

**PROCUREMENT PROCEDURE OF CPRI (NON WORKS)**

Revision No. : 04  
 Dt of Revision : 27.08.2020  
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 Issue Dt. : 30.06.2003  
 Issued by : P A  
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 FORMAT NO.:CPRI/PUR/ETBID/GTP

**Section IV T -Technical Specification**

**CENTRAL POWER RESEARCH INSTITUTE, BENGALURU/BHOPAL Web: www.cpri.in www.tenderwizard.com/CPRI**

Tender Enquiry No : CPRI/BLR21DMD03S642

Description of the Equipment/ Goods/ Services : Supply installation and commissioning of Fourier-transform infrared (FT-IR) spectroscopy with Attenuated Total Reflection (ATR)

Note : 1) The technical bid submitted in other than this format is liable to be rejected.

2) All blue fields are mandatorily to be filled in.

Name and address of the bidder						
Quotation Number and Date						
Sl.No.	Technical Specifications/Parameters		Qty	To be completed by the Bidder		
	Parameters	CPRI Specification/Requirements		Details of guaranteed technical parameters offered by the bidder	Guaranteed Technical Particulars (GTP)	Deviations from GTP
1	Place where equipment to be supplied	DMD, CPRI, Bengaluru				
2	Scope (Supply / Supply & Installation / Supply, Installation & Training)	Supply, Installation, Commissioning & Training of Fourier-transform infrared (FT-IR) spectroscopy with Attenuated Total Reflection (ATR) Wave length range of 4000-400 cm-1	1 No.			
	(a) Interferometer	interferometer for fast scanning, self-compensating for dynamic alignment changes, sealed and desiccated incorporating high reflectivity optical System with KBr/Ge coated beamsplitter.				
	(b) Beam Splitter	Completely sealed Ge coated KBr				
	(c) Wavenumber Range	4000-400 cm-1 or Better				
	(d) Wavenumber accuracy	Wavenumber accuracy $\pm 0.1 \text{ cm}^{-1}$ or better				

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	(e) Wavenumber Precision	Wavenumber precision better than 0.01 cm-1 or better at 2000cm-1				
	(f) Spectral Resolution	Spectral resolution 1.0 cm-1 or better.				
	(g) Source	High intensity, Long life ceramic source covering entire 4000-400 cm-1 range or better.				
	(h) Singal to noise ratio (SNR)	30000:1 peak to peak or better.				
	(i) Laser	Solid-state, temperature controlled diode with long life and lower maintenance or better.				
	(j) interferometer protection	Assured interferometer protection from high humidity through in-built Desiccators for long instrument life.				
	(k) Window	KBr window				
	(l) Licensed Library	Inbuilt Licensed Library available for Minimum 10,000 spectra (polymer, mineral oil, etc)				
	(m) Detector	Temperature-controlled High-Performance - Deuterated Triglycine Sulfate (DTGS) detector, high stability against external temperature changes or better.				
3	Polystyrene film	NIST-traceable 1.5 MIL (32 MICRON) polystyrene film supplied with certificate. Performance Verification based on ASTM E1421.	1 No.			
4	ATR	Monolithic Diamond ATR for complete range from 4000 - 400 cm-1 or better shall be offered.	1 No.			

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5	CELL	Fixed liquid thickness cell - 0.1 mm KBr window & Assorted PTFE Spacers for Liquid Samples	2 No.			
6	Desiccant	Rechargeable desiccant.	1 No.			
7	Software	The Software should have below features: (a) Atmospher Vapour Compensation - vibration isolated base plate and must have automatic Compensation for Vapor & CO2. (b) Spectral Comparison (c) It should have desiccant built-in to compensate atmospheric pressure. (d) Multiple spectra Handling, (e) Data acquisition, control, evaluation and reporting using all-in-one software (f) Spectral History (g) Automatic accessory detection and performance verification, The operator must be immediately notified by system software if any of the factory specifications are not met. (h) The software must offer detailed information about the nature of the failure and suggest possible remedy. (i) Step-by-step analysis program for quality control applications, Spectra comparison method for material verification, Library search capability for material identification,. User specific data integrate features.				

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8	Features	(a) Change between different modules must be easy. ATR should be capable of doing all samples like Solids, Liquid, Paste, gel, plastics analysis & it should even support the analysis of Hygroscopic samples. (b) Sampling modules must be automatically identified and spectral test routines must automatically start to verify accessory performance.				
9	communication	Communication between the spectrometer and controlling PC must be performed using an Ethernet connection.				
10	<b>Indigenous items</b>					
	(a) Desktop computer	The instrument shall be provided with branded Desktop i7 PC (DELL/HP/SONY/LENOVO) Licensed Windows 10 Professional operating system compatible with FTIR software. The detailed technical configuration of the computer shall be indicated clearly in the quotation.	1 No.			
	(b) B/W Laser Jet printer	The instrument shall be provided with suitable B/W Laser Jet printer. The detailed configuration of the printer shall be provided in the quotation	1 No.			
	(c)UPS	Suitable UPS (3 kVA) with 30 minutes back up for instrument and PC. The detailed technical configuration of the UPS shall be indicated clearly in the quotation.	1 No.			
	(d) Dry box	digital Dry box for preserving KBr cells	1 No.			
<b>General requirement</b>						
11	Demonstration	The vender shall demonstrate the total set up for functional suitability at CPRI, Bengaluru prior to the technical evaluation				
12	Power supply	Power supply requirement: 230 ± 10 % V AC , 50 ± 5 % Hz				
13	Operating condition	The equipment should effectively function from ambient temperature to 40°C & RH between 10 - 80 % Non Condensing				
14	Warranty	Warranty for 1 year from the date of successful installation & commissioning of equipment				
15	Instruction Manual	Instruction manual should be provided with each equipment	2 Nos.			

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16	Training	Training for 2 Officers of CPRI on operation & maintenance of equipment	2 Nos.			
17	Pre installation requirement	Pre-installation requirements have to be mentioned with the offer.				
18	Compliance of specification	Compliance of the specification shall be indicated unambiguously in the column provided above and shall be supported by documentary evidence such as product catalogues (Original)/ application notes.				
19	Deviations	Deviations if any from the specifications given above which provides improvement in the functioning of the above item/equipment shall be clearly brought out with their advantages.				
20	Additional features	Any additional features other than the above may be brought out clearly.				
21	Customer list	A list of customers (with details like name of contact person, address, phone No.) to whom similar systems were supplied shall be furnished.				
22	Presentation	The vendor shall make detailed presentation of the system offered at CPRI Bangalore, during tender evaluation, if required.				

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23	Supply of spares	The Vendor shall ensure supply of spares for at least 7 years.				
24	Safety	Shock proof & safety measurements as per relevant national / international standards				
25	Company Status	Original Equipment Manufacturing Company should have ISO 9001 certification.				

PN: 1) Mere statement of "Complied" do not suffice the requirement. The details of technical parameters in proof of CPRI requirements shall be furnished along with technical write-up, catalogues, brochures, literatures, pamphlets, or any other documents shall be submitted in hard copy along with technical bid.  
 2) Calibration reports/certificates, factory test reports/certificates from an accredited agencies/facilities shall be submitted wherever applicable.  
 3) CPRI reserves the right to conduct "predispatch inspection" prior to dispatch at the works of the supplier and the expenditure towards PDI shall be borne by CPRI. However information regarding the rediness of the equipment/machinery for the PDI shall be communicated in writing at lease 70 days in advance.