

Technical Specifications of PE Loop cryostat

1.0 Bidder Eligibility Criteria-I

Sl. No	Bidder Eligibility Criteria-I	Complied / Not Complied	Reference Page No.	Remarks, If any
1	The vendor should have supplied at least two similar instruments in India in the past two years. List of their customers and their contact details should be provided. IIT-Madras shall inquire the bidders' customers about the quality of product/service. If the testimonial from their customers is not satisfactory, IIT-Madras reserves the right to reject the bid based on technical grounds.			

2.0 Technical Specifications II

Sl. NO	SPECIFICATIONS	Complied / Not Complied	Reference, Page. No.
Specifications of Existing Ferroelectric Test Station			
Make: aixACCT Systems GmbH, Germany			
Model: TF Analyser 3000 (PE Loop Tracer)			
Components of the machine:			
	- FE Module with high voltage amplifier of 10 kV		
	- Inbuilt amplifier operation: 150V		
	- External amplifier operation: 1000 V and 10000 V (make: Trek)		
	Output :Lemo connector and BNC connector		
Technical requirements of cryostat, camera, thin-film probe, micro positioner and software			
i.	The vendor/OEM should supply cryostat, camera, thin-film probe, micro positioner and software that can be integrated with existing ferroelectric test station		
ii.	All necessary connectivity modules/accessories between the quoted components and TF Analyser 3000 should be carried out at IIT Madras. The product cannot be shipped to vendor/OEM location.		
iii.	Temperature control requirement		
	a. cryostat should operate between -100°C and 500°C or better for temperature dependent measurements.		
	b. The cryostat should hold thin and thick films of few nm to few mm.		
	c. Temperature sensor accuracy +/-0.1°C		
	d. Heating area: 50 mm x 50 mm		
	e. Temperature Range: RT-> 500 °C		
	f. High temperature shielding should be provided.		
	g. Temperature control accuracy should be less than 1°C		
	h. Necessary cables, circulation pump for cooling the housing and its associated plumbing components should be provided.		
	i. Liquid nitrogen connectors, purge system for liquid nitrogen		

	should be provided		
	j. Liquid nitrogen cryo can for use with sample holder		
iv.	Positioning system for Laser and Camera		
	a. Manual positioning stages for precise alignment of laser and microscope camera		
	b. Travel range should be at least 25 mm x25 mm		
	c. Sensitivity: 1um		
	d. Camera system can be adjusted independently from Laser (tilting system)		
	e. High end microscope camera for precise positioning of needles		
	f. Software for visualization of camera		
v.	High Temperature Positioner requirements		
	a. Should operate in the voltage range 0V-500V		
	b. Should have high temperature stability		
	c. Resolution should be < 5µm		
	d. Tip holder for commercial needles/probes		
vi.	Requirements of high voltage contact with laser mirror for positioner		
	a. Voltage range 0 V – 10kV		
	b. Tip holder for commercial needles/probes		
	c. Spring-loaded contact with Laser mirror ensures precise contacting and deflection		
	d. Measurement should be possible without the need of reflecting top electrode		
	e. HV connector should be provided.		
Terms & Conditions			
vii.	Should provide software that can be integrated with existing TF Analyzer 3000 software.The vendor's or OEM's software should work in the backend and integrate with the existing software. All the capabilities of existing software should be retained.		
viii.	Minimum one year onsite warranty from the date of installation of the products.		
ix.	Any additional components required to meet the technical specifications above should be quoted.		
x.	All optional components like microtips that are available for the setup should be quoted.		
xi.	Installation and Training onsite is required.		

(Note: It is mandatory for the bidders to provide the compliance statement in tabular column format along with catalogue page number (comply/not comply) for the Above points with document proof as required. Failing which bidders will be technically disqualified)