Trinocular Biological Microscope, Phase Contrast

Elevate Your Research with Precision: Trinocular Phase Contrast Microscope & HD Imaging System

Model: MSBS2047TSWISS (Microscope) | **Model:** MSBLC450SWISS (HDMI Camera & Display)

Are you struggling with low-contrast, transparent specimens that are difficult to visualize and document with standard microscopy? Unlock a new level of clarity and efficiency in your laboratory with our advanced Trinocular Phase Contrast Microscope System. This integrated solution is engineered for researchers and lab technicians who demand uncompromising precision, durability, and seamless digital documentation.

Solve Your Key Research Challenges:

- **Pain Point:** Poor visualization of unstained, live cells (like blood cells, bacteria, or protozoa) leading to missed details and inefficient analysis.
  - **Solution:** Advanced Phase Contrast optics instantly enhance contrast in transparent samples, revealing intricate cellular structures without the need for staining, which can alter

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or kill live specimens.

- **Pain Point:** Cumbersome and unreliable transition from observation to digital documentation and measurement.
  - **Solution:** The integrated trinocular head and dedicated HD camera system allow you to simultaneously observe with your eyes and capture high-resolution images and video directly to an SD card or PC, streamlining your workflow.
- **Pain Point:** Ergonomic discomfort and lack of flexibility during long research sessions.
  - **Solution:** An adjustable viewing head, high-eye-point eyepieces, and a low-position coaxial focus system ensure comfortable, strain-free operation for all users.
- **Pain Point:** Instrument downtime due to delicate construction or power limitations.
  - **Solution:** Built with anti-rust materials, a robust ceramic stage, and featuring versatile power options (including a portable battery), this system is designed for relentless reliability in demanding lab environments.

Key Benefits and Features

Unmatched Optical Clarity and Precision

At the heart of this microscope is an **Infinite Color Corrected Optical System** paired with **Infinity Plan Achromatic Phase Contrast Objectives**. This combination delivers exceptionally flat, high-resolution, high-definition images across the entire field of view, ensuring your observations are accurate and true to life.

Seamless Digital Integration and Documentation

The gemel trinocular head allows you to connect the **HDMI Color Digital Camera** without interrupting your visual workflow. Capture stunning 5.0MP static images or record 1080p Full HD video for detailed analysis, reports, and publication-quality documentation.

Ergonomic and User-Centric Design

We prioritize your comfort and efficiency. The 360° rotatable viewing head with adjustable height, combined with a smooth coaxial focusing system with a fine accuracy of **2 micrometers**, enables natural, precise, and fatigue-free operation.

Robust and Adaptable for Demanding Environments

From the high-hardness, corrosion-resistant ceramic stage to the flexible LED illumination with ECO power-saving functions, every component is selected for

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durability and long-term performance in teaching, medical testing, and biomedical research labs.

Technical Specifications

Microscope (MSBS2047TSWISS)

- **Optical System:** Infinite Color Corrected System for superior image fidelity.
- **Viewing Head:** A 30° inclined, 360° rotatable trinocular head with an adjustable interpupillary distance of 48–76mm and a 50/50 splitting ratio for simultaneous viewing and imaging.
- **Eyepieces:** High-eye-point, wide-field PL10X/22mm eyepieces with a generous 22mm field of view and adjustable diopter.
- **Objectives:** A quintuple nosepiece houses infinity plan achromatic phase contrast objectives including 10x, 20x, 40x (spring), and 100x (spring, oil). The system includes dedicated phase contrast insert plates for 10x–40x and 20x–100x objectives.
- **Mechanical Stage:** A large double-layer ceramic stage (210mm x 171mm) offers precise, rackless movement with an accuracy of 0.1mm. The moving range is 78mm x 51mm for comprehensive specimen navigation.
- **Condenser:** A high-performance N.A. 1.25 Abbe condenser with an aperture diaphragm and slots for phase contrast and dark field accessories.
- **Focusing System:** A low-position coaxial knob system provides both coarse and fine focusing. The fine focus achieves a remarkable precision of 2 micrometers, with elastic adjustment and upper limit protection.
- **Illumination:** A bright, cool 3W LED with continuous intensity control and a color temperature of 4750K–5500K. It features versatile power via a 100V–240V adapter or a portable battery through a Type-C interface. An ECO mode automatically powers down the system after 30 minutes of inactivity.

HDMI Digital Camera & LCD Display (MSBLC450SWISS)

- **Image Sensor:** A high-sensitivity 1/2.5" CMOS sensor ensures excellent light capture.
- **Resolution:** Capture detailed 5.0 Megapixel static images (2592 x 1944) and smooth 1080p Full HD video at 15 frames per second.
- **Display:** A vibrant 11.6-inch IPS-Pro Retina screen with a 1920 x 1080 resolution, 320 cd/m² brightness, and a 1000:1 contrast ratio provides a sharp, real-time view of your samples.

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- **Connectivity & Control:** Output via HDMI or USB2.0. A standard C-mount ensures easy attachment. Control the system with an included mouse and save directly to the included 4GB SD card or a connected PC.
- **Software Suite:** The powerful PC software, Capture2.0, enables live measurement, annotation, focus stacking, image stitching, HDR, and flat field correction for professional-level image analysis. Compatible with Windows and Mac OS.

Ideal Applications for Your Laboratory

This system is the perfect tool for a wide range of applications, including:

- Live Cell Imaging and Biomedia Research
- Hematology (Blood Cell Analysis)
- Microbiology (Bacteria, Protozoa Observation)
- Pathology and Cytology
- Teaching and Educational Experiments
- Semiconductor and Defect Analysis

Invest in a microscope system that works as hard as you do. Enhance your research capabilities, improve documentation accuracy, and experience a new standard in laboratory efficiency.

Contact us today to request a quote or a personalized demonstration.

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