Dr. N. Radhakrishnan International Centre for Medical Innovation
MAHATMA GANDHI UNIVERSITY
Priyadarsini Hills, Kottayam, Kerala, India -686560

Dr. Radhakrishnan E. K.

Director (Hon.)

NRICMI/02/Tender/2025

Dated: 17.02.2025

SHORT-TENDER NOTICE

The Hon. Director, Dr N Radhakrishnan International Centre for Medical Innovation (NRICMI), invites sealed competitive Tenders from reputed firms for the purchase of the "Inverted Phase Contrast Microscope" as per the specifications mentioned below. The sealed covers containing Tender details are to be superscribed "Inverted Phase Contrast Microscope" and sent to The Director, Dr N Radhakrishnan International Centre for Medical Innovation (NRICMI), Room no 703, 6th Floor, Convergence Academia Complex, Mahatma Gandhi University, P.D Hills P.O, Kottayam- 686560. Submit two separate sealed covers for the two-bid tender, with one cover containing the financial bid and the other containing the technical bid.

Last Date of Receiving Tenders: 25.02.2025, Time: 4.00 pm

Opening date of Tenders: 26.02.2025, Time: 10 am

SPECIFICATION REQUIREMENTS FOR INVERTED PHASE CONTRAST MICROSCOPE

1. Optical System:
    - Infinity corrected optical system or better.
2. Viewing Head:
    - Trinocular head, inclined at 30°, with an interpupillary distance adjustment range of 48 – 75mm or more.
3. Eyepieces:
    - High point, extra wide field eyepiece, 10X magnification, field number (FN) 22 or better.
4. Objectives: a. Bright Field and Phase Contrast Objectives:

e-mail: nricmi@mgu.ac.in Mob: +919847901149

- Long Working Distance (LWD) Plan Infinity Objectives or equivalent:
  - 4X/0.10, Working Distance (WD) 18mm or better.
  - 40X/0.60, WD 2.60mm, suitable for cover glass thickness of 1.20mm or better. b. LWD Plan Infinity Phase Objectives or equivalent:
  - PH10X/0.25, WD 10mm or better.
  - PH20X/0.40, WD 5.10mm or better.
  - PH40X/0.60, WD 2.60mm, suitable for cover glass thickness of 1.20mm or better.

5. Nosepiece:
   - Quintuple revolving nosepiece with provision to fix five objectives simultaneously or more.
6. Condenser:
   - Extra Long Working Distance (ELWD) condenser with numerical aperture (NA) 0.30, WD 72mm (without condenser WD 150mm) or better.
7. Phase Annular Plates:
   - Suitable for 10X, 20X, and 40X phase objectives or equivalent.
8. Stage:
   - Plane stage, 150 x 250mm or larger.
   - Auxiliary stage, 70 x 180mm or larger.
   - Glass insert.
   - Attachable mechanical stage with X-Y coaxial control, movement range 120mm x 78mm or better.
   - Holders for various sample containers:
     - Terasaki holder.
     - 54mm diameter glass slide holder.
     - 38mm petri dish holder.
9. Focusing:
   - Co-axial coarse and fine adjustment.
   - Coarse stroke: 37.7mm per rotation or better.
   - Fine stroke: 0.2mm per rotation or better.
10. Illumination:

- LED illumination or better.

11. Filters:
    - Blue, green, and frosted glass filters, diameter 45mm or equivalent.
12. Digital CMOS Camera & Software:
    - USB 3 interface or better.
    - Metal alloy casing or equivalent.
    - Dimension approximately 60 x 60 x 40mm or similar.
    - Sensor size: 1/2.3" or better.
    - Pixel size: 1.67 x 1.67 micron or better.
    - Sensor type: CMOS sensor or equivalent.
    - Maximum resolution: 3584 x 2748 pixels or higher.
    - Frames per second (FPS) at different resolutions:
        - 1.9 FPS at maximum resolution or better.
        - 8 FPS at 1792 x 1374 resolution or better.
        - 27 FPS at 896 x 684 resolution or better.
    - Binning: 2 x 2, 4 x 4 or more.
    - Dynamic range: 65.2 dB or better.
    - Signal-to-noise ratio: 34 dB or better.
    - Exposure time: 0.4ms to 2000ms or wider range.
    - Spectral range: 380-650 nm with IR filter or broader.
13. White Balance & Image Processing:
    - Region of Interest (ROI) white balance.
    - Manual temperature-tint adjustment.
    - Image calibration, measurement, and control features.
14. Software Environment:
    - Compatible with Microsoft Windows 10/11 (64-bit or higher).
    - CPU: Equal to or better than Intel Dual Core 2.8GHz.
    - Memory: 200GB or more.
    - RAM: 8GB to 12GB or more.

- Display: 21" or larger.
- USB Ports:
  - USB 3 (1 port) or more.
  - USB 2 (3 ports) or more.
- Optical drive: CD-ROM or equivalent.

15. Microscope Adapter:
    - 0.35X C-mount optically corrected adapter with focus adjustment and focus lock (using an Allen key) or equivalent.
    - Eyepiece adapter for camera usage through the eyepiece port.
16. Calibration Slide:
    - Calibration slide with 1 division = 0.01mm for calibrating measurements across various units and objectives or better.
17. Measurement Units:
    - Supported units: Meter, centimeter, millimeter, micrometer, nanometer, picometer, inch, mil, and angstrom or more.
18. Service and Support:
    - Authorized service centre or branch office in Kerala with factory-trained engineers for immediate service support or equivalent local support.
19. Tender Submission Requirement:
    - Manufacturer's authorization certificate specific to the tender notification number and date or equivalent documentation for authenticity.
    - The system should be quoted with at least one set of all required consumables.
    - The warranty should be for a minimum of 3 years including complete coverage for the instrument, accessories, consumables and required maintenance

Note:

All the accessories and spares for installation and demonstration should be supplied by the firm along with the instrument. The instrument should meet all the specifications given in the tender and minor variations will be examined by the technical committee before acceptance/rejection of the tender. Loading, unloading and transportation costs will be met by the bidder. The instrument should be supplied in the Research lab, Room 703, Dr N Radhakrishnan International Centre for Medical Innovation (NRICMI), Mahatma Gandhi University, P.D Hills P.O, Kottayam- 686560.

For more details contact Dr N Radhakrishnan International Centre for Medical Innovation (NRICMI), Mahatma Gandhi University, P.D Hills P.O, Kottayam on all working hours.

Terms & Conditions:

1. Tender form can be downloaded from the official website of Mahatma Gandhi University (https://www.mgu.ac.in/uploads/2020/08/Tender-Form.pdf?x99264) and the Tender form rate-0.2% of the quoted amount (Lowest amount = Rs. 400/- +GST, Maximum amount = Rs.1500/- +GST) can be paid by online in the University online payment system and challan should be attached along with the Tender.

2. The Tender Amount should be including all taxes.

3. Tenure of Tender should be three months.

4. A preliminary agreement in document paper of Rs. 200/- has to be submitted along with the tender.

5. Ernest Money Deposit (EMD) calculated @ 1% of (quoted amount) the Purchase assessment cost (PAC) should be paid through the University's online payment (www.mgu.ac.in.online payment - miscellaneous) or Demand Draft in favour of Mahatma Gandhi University and submitted along with the sealed tender.

6. An agreement must be submitted by the qualified bidder and should submit 5% of the PAC as the security deposit.

7. Tenders received after the last date and time should be rejected. The Registrar has the right to accept or reject the tender without any reason. If the tender opening day is a holiday it will open in the next office working day.

8. If not received the minimum number of tenders, the last date will be extended to the next 15 days.

9. If more tenders are received during the extended period, the first received tenders are also to be considered.

10. Final payment should be released only after the proper installation and satisfactory report from the Technical Committee, NRICMI.

Hon. Director,

NRICMI, MG University

Dr. RADHAKRISHNAN E. K.
Hon. Director
Dr. N. Radhakrishnan International Centre
for Medical Innovation (NRICMI)
Mahatma Gandhi University
P.D. Hills (P.O.), Kottayam-686 560, Kerala, India

COMPLIANCE STATEMENTS

INVERTED TRINOCULAR PHASE CONTRAST MICROSCOPE WITH CAMERA & SOFTWARE

Make		**Tender No.**	
Model		**Due Date:**	

Sl. Nos	Specifications	Descriptions		Compliance		Remarks
				Yes	No	
Specifications: Inverted Trinocular Phase Contrast Microscope						
1.	Optical System	Infinity corrected Optical System				
2	Viewing Head	Trinocular Head, inclined at 30°. Interpupillary distance 48 – 75mm				
3.	Eyepieces	High point, Extra Wide Filed Eyepiece EW10X/22 (FN)				
4.	Objectives – Bright Filed & Phase Contrast	LWD Plan Infinity Objective	4X/0.10 WD 18mm			
			40X/ 0.60 WD 2.60mm (cover glass 1.20mm)			
		LWD Plan Infinity Phase Objective	PH10X /0.25 WD 10mm			
			PH20X /0.40 WD 5.10mm			
			PH40X/0.60 WD 2.60mm (cover glass 1.20mm)			
5.	Nose Piece	Quintuple revolving Nosepiece (Facility for fixing Five Objectives at a time)				
6.	Condenser	ELWD Condenser with NA 0.30mm, LWD 72mm (without condenser 150mm)				
7.	Stage	10X, 20X & 40X Phase Annuals Plate				
		Plane stage 150 x 250mm				
		Auxiliary stage 70mm x 180mm				
		Glass insert				
		Attachable mechanical stage, X-Y Co axial control, movement range120mm x 78mm Terasaki Holder, 54m Dia. Glass Slide Holder, 38mm Petri Dish Holder				
8.	Focusing	Co-axial Course & Fine Adjustment				
		Co-axial Stroke: 37.7mm per rotation. Fine Stroke: 0.2mm per rotation				
9.	Illumination	LED Illumination				
10.	Filters	Blue, Green & Frosted Glass 45mm Dia.				
Specifications: Digital CMOS Camera with Software						

1. 2. 3. 4. 5. 6. 7. 8.	Interface Application Camera casing Camera dimension Sensor size Pixel size Sensor type Resolution (Max)	USB -3 Bright Field Metal Alloy 60 x 60 x 40 mm 1 /2.3'' 1.67 x 1.67 micron Aptima CMOS sensor 3584 x 2748			
9.	FPS / Resolution	1.9@ 3548 x 2748 8 @ 1792 x 1374 27 @ 896 x 684			
10. 11. 12. 13. 14.	Binning Dynamic Range Signal / Noise ratio Exposure time Spectral range	2 x 2, 4 x 4 65.2 dB 34 dB 0.4ms to 2000ms 380 -650 nm with IR Filter			
15. 16.	White Balance Image processing % enchantment	ROI White balance / Manual Temperature – Tint adjustment Image Calibration, Measurement & Image Control			
SOFTWARE					
17. 18.	Operating system Software Image format	Windows 10 / 11 / Higher (64 bit) MagVision JPG / TIF / BMP / PNG			
ELECTRONIC INTERFACES					
19. 20. 21. 22.	PC / Lap top Power supply Operating temperature Operating Humidity	USB – 2, USB - 3 for Windows 10 /11 OS 5V DC via USB -2 / USB- 3 -10°C to +50°C 30 to 80% RH			
23.	Microscope Adapter	(i) 0.35X C-Mount Optically Corrected Adapter with Focus adjustment & Focus Lock (using Allen key) (ii) Eyepiece Adapter for Camera usage through Eyepiece port			
24.	Calibration Slide	1 Div. = 0.01mm for calibrating measurements in various units against different objective magnification of Microscope.			
25.	Measurement units	Meter, Centimeter, Millimeter, Micrometer, Nanometer, Pico meter, Inch, Mil & Angstrom			
26.	Make & Model	Microscope & Camera should have supply from the same manufacturer			
27.	Authorization	The Authorization from the OEM has to submit along with the Tender with the same Tender Notification No. and Date			
28.	Branch Office	The OEM have a Branch Office in Kerala with Factory Trained Engineers for immediate Service support			