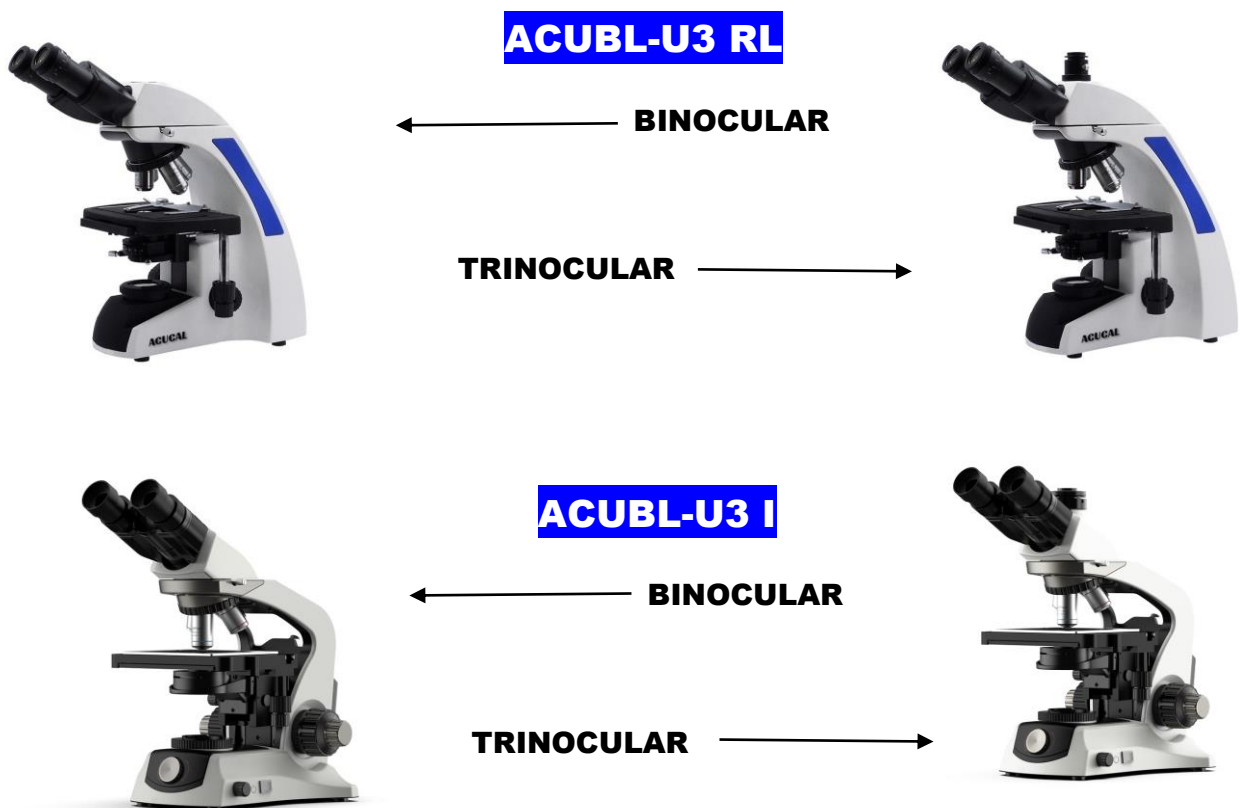


### DESCRIPTION

ACUCAL Pathological / Biological Microscopes are Compound Research Microscopes which is a complete System with illumination system for proper viewing and enumeration of individual cells, even living ones with high magnification using two eye lenses to reduce the eyestrain.

Compound Microscopes are primarily used to observe and study organism and microorganisms. These Microscopes are usually used to observe transparent and translucent objects, such as animal and plant cells , tissues, bacteria as well as various kinds of tiny particles by means of sectioning .



### APPLICATIONS

- Suitable for use in educational, academic, agricultural, medical and Scientific Research.
- To Detect acid fast bacilli in sputum smear and other materials for use in Tuberculosis Control Programme.
- Widely used in Hospitals, Physiology Laboratories, Schools, Wastewater treatment plants, Veterinary, Histology and Pathology.
- To View blood cells, cheek 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 Aluminium alloy Single die casting protective plastic covering, Anti rust heavy metal stand, Anti-Microbial, anti bacterial contamination & 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.
- 0-25° arc the ergonomic viewing body have flexibility to the viewing angle.
- High Contrast, Universal UIS2 & IOX Infinity Corrected, Strain free Optical System
- Conforming to Pathological IS:4381 latest, Research IS:5204 latest Indian Standards.
- All contact surfaces are treated with antimicrobial agents to ensure zero point of contact bacterial contamination. Single mold sturdy stand with anti-rust materials. Extended base for greater stability.
- Upgradeable to Phase contrast, Immuno-fluorescence, Darkfield, Mobile and tablet digital optical attachments, Dual view attachment.
- **ACUBL-U<sub>3</sub>(I)**: Built-in window on the main frame of microscope for easy viewing of the objective in use for the back side observer.

**Observation Head- Antifungal Coated Prisms (Binocular or Trinocular)**

- Sidentopf Ergonomics Binocular Observation tube Inclined at 25°/30°, Rotatable 360° with an anti reflection optical coating of the Prism.
- Facility To Lock Observation Tube From Falling Off.
- Trinocular Tube & Port for imaging facility Observation tube Inclined at 25°/30°, Rotatable 360°, C mount adapter with camera module.
- Beam Splitting ratio 50%/50% for simultaneous observation through camera & eyepieces with Built-in 0.4x or 1/2n CCD adapter.

**Eyepiece**

- Huygenian or Compensating High Eyepoint Wide field CWF 10X (paired) Bright Field Br, Focusable Foc., Field of view number F.N. 22mm, lockable, Eyepiece outer mounting barrel diameter or Inner diameter of ocular sleeve (eyetube) 30mm. Foldable eyeguard on both eyepieces.
- **ACUBL-U<sub>3</sub> RL**: Diopter adjustment Facility  $\pm 5$  on both Eyepieces oculars.
- **ACUBL-U<sub>3</sub>(I)**: Diopter adjustment Facility  $\pm 5$  on left eyepiece and one eyepiece fixed.
- Inter-pupillary distance adjustment from 47mm 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 & Micrometer available (Optional). WF20X/12 EP Pair (Optional)

**Nose Piece**

- Low position Inward Facing reverse angle Quadruple/Quintuple Revolving , precision ball bearing type mechanism with positive click stops & anti-collision mechanism.
- Nosepiece provided with Knurling rubber grip on metal rim for easy rotation mounted on a precision ball bearing mechanism for smooth and accurate alignment.

**Objectives: High Contrast IOS Infinity DIN Size Plan Achromatic OR SemiApochromatic OR Apochromatic , High Resolution & Long Barrel, Infinity color Corrected Anti-fungal treated & Anti-reflection coated, Uniformly parcentred, Interchangeable & Parfocal , Covered with standard cover glass thickness 0.17**

- $\infty$ 4 X N.A.: 0.10, WD 30mm
- $\infty$ 10 X N.A.: 0.25, WD 6.5mm
- $\infty$ 40 X N.A.: 0.65, WD 0.6mm spring
- $\infty$ 100 X Oil N.A.: 1.25, WD 0.2mm spring
- $\infty$ 20X N.A 0.45, WD 3.5mm (Optional)
- $\infty$ 60Xdry N.A 0.8, WD 0.3mm (Optional)
- Objectives have Suitable prominent marking for easy identification : Color coded ring, magnification, NA and nature of objective mentioned. Provided with Immersion oil.

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### Condenser

- Centerable Sub stage, pre centered Abbe Condenser NA 0.9/1.25 (4X-100X) with focusable with rack & pinion movement having Aspheric Lens provides extra bright collimated & even illumination at all magnifications.
- Inbuilt Continuously variable circular Iris Diaphragm with removable frosted white filter or blue day light filter (optional) for high contrast, Anti-fungal & Anti-reflection coated.
- Rack & Pinion vertical moveable condenser holder on stainless steel guides over a range of 18mm by left hand placed knob.
- Suitable for Bright field.

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### Mechanical Stage

- Hard core anodized surface / Ergo stage ceramic surface Manual right hand , offering faster, smoother & safer movement on précised ball bearings. Scarchless Hard PU Painted Double Plate Stage with 2-Slide holder.
- Vernier scales reading 0.1mm, readable from the right.
- Wear resistant & Spill resistant, Coaxial stage with right hand low drive control with rotating mechanism.
- The stage is provided with spring loaded slide holder for exact positioning of specimen/ slide. With convenient sub-stage vertical coaxial adjustment for slide manipulation.
- Low positioned drive, right side movement.
- **ACUBL-U3 RL** : Round edge, Rackless wire movement Size 216mm wide X 160mm front, 140mm Deep & Vernier scale for X/Y Coordinates having Travel Range or transverse area 78mm X 55mm.
- **ACUBL-U3(I)** : Double Layer Mechanical Stage Size 200mm X 145mm, Moving Range: 78mm x 55mm (Rackless Optional)

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### Focusing Control

- Co axial Graduated Coarse and Fine focusing on both sides having multiple gear systems driven on roller guides for smooth operations.
- Coarse Stroke: 37.7mm, Moving Focus Range 25mm, Fine focus range 0.1mm/0.2mm, Fine Division 0.001mm/0.002mm scale increment per rotation
- With Safety Stop Screw(Upper Limit Stop) to prevent contact between objectives and specimen, Pre focusing lever & Tension/Torque Adjustable ring.

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### Transmitted Kohler Illumination

- High Luminescent White LED 3W True Kohler Transmitted illumination with variable control & Blue Filter. With Removable Light House For Easy Maintenance.
- Life time more than 60,000 hours.
- Gradual glow of LED to avoid strain in operator eyes, Analogous brightness adjustment from approx. 0 to 100 % continuous light intensity control with ON/OFF Switch.
- LED class of complete device 3B, peak wavelength 440 nm, LED class 2, Warm White.
- Homogeneous field, True Kohler Illumination & Lens Relay for Optimum Light.
- Inbuilt Battery Backup Power Source facility.(optional)

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### Ambient Conditions:

- Storage: Permissible ambient temperature -10 to +40 °C max

- Operation: Permissible ambient temperature +10 to +40 °C max.
- Permissible air humidity (no condensation) 75 % at 35 °C

### Electronics :

- Line voltage - Kohler Universal Input 100-240 V AC(±10 %) i.e. voltage setting of the instrument need not be changed , Line frequency 50 / 60 Hz .
- Power consumption (30-70) VA, less than 2w.

**Weight & Dimensions:** Dimension: (W x D x H) 198mmx 398mmx 386mm. Approximate weight: 5.9 Kg

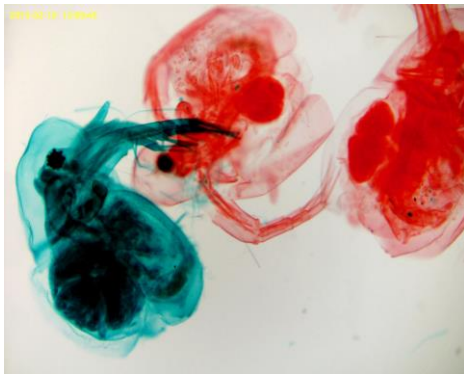
**Standard Accessories :** Operating & Service Manual, Dust Cover, Power Cable, Blue Filter, Guarantee Card and Thermocole Molded packing & outer corrugated box.

**Optional Accessories :** Quintuple/Sextuple Nosepiece, Teaching Head, LED fluorescence, Polarizer & Analyzer, Dark Field attachment, High Resolution Microscopy Camera, Zernike Phase Contrast Unit Centering Telescope 10X & Infinity objectives Positive PH Plan 10x/0.30, 20x/0.40, 40x/0.70 ,100x/1.25 Swing out condenser N.A. 0.9- 0.16.

### Operating data

- Protection class II & Protection type IP20
- Electrical safety in compliance with DIN EN 61010-1 (IEC 61010-1) including CSA and UL directives
- Pollution degree 2 , Overvoltage category II
- Radio interference suppression in accordance with EN 61326

## EXCELLENCE THROUGH EXPERIENCE



Daphnia (whole\_mount)



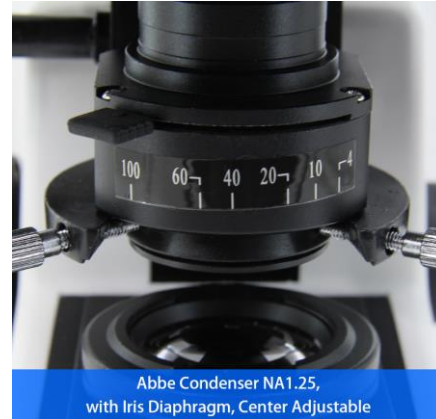
Earthworm (cross\_section)

### FEATURES :

- All optical parts including objectives, eyepieces and prisms have anti-reflective coating for anti fungal property & High Transmission.
- 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. ISO & European CE Certified.
- 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.

- **Fly-Eye Lens Design illumination** i.e. 2D array of tiny lenses to spatially transform light from a non uniform to uniform irradiance distribution at an illumination plane. Uniform illumination throughout the field even at low magnifications.
- Built-in facility to keep power adaptor and power cable in the microscope body.

### PRODUCT FEATURES :



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