

#### DESCRIPTION

ACUCAL Polarising Microscope is a type of microscope that uses polarized light to study the optical properties of materials. It is widely used in geology and mining and is therefore often referred as Polarised Metallographic Microscope or geology microscope or Petrographic microscope.



#### Application of Polarizing Microscope:

- **Biological Field:** actomyosin fibers, muscle tissue, neurons, spindles, striated bone, and teeth.
- **Geological Analysis:** mineral and crystal analysis.
- **Medical Analysis:** lithiasis, urine crystals, arthritis.
- **Food Industry:** determine the properties of butter and cream.

*The characteristic of polarizing microscope is to change ordinary light into polarized light for microscopic examination to identify whether a material is monorefringent or birefringent. Birefringence is an essential characteristic of crystals.*

*In biology, many structures are also birefringent, which requires the use of polarizing microscope to distinguish them. In terms of botany, identification of fibers, chromosomes, spindles, starch granules, cell walls, and whether crystals are contained in cytoplasm and tissues. In plant pathology, the invasion of pathogens often causes changes in the chemical properties of tissues, which can be identified through polarizing microscope.*

*With the deepening of various disciplines, more fields have put forward demands for polarizing microscopes, including not only industrial fields such as construction, minerals, polymers, glass, chemistry material analysis, semiconductor production and detection, but also natural science fields such as forensic science, medical inspection and biological research. At the same time, the application space and extensibility of microscopes are required to be higher, and customized microscopes with higher image clarity, better contrast and higher efficiency are needed. ACUCAL ACUPOL series microscopes are reliable partner in scientific research and industrial inspection. It can realize many kinds of observation and provide excellent optical imaging quality.*

## **TECHNICAL SPECIFICATION**

### **Main Body**

- Upright main frame Research polarizing microscope for both Transmitted and Reflected light observation. Compact, stable and suitable for clean bench. sturdy Ergonomic Design, Highly rigid, Non Hinged type, vibration free Aluminium alloy casting, Robust mechanics combined with improved optical performance.
  - The volume and weight of the body is reduced as much as possible in principle of stability.
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### **Optical System :**

- NIS60 Universal Plan Infinity corrected Optical System having Anti Fungus coated optics.
  - Strain-free optical component, which ensures that the observed birefringence is from the sample and not from the optical element.
  - Bright Field & Polarizing
  - Upgradable to Dark Field, Phase Contrast, Fluorescent & DIC
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### **Observation Head: Trinocular**

- Sidentopf Trinocular Observation Head 30° inclined for polarizing microscopy .
  - Adjustable Trinocular Head Inclined at 0~35° (Optional).
  - Inter-pupillary distance from 47mm to 78mm.
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### **Eyepiece**

- Compensating High Eyepoint Wide field 10X (paired) F.O.V. 22mm. Bright Field Br, Focusable Foc., Field of view number F.N. 22mm, with Cross Reticle & Locating Pin.
  - Eyepiece outer mounting barrel diameter or Inner diameter of ocular sleeve 30mm.
  - Anti-fungal & Anti-reflection hard coated conforming to IS: 8275/1976 ( latest)
  - Diopter adjustment facility (+5) on both eyepiece with fixing screw.
  - 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.
  - Super Wide field Eyepiece pair 10X/25 (Optional)
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### **Nose Piece**

- Sextuple Nosepiece with DIC/DIN Slot, Detachable, Ball Bearing loaded, interchangeable, Precise, Positive click stops for centred alignment.
  - Nosepiece provided with rubber grip for easy rotation mounted on a precision ball bearing mechanism for smooth and accurate alignment.
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### **Objectives: NIS60 High contrast Infinity Plan SEMI APO Polarizing Objective : tube length,200mm, Focusing Distance : 60mm, Thread M25x0.75, cover slide thickness:0.17mm, Anti-fungus, Interchangeable & Par focal**

- ∞ NIS60 L 5X(N.A. 0.15), W.D. 20mm
- ∞ NIS60 L 10X(N.A. 0.3), W.D. 11mm
- ∞ NIS60 L 20X(N.A. 0.45), W.D. 4.5mm
- ∞ NIS60 L 50X(N.A. 0.8), W.D. 1mm
- ∞ NIS60 L 100X (N.A. 0.9), DRY, W.D. 1mm (Optional)
- All objective compatible for bright field, Differential Interference Contrast ,Dark Field,phase contrast , polarizing and fluorescence modes.

### **Condenser**

- Strain free Swing out Condenser Numerical Aperture 0.9/0.25.

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### **Revolving Round Mechanical Stage:**

- High-precision Ball bearing loaded Revolving Round Stage, Diameter 190mm, Rotation clamp, Center Adjustable, 360° rotatable Scale with Vernier and breaks and Minium Divisor 1°, Minium reading by Means of Vernier Scale ,45° Click Stop Knob.
- Attachable Specimen holder mechanical stage or scanning stage Moving Range 35mmX30mm.

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### **Polariser**

- Transmitted: 360° Rotatable 0° position adjustable
- Reflected: Fixed

**Analyser :** 360° Dial Rotation Minimum Scale Reading: 0.1°(Vernier Scale)

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**Conoscopic observation Kits :** Switch between Orthoscopic and Conoscopic Observation, Bertrand Lens Position focusable & adjustable, removable from optical path

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### **Optical Compensator :**

- $\lambda$  Gypsum Slip,  $1/4\lambda$  Mica Slip Quarter-wave Plate, Quartz Wedge
- Tilting compensators
- Provision for quartz wedge or Senarmont compensator insertion into intermediate tube slot

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### **Focusing Control:**

- Co axial Graduated Coarse and Fine focusing knob on gear systems for smooth operations.
- The fine focus knobs are held in place magnetically and can be installed on the left or right side as desired.
- Tension Adjustable, Ergonomically designed for easy grip.
- Coarse Stroke 37.7mm, Sample Space 50mm, Focusing Range 35mm.
- Fine drive:0.1 mm per rotation; Minimum reading:in 1 $\mu$ m increments

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### **Illumination:**

- Separate lamp house for TL,RL
- Koehler Transmitted Illumination with ECO function, 10W LED or 6V/30W or 12V/100W Halogen lamp, Brightness Adjustable. The transmitted light would be off automatically after 30minutes from operator leave.
- Koehler Reflected Illumination, 10W LED or 6V/30W or 12V/100W Halogen lamp, External Lamp House, Brightness Adjustable.
- Switch over Operation mode from transmitted to incident or vice versa.
- Filters:Built-in filters particularly ND8 and ND4 filters

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

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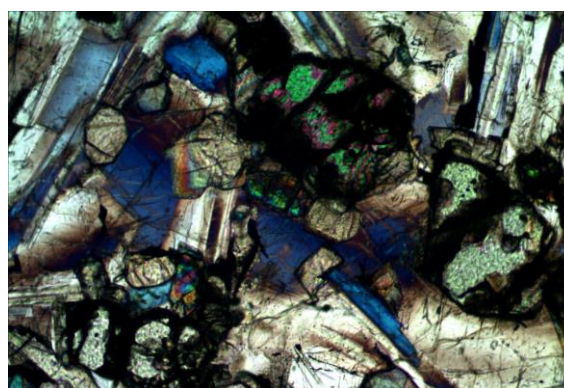
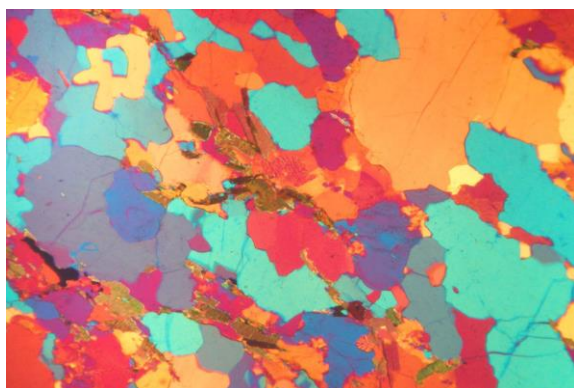
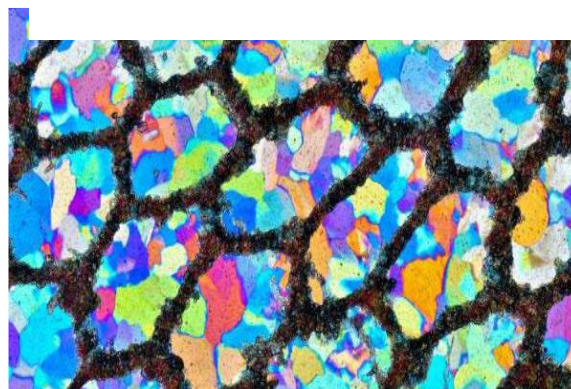
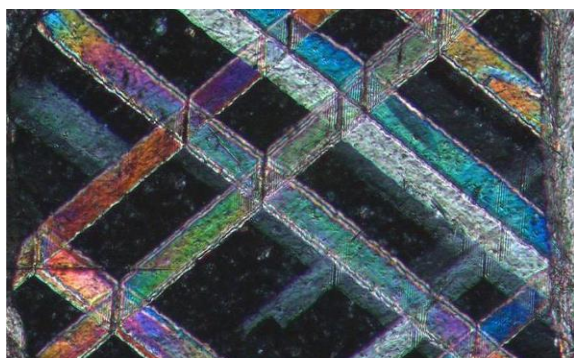
**Standard Accessories :** Operating Manual, Dust Cover, Guarantee Card and Styrofoam Molded pack.

### Optional Accessories

- Filter Holder
- Frosted Filter 45mm, Green Filter 45mm, Blue Filter 45mm, Yellow Filter 45mm, ND6 Filter, ND25 Filter ( must be used with Filter Holder )

### Excellence through Experience

A variety of optical compensators are available in that enhance the signal of weak birefringent materials, making them easier to see. At the same time, the compensator can also be used for qualitative measurements to determine multiple horizontal delays.



### Features

- *Excellent Optical Quality and Strong Stability.*
- *Kohler Illumination System with Uniform Illumination.*
- *Strain-free Optics Make Imaging More Accurate.*
- *Powerful and Applicable to the Variety of Research*
- *High-precision Revolving Round Stage*
- *Intermediate Tube & Compensator Slot*
- *Great Operability and High Comfort*
- *ECO Function*

#### CONTACT US:

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