

Technical Specifications for Vacuum Compatible Electrical Probe System with Heating Stage and Cooling option

The department of Physics, IIT Madras invites quotation for the supply of a Probe system with heating stage and optional vacuum and cooling facility

Temperature Range	-195°C to 300°C or higher
Heating Rate	0.01°C to 100°C per minute
Temperature Stability / Accuracy	0.1°C or better
Sample Area	20 mm diameter or larger
Temperature Sensor	Platinum resistance type sensor
Heating stage	Heating stage with 20 mm diameter of larger with high thermal conductivity
Heating control	Software based control and controller interface to be included (PC not required, will be available)
Optical Window	Quartz window of 20 mm × 0.5 mm for light illumination on sample from top
Calibration Points	2 or more Calibration points to check accuracy
Vacuum compatibility	10 ⁻³ mbar with suitable O-ring sealing
Vacuum port	KF type attached to the chamber, but Vacuum pump and other accessory may be quoted as optional
Cooling Method (Optional)	Liquid N2 based system as option for future upgrade (field upgradable) to be quoted as optional
Chamber Pressure monitor	Option for gauge mounting -KF type port)
Probes	4 probes with gold tipped probe tips mounted on manipulators / positioners with flexibility to place on any X-Y point on the sample stage , screw type adjustment with soft touch
Electrical connection	BNC female connectors fitted outside for taking connections with the probes
Chamber lid	Should be easy to close/open from the top side
Gas flow	Chamber should be compatible with flow/filling of non-corrosive gases
Electrical shielding /noise protection	The thermal- probe stage chamber should have metal (steel /aluminium) body to minimize external electrical noise

Vendor should have supplied and installed atleast 10 no.s of thermal stages to the IITs /IISERs/CFTIs/Central Universities.

Vendor should have a trained team of service engineers.

Warranty of 3 years should be quoted

Compliance statement should be provided in a **tabular form against each point** mentioned in the list above and should be supported by technical brochure/document