

Technical Specification for 3 D Optical Profilometer

Sl. No.	Specifications	Technical requirement	Remarks
1	Measurement method	Interferometric objective, white light source based non-contact optical system	
2	Measurement & Analysis capabilities	Capable for measurement of 2D & 3D topography, Surface roughness, aspect ratio, step height, line and area roughness. System should analyze the samples such as gears, SS/MS metal cutting fluids, deformation of gear teeth, wear & tear of gears and other machine components, silicon wafer, alumina substrates, MEMS device, micro fluids, deep channels including possibilities to image various metals, ceramics and biological materials	
3	Surface reflectivity	0.5% or better	
4	Thin film measurement	50 nm to a min of 600 nm through thin layer inspection – additional details to be provided	
5	RMS repeatability	Around 0.02 nm	
6	X-Y stage/scan	Motorized with closed loop XY stage 75mmX50mm or better	
7	Sample size	Atleast 50mmX50mm. Samples should be able to be mounted with relative ease	
8	Vertical measuring range	2 mm or more without stitching, should not be dependent on Objectives & up to 20mm with stitching	
9	Z axis movement	50 mm closed loop	
10	Z height focus	Automatic motorized with closed loop	
11	Resolution	Z-axis 1 Å for full range/Single mode of operation; 1micron or better X-Y optical resolution with 20X objective	
12	Objective Mount	Option to remove and fix high resolution objective	
13	Objective	20X or better	
14	Camera	CCD Camera of 2048 x 2048 or more pixel size	
15	Software	stitching software along with roughness measurement software to be supplied as a standard	
16	Computer	Latest version of OS compatible with the software, 500 GB HDD, 4GB RAM, 19 inch LCD or better	

17	Power Requirement	Suitable for operation in 220V AC, 50 Hz single phase supply.	
18	Weight carrying capacity	Upto 5 kg to be supplied	
19	Calibration standard for step height measurement	To be provided and specified	
20	Instruments supplied in India (user list)	Please provide details of national laboratories or institutions of national importance where such instruments are supplied with in India	
21	Service support	Direct OEM support for service and application, spare parts should be available In India	
22	Training	Onsite installation and hands on training must be provided	
23	Manuals & optional items	The operation manual with electrical and electronics must be provided and the Other optional items should be quoted and must have the capability to be upgraded on site.	
24	Analysis software	Provide details of the number of licenses	

Note:

1. Compliance statement/table must be provided for the specifications indicated in the remarks column without which the quotation will remain invalid.
2. Any additional details that the company may want to provide may separately be listed.
3. Certification from any of the users of the machine/instrument about the working and quality of machine/instrument may be provided (only from national laboratories or institutions of national importance such as CSIR laboratories, IITs, NITs).