

Minutes of the Pre-Bid conference

Tender Notification No.: NITT /F.NO: 060/UG LAB MODERNISATION/PLAN 2013-2014/MME

The pre-bid conference was held on 30.12.2013 at 4.00 pm. in the committee room of MME to discuss the specification published in the tender. All other terms and conditions mentioned in the tender document remains same.


Based on the discussion, the committee recommends the following amendments to the specification.

Specification for Simultaneous/Continuous Thermal analyser system

Original tender specification		Amended specification
The system should have built-in DTA/TGA/DSC mode with simultaneous scanning facility in single run. All the three curves/parameters like TGA/DTA/DTG or DSC to be displayed on single screen.		No amendment
Temp range	25°C to 1500°C with suitable cooling system Heating Rate Should be Ambient to 1000°C: 0.1 to 100 °C/min ;1000°C to 1500°C: 0.1 to 25°C/min Cooling Rate Should be 1500°C to 100°C under 50 minutes	Chiller to be provided along with the main system No amendment 1000°C to 1500°C: 0.1 to 50°C/min No amendment
Balance sensitivity & accuracy	Minimum TGA Balance sensitivity shall be 0.2 µg with 0.02% accuracy	No amendment
DTA sensitivity	0.001°C DTA signal should have provision to convert into DSC mode/signal for quantitative studies	No amendment
Thermocouple sensor	Be Pt-Pt/Rh User replaceable sensor for future with vertical design for sample loading	No amendment
Calorimetric precision	Should be less than + 2% up to 1000°C and +/- 5% up to 1500°C.	No amendment
Temp accuracy and reproducibility	Should be +/- 0.5°C up to 1000°C and 1°C up to 1500°C.	No amendment
TGA	should have ultra Microbalance with minimum 0.2 µg sensitivity with top load design	No amendment
Sample size	Be up to 1500mg with sample pan. The balance shall have excellent stability with no need for anti vibration table needed for installation.	Up to 1500mg sample pan. The balance should have excellent stability with need for anti vibration table needed for installation.
Built-in Mass Flow controller for two difference gases viz. N ₂ , O ₂ or any other. It should also select the flow of gases thru software and shall be displayed on the screen.		No amendment
The system shall be supplied with Pt. and Ceramic/Alumina pans		Need of 2 nos Pt. & 4 nos. Ceramic Crucibles. Two years consumable requirements need to be quote.
The system should be single beam vertical design with ease of operation for sample loading.		No amendment
The system shall be quoted with sub-ambient acc to start from 15°C onwards		No amendment
The system shall cool down from 1000°C to 30°C in under 50 minutes		No amendment
Various Metal Reference Materials for DSC calibrations to be quoted with main system.		No amendment

The system should have built in Windows 7 based software with 8 modules to be controlled simultaneously. It should also include Kinetics software along with main unit. Standard software shall have the flexibility of various standard calculations like onset, peak area, compare, derivatives, subtraction, % wt loss, overlay of curves, delta Y calculations, multi-step programming, gas switch over, heat/cool, etc.		No amendment
Optical performance		
Wavelength Range	8,300– 350 cm ⁻¹ with KBr beam splitter	4000 – 350 cm ⁻¹ with KBr beam splitter
Spectral Resolution	0.5 cm ⁻¹	No amendment
Wavelength Precision	Better than 0.01 cm ⁻¹ at 3000 cm ⁻¹	No amendment
Wavelength Accuracy	0.1 cm ⁻¹ at 3000 cm ⁻¹	No amendment
Signal-to-noise	14,500 :1 peak-peak, 5 seconds 50,000 :1 peak-peak, 1 minute	12,500:1 peak-peak, 5 seconds 45,000 :1 peak-peak, 1 minute
Detectors	Temperature-stabilized room temperature DTGS detector	DTGS / DLA detector
Source	Long-life source, And user replaceable from outside instrument	No amendment
Beam splitter	KBr.	No amendment
Desiccant	Long-life desiccant system accepts disposable packs. Software controlled desiccant status indicator.	No amendment
Validation	Software controlled validation wheel option containing a polystyrene reference material, traceable to a NIST standard for wave number accuracy and a Schott NG11 filter for ordinate repeatability.	No amendment
Optical Windows	KBr	No amendment
Optical System		
General	Long-life sealed and desiccated optical unit incorporating design, Vibration isolated base plate.	No amendment
Interferometer	High stability, self-compensating for dynamic alignment changes due to a tilt and shear.	No amendment
Optics	Kinematically mounted, zero alignment optics, with high reflectivity and a low-angle off axis design. Proprietary Optics Guard system for extended desiccant life and additional optical component protection.	No amendment
Data System And Electronics		
Signal sampling	Over-sampling delta-sigma converter.	No amendment
Communication	USB, wireless and TCP/IP interface allows direct connection with LAN. Instruments can be configured with wireless router communication.	No amendment
Atmospheric compensation	Minimizes effect of atmospheric water and CO ₂ on the sample spectra without the need for reference or calibration spectra. Operates at various instrument settings without having to recalibrate the correction.	No amendment
Accessory recognition	Spectrum Two accessories are automatically detected as soon as they are locked into the sampling area. Instrument parameters are optimized for the installed accessory. Accessories information stored with spectral data.	No amendment
Error Trapping	All sample spectra are checked for common spectroscopic and sampling problems. Key instrument components are continuously monitored	No amendment

Component Checks	Individual component checks under software control can be executed on-demand or automatically scheduled at preset times/intervals	No amendment
Power save mode	Instrument standby and power-up can be automatically scheduled	No amendment
Operating Range	10-35°C.	No amendment
Typical desiccant lifetime	5 years at 25°C and 90% relative humidity.	No amendment
Software		
General A	Single software platform incorporates all of the functions required for infrared analyses; instrument control, data manipulation and analysis, and flexible report utilities. A suite of optional software packages provide advanced capabilities or functions designed for specific application areas. Optional Spectrum Touch functionality optimised for touch screen operation allows simple user interface for turnkey operation with selected applications.	No amendment
Required Accessories		
ATR	Single Crystal Diamond ATR	No amendment
Pellet Press	15 Ton Pellet Press	No amendment
KBr Powder	100g KBr Powder	No amendment
Cell	Univercell Demountable Cell, Rectangular Spacers,	No amendment
PC/Printer	Suitable branded PC/ Work Station and Printer of each 2 No's	No amendment
UPS	Online 5KVA UPS with 30 min back up and one 2KVA UPS with 30 min back up	No amendment
Work Table	A sturdy granite work table as per the system requirements.	No amendment
Operating Environment Conditions	Proper cooling unit is required to attain +15°C to +30°C	No amendment
Stabilizer	5 KVA industrial stabilizer of 2 No's	No amendment
Tools and Cabinet	Required Tools and Consumables Storage Cabinet	No amendment
		Metal & metal oxides, polymers libraries should be quoted along with the IR system.
		2 nos. of ultra high purity cylinders with regulators to be quoted along with the main system.
		5 digit accuracy weighing system should be quoted along with the main system
		Should quote for 5 years AMC


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