 1, Item 1.10. HPLC System
PHOTODIODE ARRAY DETECTOR

Light source : Deuterium, tungsten

The light source of our system is Deuterium, quartz halogen.

Is this acceptable?

A58. Your proposal was regarded to be acceptable. Please see Corrigendum No. 2, Article 9.

Q59. LOT 1, Item 1.10. HPLC System

PHOTODIODE ARRAY DETECTOR

Monitoring: at min. 4 different wave lengths at the real time

Our system has a real time uv scan. We however made a choice that we only have one wavelength real time view. It does not make any sense to have 4 channel view. After the analysis is done you are able to view all wavelength separately because all stored. And as shown in the spec sheet also the 3D view topview and spectrum can be shown at the same time. Is this acceptable?

A59. Yes it is acceptable since provision of wavelengths not at real time but later- since they are saved meets also our requirements.

Q60. LOT 1, Item 1.10. HPLC System

PHOTODIODE ARRAY DETECTOR

Wavelength accuracy: ± 1 at UV region, (made automatically by Holmium oxide filter). ± 1.5 nm at VIS region. The wavelength accuracy of our system is ± 1 nm, 656 D2 line verified with the 486 D2 Line. Is this acceptable?

A60. Yes it is acceptable since the offer meets the requirement

Q61. LOT 1, Item 1.10. HPLC System

PHOTODIODE ARRAY DETECTOR

Flow cell : 10 mm path length

The path length of our flow cell is 9 mm. Is this acceptable?

A61. Yes it is acceptable since the slight difference in path length does not cause a significant change in the applications.

Q62. LOT 1, Item 1.10. HPLC System

PHOTODIODE ARRAY DETECTOR

Safety

Leak sensor

Automatic shut down when exceeds given min. and max. values limits This specs is "unique" for one manufacturer because of their stacked units with a pump on top and internal connections. All other system have outside connections and don't require such leak detection system .

Our system can check min. and max. values limits via software.

Can you please delete this statement from the tender specifications?

A62. This technical specification was providing the requirement of leak detection system for internal connections. Therefore it is not binding for outside connections since a shut down will not be needed for outside connections. Your proposed system may be accepted if all the other requirements are fulfilled. Therefore, the necessary amendment is done by means of Corrigendum 2 Article 22.

Q63. LOT 1, Item 1.11. HPLC System (RI-MASS Detector and Autosampler)

Pump Flow Precision: Better than % 0.2. Our pump flow precision is 0.3 % RSD at 1 mL/min MeOH / Water. Is this also acceptable?

A63. Yes it is acceptable, since the slight difference between the required and the offered precision values do not make a significant change in the results of the applications.

Q64. LOT 1, Item 1.11. HPLC System (RI-MASS Detector and Autosampler)

Autosampler temperature control : 0 - 60 °C for vial tray Our system has the sample tray cooling temperature capacity of 20 °C below ambient with built-in peltier cooling. Is this also acceptable?

A64. Yes it is acceptable since the offered bottom limit meets the requirements of our applications.

Q65. LOT 1, Item 1.11. HPLC System (RI-MASS Detector and Autosampler)

RI DETECTOR

Drift : At least 2×10^{-7} RIU

Drift is 2.5×10^{-7} RIU static H₂O in cell, temperature at 35 °C for 2 hours of our system. Is this also acceptable?

A65. Yes it is acceptable since the difference between the offered and the required drift is tolerable when 10^{-7} is taken into account.

Q66. LOT 1, Item 1.11. HPLC System (RI-MASS Detector and Autosampler)

RI DETECTOR

Auto zero range : $\pm 10 \times 10^{-9}$ RIU. Regarding to the RI detector's auto zero range specifications , following specs are published in our printed material.

Auto zero: Electrical and optical zeroing

Auto zero range: All refractive index ranges

Auto zero resolution: ≤ 1 (@2mV /uRIU) / 4 (@8mV /uRIU) nRIU.

Offset Range: 0-500 mV (integrator output) , 0-50% (recorder output)

Offset resolution: 10 uV (same with integrator output sensitivity)

Are these also acceptable ?

A66. Yes it is acceptable since the offered auto zero resolution meets the requirement stated in the tender specifications

Q67. LOT 1, Item 1.11. HPLC System (RI-MASS Detector and Autosampler)

RI DETECTOR

Detector cell working pressure

5kg/cm² Detector cell working pressure of our system is 50 KPa (0.5 kgf/cm²). Is this also acceptable ?

A67. No it is not acceptable, since the suggested pressure is 10% percent of the required pressure and does not fulfil the need specified in the TS

Q68. LOT 1, Item 1.11. HPLC System (RI-MASS Detector and Autosampler)

MASS DETECTOR

Mass range: 30-2000 amu

Our system has a mass range of 10-1500 u. Is this acceptable?

A68. The mass range was rearranged after reviewing the requirement in accordance with applications. Therefore the offered range was acceptable. Please see Corrigendum No. 18 Article 1.11

Q69. LOT 1, Item 1.11. HPLC System (RI-MASS Detector and Autosampler)

MASS DETECTOR

Mass range: 30-2000 amu

Analyzer: Pre-filter protected quadrupole analyser

The analyzer of our system is ion trap with a mass range of 50-2000 amu. . Is this acceptable?

A69. The mass range was rearranged after reviewing the requirement in accordance with applications. Therefore the offered range was acceptable. Please see Corrigendum No. 18 Article 1.11

Q70. LOT 1, Item 1.11. HPLC System (RI-MASS Detector and Autosampler)

Most LC-MS systems sold in the market are MS-MS systems, not only from us but from manufacturers as well. MS-MS is a nice tool in GC-MS but a ‘‘MUST’’ in LC-MS. So we strongly recommend you to buy an LC-MS-MS system instead of an LC-MS System only.

The advantages of MS-MS in LC-MS are as follows:

- Better sensitivity
- More selectivity
- Better selectivity for improved confirmation

- Improved detection limits especially for complex matrices
- More information
- Simpler sample preparation

A70. Thank you for your recommendations but such a change is not allowed.

Q71. LOT 1, Item 1.1. Gas Chromatograph with FID and ECD:

LOT 1, Item 1.2. Gas Chromatograph with FID,ECD and HeadSpace

LOT 1, Item 1.3. Gas Chromatograph with ECD, FPD and Purge and Trap

LOT 1, Item 1.4. Gas Chromatograph with FID Automatic HeadSpace Sampler

LOT 1, Item 1.5. Gas Chromatograph with FID

Hydrogen generator:

Purity better than 99,9995%

Outlet pressure: 1-6 bar

Flow rate should be 400ml /min

Air and Nitrogen generator: The generator can supply contemporarily and constantly up to 3 l/min of zero air and up to 800 ml/min of nitrogen at 4 bar pressure and purity better than 99,9995%Our generators have the purity specification of 99.999% which is sufficient for all the systems used.

A71. Yes it is acceptable since the difference between the offered and the required purity values is tolerable

Q72. LOT 2, Item 2.2. AAS :

Nitrogen Generator

The generator can supply contemporarily and constantly up to 800 Nml/min of nitrogen at 4 bar pressure and purity better than 99,9995%

We can supply a nitrogen generator supplying 750 cc/min at 5 bar.

Is this acceptable?

A72. Yes it is acceptable since the offered flow rate meets the requirement of our applications.

Q73. LOT 1, Item 1.6. GC-MS/MS (EI and CI)

Is both positive and negative ion CI required ?

A73. Yes, both positive and negative ion CI is required

Q74. LOT 1, Item 1.6. GC-MS/MS (EI and CI)

LOT 1, Item 1.8. HPLC System (HPLC,FLD,Post-Column Derivatization, Autosampler)

LOT 1, Item 1.9. HPLC System (DAD,FLD, Autosampler)

LOT 1, Item 1.10. HPLC System

‘‘Shall have a validation and OQ/PV tests of the system shall be made during delivery’’

The instrument validation and the OQ/PV tests will be performed as per the OQ procedures written in IQ/OQ manual by the manufacturer of the regarding instrument (s). All materials/solutions necessary to perform these tests will be provided by the instrument manufacturer and the solutions used for this purpose are for research use only and not for FDA regulated in vitro diagnostic procedures. Is this acceptable ?

A74. It is not regarded to be acceptable since we need the OQ/PV tests for testing the validity of our methods. The IQ/OQ or OQ/PV have advantages and disadvantages in of themselves and the OQ/PV system was selected due to the needs of our methods.

Q75. Is it required IQ/OQ Tests to be performed for other instruments in LOT 1 & 2 too? It is stated for Items, 1.6, 1.8, 1.9 and 1.10 only. There is nothing stated in the others?

A75. Yes it is stated only for 1.6, 1.8, 1.9 and 1.10

Q76. Annex II : Technical Specifications:

Regarding to the general and specific objectives of this contract, we understood that the equipment to be supplied will comply with the specific requirements listed in these items. Are the methods , materials , standard chemicals required for the analysis will be supplied by he beneficiary. If all above will be supplied by the tenderer , please advise the detailed description and the sources of the materials to be supplied and the list of standards and chemicals.

A76. Yes the methods , materials , standard chemicals required for the analysis will be supplied by he beneficiary

Q77. Annex II : Technical Specifications:

Regarding to the ‘‘Hardware and Software components’’ , the on-line help menu are all in English in the original instruments’ software.

The following ‘‘Documentation’’ will be supplied with the system:

-Operational and Maintenance Documentation including standard operation procedures (in English).

-Maintenance Procedures(in Turkish)

-Service manual with diagrams, schematics, part list and troubleshooting information for every unit of equipment, allowing a skilled engineer to diagnose and repair (in Turkish).

Is this acceptable?

A77. No it is not applicable

Q78. Referring to the item 5.1. Implementation, please advise the details of the ‘‘ site preparation’’ we are requested to do ?

A78. No site preparation is foreseen at the moment.

Q79. Gas Chromatograph with Autosampler FID and ECD Detectors

Injection System:

Injector types like capillar split/splitless, temperature programmable on-column, temperature programmable split/splitless, PTV and electronic control can be assembled on it. Equipment must have at least two injector types, one of which must be split/splitless.

What will be the second injector ? It is not defined.

A79. In the tender specifications, it is required that, the equipment must have at least two injector types, one of which must be split/splitless. The other type is PTV, which is stated under the inlets part .

Q80. Flame ionisation dedector:

Minimum detectable amount: better than 0.5 pg c/sec. for pentane, propane, nonane, hexadecane.

This specification is defining only one manufacturer. Our instruments detectable amount is better than 1.8 pg C/sec. It is very sensitive with respect to other manufacturer. Is it acceptable?

A80. Please see the Corrigendum No.2, Article 1.

Q80. Capillary Columns:

At least two different columns according to users' needs.

At least, you must define the dimensions of the columns. The price of different size columns are very different

A80. Please see the Corrigendum No.2, Article 2.

Q81. Accessories:

(Septum, ferrules, injector liners, nuts etc) as recommended by the supplies for min. 2 years period.

The amount of this type of accessories are depend of the users analysis amount. For this reason you must define the min. or max. amounts?

A81. Please see the Corrigendum No.2 Article 3.

Q82. Gas Chromatograph with autosampler FID, ECD Detectors and Headspace

Injection System:

Injector types like capillar split/splitless, temperature programmable on-column, temperature programmable split/splitless, PTV and electronic control can be assembled on it. Equipment must have at least two injector types, one of which must be split/splitless.

What will be the second injector? It is not defined

A82. In the tender specifications, it is required that, the equipment must have at least two injector types, one of which must be split/splittles. The other type is PTV, which is stated under the inlets part .

Q83. Flame ionisation detector:

Minimum detectable amount: better than 0.5 pg c/sec for pantene, propane, nonane, hexadecane.

This specification is defining only one manufacturer. Our instruments detectabe amount is better than 1.8 pgC/sec. It is a very sensitive with respect to lots of other the manufacturers. Is it acceptable?

A83. Please see the Corrigendum No.2, Article 1.

Q84. Electron capture detector:

Dynamic range 1×10^4 or better.

Our instruments dynamic range is 5×10^{-4} . Is it acceptable?

A84. 5×10^{-4} is not acceptable for a dynamic range.

Q85. Automatic Head Space Sampler:

Sampling prodecure of the device should be in-balance sampling of pneumatic and pressure of the gas that is able to be colloted in a desire amount for each sample, while it should not be injection or loop technique with which constant amount of ample can be collected.

This specification is suitable only for one manufacturer. Our technique is the loop technique which is widely used and around the world. It is acceptable?

A85. It was regarded to be acceptable in accordance with the suggestions and the necessary amendments were made. Please see Corrigendum No. 19 Article 1.2.

Q86. When desired a "Backflush" accessory to remove undesired components and to shorten the period of analysis, a "Shaker" accessory to shake sample bottles mechanically and a "cryofocusing" accessory to increase the sensitivity, should be able to connected to the sampler.

Cryofocusing accessory has been produced by only one manufacturer. We do not need this accessory to increase the sensitivity and for this reason we do not produce, and also we can not offer this accessory. Is it acceptable?

A86. If you justify your offer by means of explaining the suggested system in detail like it is done in the 17th question, it may be acceptable on the grounds that the required efficiency is guaranteed.

Q87. Capillary columns

At least two different columns according to users' needs.

At least you must define the dimensions of the columns. The price of different size columns are very different.

A87. Please see the Corrigendum No.2, Article 2.

Q88. Accessories:

(Septum, ferrules, injector, nuts etc) as recommended by the supplier for min. 2 years period. The amount of this type of accessories are depend of the users analysis amount. For this reason you must define the min or max amounts?

A88. Please see the Corrigendum No.2, Article 3.

Q89. Gas Chromatography with Autosampler, ECD, FPD Detectors and Purge and Trap

Injection System

Injector types like capilar split/splitless, temperature programmable on-column, temperature programmable split/splitless, PTV and electronic control can be assembled on it.

Equipment must have at least two injector types, one of which must be split/splitless. What will be the second injector? It is not defined.

A89. In the tender specifications, it is required that, the equipment must have at least two injector types, one of which must be split/splitless. The other type is PTV, which is stated under the inlets part .

Q90. Detectors

ECD, NPD

It is not clear, will the second detector be NPD or FPD?

A90. Please see the Corrigendum No.2, Article 6.

Q91. Flame Photometric Detector

Linear dynamic range: $>10^3$ for P mode and 20 pg S/sec, or better for S mode.

Our instruments dynamic range: $>10^3$ for S mode and 10^4 for P mode with methylparathion. Is it acceptable?

A91. Please see the Corrigendum No.2, Article 10.

Q92. Capillary columns

At least two different columns according to users' needs.

At least, you must define the dimensions of the columns. The prices of different size columns are very different

A92. Please see the Corrigendum No. 2, Article 2.

Q93. Gas Chromatograph FID Detector, Automatic Head Space Sampler

Column furnace should be able to be heated up between ambient temperature maximum plus 10C and 450C under control, it should be able to be lowered as much as -80C, when necessary, by means of separate refrigerating units.

For -80, all the manufacturers must give the separate refrigerating unit as you indicate. Do you want this unit together with the instrument in this tender or will you buy later, when necessary? It is not clear.

A93. The refrigerating unit must be provided in this tender

Q94. Automatic Head Space Sampler

Sampling procedure of the device should be in-balance sampling of pneumatic and pressure of the gas that is able to be collected in a desired amount for each sample, while it should not be injection or loop technique with which content amount of sample can be collected.

This specification is suitable only for one manufacturer. Our technique is the loop technique which is widely used and around the world. It is acceptable?

A94. It was regarded to be acceptable in accordance with the suggestions and the necessary amendments were made. Please see Corrigendum No. 19 Article 1.2.

Q95. When desired, a "Backflush" accessory to remove undesired components and to shorten the period of analysis, a "Shaker" accessory sample bottles mechanically and a "Cryofocusing" accessory to increase sensitivity, should be able to be connected to the sample.

Cryofocusing accessory has been produced by only one manufacturer. We do not need this accessory to increase the sensitivity and for this reason we do not produce, and also we can not offer this accessory. Is it acceptable?

A95. No it is not acceptable but if your system does not need this accessory then a detailed explanation should be provided to decide whether the offered system meets the requirement stated in the tender specifications.

Q96. Accessories

Minimum 3 each column to be selected later shall be provided with the device.

At least, you must define the dimensions of the columns. The price of different size columns are very different.

A96. Please see the Corrigendum No. 2, Article 3.

Q97. Operating cabin enabling to work without influence of dangerous and volatile substances at room temperatures.

What type of dangerous and volatile substances will you work with? What type of unit you are expecting from us to offer? Fume hood or class II type laminar flow cabinet? What will be the working dimensions of this cabinet? What will be the accessories?

A99. Trihalomethanes, epichloridine, vinylchloride, benzene etc. There is no specific type for unit, it can be designed in any way to fit the instrument and to protect from the dangers of volatile substances. No accessories are foreseen.

Q98. Gas Chromatograph with FID Detector

Injection System:

Injector types like capillary split/splitless, temperature programmable on-column, temperature programmable split/splitless, PTV and electronic control can be assembled on it and equipment must have at least two injector types one of them must be split/splitless on it.

What will be the second injector? It is not defined.

A98. In the tender specifications, it is required that, the equipment must have at least two injector types, one of which must be split/splitless. The other type is PTV, which is stated under the inlets part .

Q99. Flame ionisation Detector

Minimum detectable amount: better than 0.5 pg C/sec for pentane, propane, nonane, hexadecane.

This specification is defining only one manufacturer. Our instruments detectable amount is better than 1.8 pg C/sec. It is very sensitive with respect to lots of other the manufacturers. Is it acceptable?

A99. Please see the Corrigendum No.2, Article 1.

Q100. Capillary columns

At least two different columns according to users's needs.

At least you must define the dimensions of the columns. The price of different size columns are very different

A100. Please see the Corrigendum No.2

Q101. Accessories:

(Septum, ferrules, injector, nuts etc) as recommended by the supplier for min. 2 years period. The amount of this type of accessories are depend of the users analysis amount. For this reason you must define the min or max amounts?

A101. Please see the Corrigendum No.2, Article 5.

Q102. Gas Chromatograph - Mass/Mass Spectrometer (GC-MS/MS)

MS/MS Detector Unit:

Ion Trap Mass Analyzer (Mass interval: 10-650 amu or better; scanning: 5000 amu/sec or better), both cations and anions

Can we offer quadrupole (triple quadrupole) instrument which is more sensitive instead of Ion Trap mass analyzer?

A102. Your suggestion is not regarded to be acceptable since ion trap is required in accordance with the quality of the instrument, we need the ion trap with its advantages due to the scope of our work

Q103. Gas Chromatography Mass Spectrometer (GC-MS) System Autosampler, EI

Injection System:

Injector types likes capilar split/spitless, temperature programmable on-column, temperature programmable split/splitless, PTV and electronic control can be assembled on it and equipment must have at least two injector type one of them must be split/splitless on it.

What will be the second injector? It is not defined.

For gas chromatography there must be 2 heat programmable injector (split/splitless or on column) which will be used in PTV works. PTV heat range must be adjustable between 99C and 450C liquid nitrogen.

Can you please determine which injector do you want, split/splitless and on column or PTV?

A103. In the tender specifications, it is required that, the equipment must have at least two injector types, one of which must be split/splittles. The other type is PTV, which is stated under the inlets part .

Q104. Mass Spectrometer

Rather than an electron multiplier, which requires period periodical maintenance and part replacement, it must have a photomultiplier detector with a relatively longer lifetime which does not require maintenance.

This specification is suitable only for one manufacturer and all others have electron multiplier detector which is more versatile and widely used for all others have electron multiplier detector which is more versatile and widely used for all other manufacturers. Is it acceptable?

A104. Please see the Corrigendum No.2, Article 8.

Q105. In front of the quadraples, there must be a pre-filter, avoiding contamination while increasing precision.

Instead of pre-filter, our systems is using ion guide lenses system which is the very new and most powerfull technique to eliminate the contamination of the surface and there is no need the pre-filter in front of the quadrapoles in our system. Is it acceptable?

A105. Yes it is acceptable since the offered system meets the requirement stated in the tender specification

Q106. Capillary columns

At least two different columns according to users's needs.

At least you must define the dimensions of the columns. The price of different size columns are very different

A106. Please see the Corrigendum No.2, Article 2.

Q107. Accessories:

(Septum, ferrules, injector, nuts etc) as recommended by the supplier for min. 2 years period. The amount of this type of accessories are depend of the users analysis amount.

For this reason you must define the min or max amounts?

A107. Please see the Corrigendum No.2, Article 5.

Q108. High Performance Liquid Chromatograph (HPLC) System (HPLC,FLD,POST-COLUMN DERIVATIZATION, AUTOSAMPLER)

Pump Flow Rate Rate Range:

1-10.000 uL/min and with 1uL/min increments.

Will the range between 1ul-10.00 ml/min? Because above range is very limited.

A108. Yes the range will be between 1ul-10.00 ml/min

Q109. Gradient Dead Volume:

Max.700 uL

Delay volume of our pump is between 800-110ul, depend on backpressure. Is it acceptable?

A109. It is not regarded to be acceptable since the offered range exceeds the required range and will affect the result of the analyses in a negative way.

Q110. High Performance Liquid Chromatograph (HPLC) System (DAD, FLD, AUTOSAMPLER)

Flow rate range:

1-10.000 uL/min and with 1uL/min increments.

Will the range between 1ul-10.00 ml/min? Because above range is very limited.

A110. Yes the range will be between 1ul-10.00 ml/min

Q111. Gradient Dead Volume:

Max.700 uL

Delay volume of our pump is between 800-110ul, depend on backpressure. Is it acceptable?

A111. It is not regarded to be acceptable since the offered range exceeds the required range and will effect the result of the analyses in a negative way.

Q112. High Performance Liquid Chromatography (HPLC) System

Pump Flow Rate Range

1-10.000 uL/min and with 1uL/min increments.

Will the range between 1ul-10.00 ml/min? Because above range is very limited.

A112. Yes the range will be between 1ul-10.00 ml/min

Q113. Signal drift

Max +/-1.0 x 10⁻³ AU/h at 254 nm.

The drift of our DAD is +/-2.0 x 10⁻³. Is it acceptable?

A113. Yes it is acceptable since the difference between the required and the offered drift value is tolerable

Q114. High Performance Liquid Chromatograph (HPLC) System

Maximum pump working pressure

At least 6.000 psi

The working pressure of our instrument is 5.880 psi. Is it acceptable?

A114. Yes it is acceptable since the difference between the required and the offered maximum pump working pressure is tolerable

Q115. Autosampler temperature control

0-60C for vial tray

Our autosampler temperature control is between 0-40C. Is it acceptable?

A115. Yes it is acceptable since the offered upper limit meets the requirements of our applications

Q116. Regarding the sieve set requisition in item 19, please be advised that 0.45, 0.50, 0.60 microns sieves does not exist. DIN ISO 3310-1 standard, is given as reference standard in the tender dossier and with this standard compliance is required. DIN ISO 3310-1 clearly determines the sieve types, the holes sizes etc. such sieves with 0.45, 0.40, 0.60 microns hole sizes will not comply with the standards.

Please clarify if the requested sizes are correct or would it be acceptable if we offer sieve sets complying with the above mentioned standard, to be chosen from the list given in the ISO 3310-1.

A116. Please see Corrigendum No.2, Article 14.

Q117. LOT-2 SPECTROPHOTOMETERS

2.2 ATOMIC ABSORPTION SPECTROPHOTOMETER WITH GRAPHITE FURNACE, FLAME ATOMISER AND HYDRIDE GENERATION SYSTEM

Application area: Trace elements in water

Graphite furnace: Programmable temperature up to 3000°C with 10°C increments

On the “ GRAPHITE FURNACE ” section of technical specifications the maximum temperature value to be reached during analysis, is required as 3000 Degree Celsius.

On conventional heating techniques applied in graphite furnace systems, graphite tubes (samples cuvettes) are heated up from two ends by applying appropriate electrical current. In this type of heating method, mid part of the tube always has a higher temperature than both ends. When the actual atomisation temperature of the element during analysis has been reached, the element accumulated on the mid part of the tube is fully atomised, while at the end part of the tubes (where the temperature is below atomisation temperature) half-atomised element vapours are encountered, which yields to “self absorption”, causing some interferences to the analysis result.

This problem can only be over come by reaching the actual atomisation temperature of the element at both ends of the tube, which is cooler than the mid part. When the actual atomisation temperature is reached at the ends, mid part of the tube (which is at higher temp eventually) goes above the atomisation temperature value. For high temperatures the difference is 300-400 degree Celcius.

The above-mentioned process is a classical technique. Instead of this classical technique, most of the equipment nowadays, which are more suitable for your applications apply heating energy to the sides of the tube instead of applying to the ends. In this modern technique which is so called “Transversly heating”, temperature value is same on every spot of the tube.

So when this system is used, there is no need to go above the actual atomisation temperature value of the element, to ensure the atomisation of element all across the tube. Maximum temperature value to be reached in analysis is determined as 2600 degree Celsius for the device that we found more proper for your needs, where all the elements are already atomised up to this temperature.

We strongly believe that the above new techniques and the equipments which use these are worldwide reputable and accepted hi-tech systems. The above presented information is a well known standard set of justification for your party in order to make it clear that these equipment are also acceptable and competitive. In order not to leave these new and advantageous devices out of this tender, would you be stating your opinion on the above points.

A117. When the application limits of our analysis are taken into account, the maximum temperature value of 2600 degree Celsius is acceptable.

Q118 LOT 1, Item 1.1. Gas Chromatograph with FID and ECD:

LOT 1, Item 1.2. Gas Chromatograph with FID, ECD and HeadSpace

LOT 1, Item 1.3. Gas Chromatograph with ECD, FPD and Purge and Trap

LOT 1, Item 1.5. Gas Chromatograph with FID

LOT 1, Item 1.7. GC-MS System ,Autosampler (EI)

Equipment General Properties:

"Must have membrane type keyboard on it"

Our system has intuitive soft keyboard buttons and large LCD display on it. Is this also acceptable?

A.118 The offered intuitive soft keyboard buttons and large LCD display on it are acceptable since they meet the requirements stated in the tender specifications.

Q119 LOT 1, Item 1.1. Gas Chromatograph with FID and ECD:

LOT 1, Item 1.2. Gas Chromatograph with FID, ECD and HeadSpace

LOT 1, Item 1.3. Gas Chromatograph with ECD, FPD and Purge and Trap

LOT 1, Item 1.5. Gas Chromatograph with FID

LOT 1, Item 1.7. GC-MS System ,Autosampler (EI)

Equipment General Properties:

" Must have sample processing system which has 3 different working mode (Time saver, Enhanced solvent purge, Isolation mode)."

This specs named PreVent modes and they are "unique" for one manufacturer only so it can not be acquired from anyone else and eliminates all other subscribers.

Can you please delete this statement from the tender specifications?

Notes:

Our systems have other alternatives to provide the same benefits. Regarding to the "PreVent time saver mode preventing higher boiling components or residues from going through the column and detector" the common solution to save time for waiting on higher boiling components to elute , is simple to increase the oven temperature at the end of the run or to increase the column flow at the end of the run. This is programmable in the temperature and flow programmable window.

With the new technology columns , the column bleeding is very low.

Regarding to "PreVent Enhanced Large Volume Injection Mode isolating columns and detector from effects of high level solvents", in mass spectrometry we always shut-down the detector and filaments to avoid any damage while the solvent is eluting. This is generally called solvent delay or filament/multiplier delay which is part of the operational program.

If it is required with a build in deans and switching valve a back flush can be made possible. Definition of sample is needed. With a build in deans switch option a solvent purge is possible. Enhanced solvent purge mode can also be

configured with the PTV injector to isolate the column and detector from effects of high levels of solvent. With the solvent flush option both pre column and analytical column remain under carrier gas. Isolation mode allows a septum change without interrupting carrier flow to the column. Maintenance can be performed on the inlet without impacting system stability.

A119. The offered system is acceptable since it provides the same benefits but in an alternative way. The necessary amendments have been made by means of a corrigendum. Please see Corrigendum No:2 Article 23.

Q 120. LOT 1, Item 1.1. Gas Chromatograph with FID and ECD

LOT 1, Item 1.2. Gas Chromatograph with FID, ECD and HeadSpace

LOT 1, Item 1.3. Gas Chromatograph with ECD, FPD and Purge and Trap

LOT 1, Item 1.5. Gas Chromatograph with FID

Injection System: Injector types like capillar split/splitless, temperature programmable on-column, temperature programmable split/splitless, PTV and electronic control can be assembled on it. Equipment must have at least two injector types, one of which must be split/splitless.

Can you please clarify if one each split/splitless capillary (isothermal) and one each PTV programmable on-column & splitless capillary injectors will be installed on the system?

A120. In the tender specifications, it is required that, the equipment must have at least two injector types, one of which must be split/splitless. The other type is PTV, which is stated under the inlets part of the specifications.