

#### DESCRIPTION

ACUCAL Biological Microscopes are compound microscopes that are primarily used to observe and study organisms and microorganisms. These microscopes adopt LED illumination, which save energy and have long working life, it is also very comfortable for observation. High Contrast, Universal Plan Infinity Corrected, Strain free Optical System.

ACUBL-U4B FL designed specifically for the daily routine work in the demanding applications of education, pathology investigation, clinical and laboratory usage. Innovative LED as fluorescence illumination source, provide excellent image with easy and comfortable usage experience.



#### APPLICATIONS

- Suitable for use in educational, academic, agricultural, medical and Scientific Research.
- To Detect acid fast bacilli in sputum smear for use in Tuberculosis Control Programme.
- Widely used in Hospitals, Physiology Laboratories, Schools, Wastewater treatment plants, Veterinary, Histology and Pathology.
- To View blood cells, parasites, bacteria, algae, tissue, and thin sections of organs.
- To view samples that cannot be seen with the naked eye.
- For optimal visualization of biological specimens like spermatozoa, epithelial cells, hair and fibers etc.

### TECHNICAL SPECIFICATION

#### Main Body & Optical System

- Upright Modular Frame, Highly Rigid & Robust, Non Hinged Type, Vibration free Aluminum alloy Single die casting, Anti rust heavy metal stand, Anti-Microbial & fungus resistant treated optics for Tropical Use, Ergonomics shaped Sturdy Design & Stable with built in transmitted light LED power supply & Brightness Control, Built in window for easy carriage integrated in the base. All Critical Movements based on Ball Bearing & wire guides thereby ensuring smooth and precise manipulation..
- High Contrast, Universal IOX Infinity Corrected, Strain free Optical System
- Conforming to Pathological IS:4381 latest, Research IS:5204 latest Indian Standards.

#### Observation Head- Antifungal Coated Prisms Binocular or Trinocular

- Sidentopf Binocular Observation head 30° inclined, 360° rotatable.
- Sidentopf Trinocular Observation head 30° inclined, 360° rotatable.
- Light distribution by Beam Splitting (both): 100: 0 (100% for eyepiece) or 80:20 (80% for trinocular head and 20% for eyepiece) Optional

#### Eyepiece

- Huygenian or Compensating High Eyepoint Wide field CWF 10X (paired) Bright Field Br, Focusable Foc., Field of view number F.N. 20mm, lockable.
- Diopter adjustment Facility  $\pm 5$  on both Eyepieces.
- Inter-pupillary distance adjustment from 48mm to 75mm.
- Anti-fungal & Anti-reflection hard coated conforming to IS: 8275/1976 ( latest)
- High Quality & Anti mould eyepieces to get the Image of object well defined over the entire field with good contrast rendition and practically free from spurious color effects.
- Compensating designed eyepiece provides relief from eye fatigue and renders colour-compensated wide-field image of utmost clarity.
- Eyepiece with retrofittable Pointer available (Optional).

#### Nose Piece

- Low position Inward Facing Quintuple Revolving , ball bearing type with positive click stops
- Nosepiece provided with rubber grip for easy rotation mounted on a precision ball bearing mechanism for smooth and accurate alignment.

#### Objectives: Flat Field High Resolution & High Contrast, Anti-fungal & Anti-reflection, Uniformly Centred, Interchangeable & Parfocal, Covered with standard cover glass thickness.

- Objectives have Suitable prominent marking for easy identification : Color coded ring, magnification, NA and nature of objective mentioned
- Provided with Immersion oil & unbreakable containers for storing the objective lenses.

<b>Infinity Plan Achromatic for Bright field Applications</b>	<ul style="list-style-type: none"><li>• <math>\infty</math>4X/0.10 W.D.12.10 mm</li><li>• <math>\infty</math>10X/0.25 W.D.4.64 mm</li><li>• <math>\infty</math>20X/0.40 (Spring) W.D.2.41 mm</li><li>• <math>\infty</math>40X/0.66 (Spring) W.D.0.65 mm</li><li>• <math>\infty</math>100X/1.25 ( Spring, Oil) W.D.0.19 mm</li></ul>
	<ul style="list-style-type: none"><li>• <math>\infty</math> PL 2.5x/0.07, W.D.8.5mm (Optional)</li><li>• <math>\infty</math> PL 60x/0.80, W.D.0.33mm (Optional)</li></ul>
<b>Infinity Plan Phase Achromatic (Optional)</b>	<ul style="list-style-type: none"><li>• <math>\infty</math> PL PH 10X/0.25, W.D.10.2 mm</li><li>• <math>\infty</math> PL PH 20X/0.40, W.D.4.8 mm</li><li>• <math>\infty</math> PL PH 40X/0.65, W.D. 1.5mm</li><li>• <math>\infty</math> PL PH 100X/1.25 Oil, W.D. 0.23mm</li></ul>

<b>Infinity Plan Semi APO Fluorescent (Optional)</b>	<ul style="list-style-type: none"><li>• ∞U Plan FLN 10X/0.30, W.D.7.68 mm</li><li>• ∞U Plan FLN 20X/0.50, W.D.1.96 mm</li><li>• ∞U Plan FLN 40X/0.75, W.D.0.78 mm</li><li>• ∞U Plan FLN 100X/1.30 Oil, W.D.0.15 mm</li></ul>
--	--

### Epi Fluorescent Attachment:

ACSU4LED6FP (Standard)	Epi fluorescence unit six-hole disc media which can be fixed UV /V/B/G 5W LED fluorescence lamp.
ACSU4MER6FP (Optional)	Epi fluorescence unit six-hole disc media which can be fixed UV /V/B/G 100W Mercury lamp.

- Optional Filters available.

### Condenser

- Centerable Abbe Condenser NA 0.9/1.25 (4X-100X) with focusable with rack & pinion movement having Aspheric Lens .
- Inbuilt Continuously variable Iris Diaphragm with removable frosted white filter, Anti-fungal & Anti-reflection coated.
- Rack & Pinion movement on stainless steel guides.

### Mechanical Stage

- Rackless wire driven Hard core anodized surface / Ergo stage ceramic surface Manual right hand, offering faster, smoother & safer movement & Starchless Double Plate Stage with 2-Slide holder.
- Size 175mm X 145mm, Vernier scale for X/Y Coordinates having Travel Range 78mm X 55mm
- Division 0.1mm Low drive right side movement
- Wear resistant & Spill resistant, Coaxial stage with right hand low drive control with rotating mechanism and torque adjustment.

### Focusing Control

- Co axial Graduated Coarse and Fine focusing on both sides having gear systems for smooth operations.
- Coarse Stroke: 37.7mm, Moving Range 24mm, Fine Division 0.002mm per rotation
- With Safety Stop Screw(Upper Limit Stop) to prevent contact between objectives and specimen , Tension/Torque Adjustable

### Transmitted Koehler Illumination

- High Luminescent White LED 3W Transmitted illumination with variable control & Blue Filter.
- Life time more than 30,000 hours.
- Gradual glow of LED to avoid strain in operator eyes.

**Electronics :** Kohler Universal Input 100-240 V AC, 50/60 Hz.

**Standard Accessories :** Operating & Service Manual, Dust Cover, Guarantee Card and Thermocole Molded packing & outer corrugated box.

**Optional Accessories :** Polarizer & Analyzer, Phase Contrast Unit, Dark Field attachment, High Resolution Microscopy Camera.

#### FEATURES :

- All optical parts including objectives, eyepieces and prisms have anti-reflective coating for anti fungal property.
- All metallic parts are corrosion proof, acid proof and strain proof.
- All controls are in a position for comfortable and prolonged use.
- Color corrected infinity optical system.
- Ergonomic design, low location of control knobs makes user more comfortable.
- Mounting screws on all objectives to be sized to standards of the Royal Microscopical Society for universal compatibility.
- ISO & CE Certified.

#### OPTIONAL UPGRADATION FEATURES :



Polarizer, Analyzer  
for simple Polarizing  
Unit



Quintuple turret Phase Contrast Unit



Dark field Condenser Dry & Wet

#### CONTACT US:

ACUCAL SERVICES  
901 A/6, Ashok Vihar, Ambala City-134003  
Haryana (India)  
Website: [www.acucalservices.com](http://www.acucalservices.com)