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Research Microscopes
Scientific Instruments

# MOTORIZED UPRIGHT MICROSCOPE

# BLXL-2

Micro Measures & Instruments, India

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# MOTORIZED UPRIGHT MICROSCOPE

**Microscope Type :** Fully motorized upright microscope for unattended sperm detection using brightfield contrast techniques.

**Staining Methods Supported :** H&E (Hematoxylin and Eosin), Christmas Tree staining.

**Upgrade to Fluorescence :** Microscope upgradable to a fluorescence attachment with fully apochromatically corrected beam path for fluorescence applications.

**Motorized Stand :** Motorized stand with Z-drive step resolution of 10 nm or better with adjustable height stop and torque of focusing. Objective-specific focusing speed adjustment for scanning and capture.

**Built-in Display :** Built-in TFT/LCD monitor to display the microscope parameters and control all the motorized functions of the microscope.

**Light and Contrast Manager :** Integrated light and contrast manager.

**Nosepiece :** Revolving motorized septuple nosepiece, accommodating up to 7 objectives or better.

Illumination : RGB tunable and pure white tunable LED illumination for transmitted light applications.

**Objectives for Brightfield**
- 10x (N.A: 0.25)
- 20x (N.A: 0.50) for samples with coverslip
- 20x Epi-Plan (N.A: 0.50) for samples without coverslip
- 40x (N.A: 0.75)
- 63x (N.A: 0.95)

**Motorized Scanning Stage :** Motorized scanning stage with scan speed of at least 10 fields per second or more for fast and convenient sperm cell detection.

**High-Throughput Scanning System :** High-throughput scanning system for unattended scanning and detection of sperm cells, capable of handling at least 8 slides per run.

**Slide Feeder Upgrade :** Option for future upgrade to support up to 80 slides or more with an automated slide feeder module at the customer site.

**Eyepiece & Phototube :** Binocular phototube with 15° inclination and a field of view of a minimum of 23 mm. 10x focusable eyepieces or better.

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## Camera

- Resolution: Ultra high-resolution 4000 x 3000, 31 fps
- Megapixel : 12 Megapixel or better
- Bit Depth : 12 Bit
- Sensor Size : Minimum 1-inch color camera
- Pixel Size : Minimum 3.45 µm x 3.45 µm or better
- Exposure Time : Between 80 µs and 270 s with global shutter or better

## Workstation

- Processor Intel(R) Core i9-10900X (10-Core, 3.7 GHz, 4.7 GHz Turbo, 19.25MB, HT, 165W) or better
- RAM 16 GB (2x8 GB) DDR4 or better
- Graphics Card 10 GB NVIDIA Quadro RTX 3080 or better
- Monitor 30" TFT or higher with 1920x1080 resolution or better
- Storage 256 GB SSD + 4 TB Hard Disk or higher
- Expansion Slots 3 x PCIe slots and 1 x PCI slot or better
- USB Ports 4 USB 3.0 ports and 4 USB 2.0 ports or better
- Power Supply 950W chassis
- Operating System Original Windows 11 Pro 64-bit

## SOFTWARE

- Sperm Scanning : Unattended sperm scanning for up to 8 slides or more
- AI and Deep Learning : AI/Deep Neural Network-based software for precise identification of sperms and regions of interest
- Sperm Identification : Ability to identify sperms with or without intact sperm heads
- Counting and Positioning : Identification and counting of spots/sperms with their positions recorded
- Graphical Presentation : Graphical representation of every process
- Customizable Classifiers : User-trainable and customizable classifiers
- Results and Storage : Results stored with images, displayed in a gallery, histogram, or scatter plots
- Relocation for Observation : Centered relocation of sperms at different magnifications for visual observation
- Upgradability : Option to upgrade sperm scanning capability to 75 slides or more