

# NATIONAL CENTRE FOR SUSTAINABLE COASTAL MANAGEMENT

Ministry of Environment and Forests (MoEF)  
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## *Technical Specifications for Trinocular Compound Research Microscope with Fluorescence*

S.No	Description
1.	Upright trinocular compound research microscope with built in camera and imaging software
2.	<b>Basic unit:</b> Main body for right side stage handle with built in filter cassettes. Trinocular tube, 5- 6 position revolving nose piece, (Trinocular head if available). Course and fine focus control knob with focus stopper and built-in torque adjustment. With appropriate diaphragm, diffuser and filters, Power 220-240V.
3.	<b>Stage:</b> Rectangular mechanical stage (chemical resistant); Right handle X-Y stage handle with specimen holder
4.	<b>Illumination:</b> Built-in transformer, for 24V- 100 W; Pre centered 100 W lamp housing 12 – 100 W Halogen, Built in Neutral Density 8/ Neutral Density 32 filters. Provision for illumination adjustment and photographic mode
5.	<b>Eye piece:</b> Angular binocular phototube; Anti fungus and anti dust constructions; 10X eyepiece lens, with F.O.V 22 mm, diopter adjustment; Eyepiece Guard, eyepiece cap and dust cover
6.	<b>Objective:</b> Spring loaded, anti fungus and anti dust constructions Plan achromatic, 4X (or) 5X, 10 X, 20 X, 40X for bright/dark field, Plan phase, 40 X, & Achromatic/achromatic/ICO 60X N A 0.9 for phase contrast Achromatic/ICO/Fluorite Objective 40 X and 100 X for fluorescent, oil immersion
7.	<b>Phase contrast attachment:</b> Dark field, Bright field, and Phase contrast Phase contrast condenser with 6 positions (bright field, dark field, phase contrast 1-3, closed and direct illumination) with centering adapter and appropriate filters
8.	<b>Epi-Fluorescent attachment:</b> Standard Epi-fluorescent attachment; Mercury lamp, 100W Illumination. Lamp house with built-in back mirror; Provision for 6 filter cubes and built-in noise terminator; Field & Aperture diaphragm, light cut-off shutter, removable filter, light-shielding plate; Epi-fluorescent filter, Filter block, Excitation filter, Dichroic mirror, Barrier filters for FITC, TRITC, DAPI
9.	<b>Camera:</b> High resolution digital cooled 2/3 high density, 5.0 mega pixel CCD Camera for microscopy imaging, fluorescence imaging, and digital image documentation. Crisp colour quality for the most demanding brightfield, phase contrast, fluorescent applications including GFP, FISH, NIR, FRET, life science and geology.
10.	<b>Image Analysis Software:</b> Advance image analysis software to acquire image from digital camera, video, CCD camera and scanner. Live image preview with measurements (lengths areas, perimeters, and angles). Provision to export measurement data to excel/spreadsheet for statistical analysis. Enhancement filters, Annotation tools, Calibration tools and customized report generation facility.
11.	<b>Micrometer:</b> Standard eyepiece micrometer (10mm/100) and stage micrometer (1mm/100) with plastic case
12.	<b>PC for system control and data acquisition:</b> Branded (HP/Dell/Compaq) PC Dual-Core CPU, Intel 945 Mother board, RAM 3 GB RAM , DVD Combo Drive, LAN Network card, Multimedia Kit, Graphic card along with Windows operating system. 19/21" TFT color monitor and suitable UPS.

<b>13.</b>	<b>Training:</b> Comprehensive training on microscope handling and data analysis should be provided to 3 scientists during installation.
<b>14.</b>	<b>Supply and Installation:</b> The price quote should include for the supply and installation at Chennai.
<b>15.</b>	<b>Catalogues/Technical brochure:</b> Printed catalogue and brochures in support to the technical specification should be included with the quotation.
<b>16.</b>	<b>Quotations:</b> Only OEM or Authorized dealers should quote with OEM/Authorized dealership certificate.

## GENERAL REQUIREMENTS/ TERMS AND CONDITIONS

- Digital display of set and actual temperature, with audiovisual alarm.
- No condensation on storing material with automatic electric defrost.
- Construction: Solid rust free cabinet to prevent corrosion and lockable castor wheels.
- Alarm It should also have audio visual Electronic Alarm System independent of power supply.
- Insulation High density polyurethane or equivalent Gaskets - Double seal silicon.
- The instrument shall be **installed, calibrated** and all the capabilities demonstrated at NCSCM site.
- **Necessary training** for the operation and the generation of new applications shall be provided to NCSCM scientists.
- List of suppliers with their contact details to whom similar instrument is supplied in India shall be furnished.
- List of optional accessories shall be quoted along with the main system.
- Necessary instruction/operation manuals in English for the instrument will be provided. The original manufacturer's catalogue for quoted model is essential to be attached along with catalogue. \
- **Warranty for 1 year and CMC for 2 years**