

Specification for Upright DIC Microscope with Digital Cooled Camera and Image analysis software

1. **Frame:** Ergonomic design microscope with modular frame. On-site upgradable to step-wise motorization (like motorized 6-positions or higher DIC nosepiece, motorized 7-positions or more universal condenser, motorized 6-positions or higher fluorescence turret, motorized stage, motorized focusing, etc) and DIC.
2. **Optical System:** Infinity corrected optical system.
3. **Observation Tube:** Should be trinocular wide field, FN 22, three way light path distribution (100:0, 20:80/50:50 & 0:100) for simultaneous viewing and imaging of the specimens, inclined at 30 degree or less for improved observation efficiency, provided with paired widefield eyepieces.
4. **Eyepieces** of at least 10X magnification, with diopter adjustment facility with field of view of 22mm or higher.
5. **Transmitted illumination:** The microscope should have an ergonomic stand with at least 100 Watt Halogen or LED transmitted light source equivalent to 100 Watt Halogen.
6. **Nose Piece:** Six or more position objective nosepiece with DIC/ polarizer attachment slot
7. **Condenser:** 8 Position Universal condenser with N.A.1.1or Higher for all microscopy techniques like DIC, Phase etc.
8. **Stage:** X and Y rectangular mechanical stage motion control on right hand side with capacity to hold two slide glasses at a time. The stage should be ceramic coated.
9. **Objectives**
 - i. Plan Achromat 4X/5X (N.A. 0.10 or more),
 - ii. Plan Achromat 10X (N.A. 0.25 or more),
 - iii. Plan Semi Apochromat/ Fluorite Phase contrast 20X (N.A. 0.50 or more),
 - iv. Plan Semi Apochromat/ Fluorite 40X (N.A. 0.75 or more),
 - v. Plan Semi Apochromat/ Fluorite 60X (N.A. 0.90 or more)
 - vi. Plan Semi Apochromat/ Fluorite 100 X oil (N.A. 1.3 or more)
10. **Attachments:** DIC attachment for 40x, 60x and 100x objectives with Polariser and analyser and multi-position Magnification changer.
11. **Digital Cooled CMOS Camera:** Both color and fluorescence imaging should be possible with the system: 20.7 Mega Pixels Dual Mode Camera with Global Shutter, Large Sensor size : 1/1.2 inch, Large Pixel size : 5.86 x 5.86 μm , A/D Conversion : 12 bit, Cooling system : Peltier Device, Auto exposure facility, Camera mount : C-mount, Automatic adjustment of exposure time to capture crisp fluorescence images, At high magnifications helps the user to keep a track of their location within the sample.
12. **Image analysis software:** Software should able to Overlay multiple Image, Document group for side by side Image comparison, Movie Playback, Tile View, Snap/Movie acquisition, Geometry Combine filter processing, Region and Line Measurement, Interactive measurement, Object count (Manual) etc
13. **Data Analysis Workstation:** Computer systems with configuration: i5 processor, with 4 GB RAM, 500GB or higher HDD, 22" HD monitor with original and suitable Operating System along with suitable UPS and Color laser printer.