



**INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
MATERIALS MANAGEMENT DIVISION
Powai, Mumbai 400076**

PR No. 100003393

Technical Specification for Digital micro imaging system for 3D fiber and fabric structural analysis specifications :

We intend to purchase digital micro imaging system for 3D fiber and fabric structural analysis for textile research and textile production and quality evaluation applications.

1. Main Unit

1.1. Camera

1.1.1. Imaging device: 1/1.9 inch CMOS image sensor or better

1.1.2. Effective pixels: 2.00 mega-pixel or more

1.1.3. Frame rate: 30fps or more

1.1.4. Shutter: Electronic (If needed)

1.1.5. Shutter speed: Auto: Including 1/15~1/25000(If needed)

Manual: Including 1~1/25000(If needed)

1.1.6. Light source: Built-in, high intensity LED

1.2. Lens

1.2.1. Type: Zoom objective of fluorite optics or better

1.2.2. Zoom magnification (15inch monitor magnification): Including x20 to x800 or more

1.3. Stand

1.3.1. Stage

1.3.1.1. Type: 2 axis (XY) motor stage

- 1.3.1.2. Size: 250x250mm or more
- 1.3.1.3. XY axis displacement: Motorized, 100x100mm or more
- 1.3.2. Camera mount (Z axis)
 - 1.3.2.1. Up and down movement: Motorized and manual
 - 1.3.2.2. Movement range: Motorized: 30mm or more
Manual: 75mm or more
 - 1.3.2.3. Left and right oblique movement: Manual, range: left 45° or more /
right 45°
- 1.4. Interface: Connectable with PC and other peripheral equipment
- 1.5. Foot Switch: Equipped, control of picture and image recording
- 1.6. Management and control software for PC
 - 1.6.1. Function Should including the following or equivalent:
 - Resolution image: 18 megapixel for one RGB color or more
 - Screen separation: 4 or more (or equivalent technology)
 - Image adjustment: Contrast, edge, digital zoom
 - Image processing: high dynamic range, image stabilization
 - Recording: image, movie, shooting condition, focus stacking, auto focus at giving point
 - 2D measurement: Simultaneous multipoint measurement, CSV export of area and data
 - 3D measurement: Volume, area and roughness capability to use the function to collection of images (2D and 3D images)
 - Data storage, data export (including Excel export etc.)
 - 1.6.2. OS: Microsoft Windows 10 Pro (64bit) or better
- 1.7. Language to be used and indicated: English
- 1.8. Accessories: connection and power cable (2 sets)

2. Management and Control PC
 - 2.1. CPU: Intel Core™ i5 processor or better
 - 2.2. Main memory: 8.0GB or more
 - 2.3. Storage memory: 512GB or more
 - 2.4. Optical drive: DVD drive (write and read)
 - 2.5. Monitor: LED 23 inch full HD or better
 - 2.6. Interface: Sufficient USB3.0 (A type) and USB2.0
 - 2.7. OS: Microsoft Windows 10 Pro (64bit) or better
 - 2.8. Language to be used and indicated: English
 - 2.9. Accessories: connection and power cable (2 sets), keyboard and optical mouse
3. WARRANTY – Minimum 36 months warranty should be provided for the system. During warranty any part that needs to be replaced should be done by supplier on a door delivery basis free of cost. IIT Bombay will bear no costs towards, freight, insurance, clearance charges, local taxes and customs duties for parts that are needed to be replaced in warranty.
4. TRAINING – Users should be imparted training at site and two hard copies of complete manual and its soft copy should be provided.
5. Optional function: 360° rotation at oblique angle when the object is fixed observation function, automatic recognition of lens magnification capability to use extend the magnification up to 5000x by adding the lens capability to use the polarization filter by adapter.

Other conditions

- The supplier must submit (in technical bid) a signoff specification list which should be demonstrated at the site after installation.
- Delivery Period : 6 To 8 Months