

BA200

ADAPTABLE UPRIGHT MICROSCOPE

Motic® Microscopes

Motic®



Motic BA200 Adaptable Upright Microscope

Colour Corrected Infinity Optical System [CCIS®] equipped, the Motic BA200 is the optimum system for teaching and training of microscopy techniques in addition to basic clinical screenings.



BA200 (Trinocular)

BA200

The Microscope Stand

No longer limited to high-end research microscopes, ergonomics are an integral part of any microscope. The centerpiece of ergonomics is the microscope stand. To encourage and facilitate the usage of the microscope, the BA200 was constructed to optimise the knowledge gained by the user without sacrificing the comfort for both user and trainer.



Understanding today's space deprived teaching and laboratory facilities with their abusive environments and multiple users, the BA200's design was constructed to withstand the abuse. The "T" shape format of the BA200 ensures the stability of the microscope without sacrificing space. The BA200's curved design allows the microscope to be moved easily by gripping the stand's back arms and supporting the base.



overlooked aspect of the focus control is the tension control, which allows one to adjust the torque of the focusing system to one's preference and comfort.

A comfort and function mindset produced a flat fine focus wheel [right side] to achieve the minimum increments [2µm] of fine focus movement needed in certain applications without the wrist strain from holding one's wrist off the table for a period of time. The mechanical stage's X and Y-axes controls are located near the fine focus wheel to expedite results. The overall reliability and stability of the focus throughout the 25mm of stroke is guaranteed by the triangular steel rail system. An

Observation Tubes



Designed with the comfortable angle of 30° and incorporating the Siedentopf interpupillary adjustment system [55-75mm], the BA-200's observation tubes guarantee hours of fatigue free usage. The overall system supports field flatness up to F.N. 20. The left tube of the Siedentopf system employs a diopter adjustment of ±5° to assist individual user's optical differences. Opting for the trinocular tube expands the BA-200's functionality to include documentation and integration into Motic's Digilab system. The BA-200 allows you to choose between two optical distribution ratios [20/80 or 0/100] for the trinocular tube to personalise the microscope to one's working preference.

Nosepiece



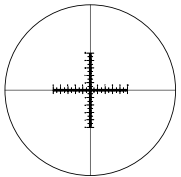
The revolving quadruple nosepiece, employing a ball bearing mechanism, of the BA-200 provides smooth, rapid objective changes. Equipped with a convenient grip for objective changes and stationed in a reverse position, the nosepiece helps to prevent objective contamination.

Eyepieces

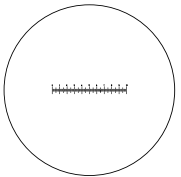


Equipped as standard with the user comfort feature of high eye point eyepieces for viewing with eyeglasses, the BA-200 is easily molded to one's application with numerous eyepieces options. A series of reticules are also available.

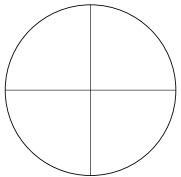
Description	F.N.
Corrected Widefield high eye point 10X	18
Corrected Widefield high eye point 10X	20
Widefield 15X	12
Widefield 20X	11
Focusable Widefield 10X with ±5° diopter adjustment and reticule holder	18



Graduated cross hair
point = 0.1mm/10mm



Graduated linear line
point = 0.1mm/10mm



Plain cross hair

CCIS® Objectives



Combining the Motic Colour Corrected Infinity Optical System [CCIS®] with the BA-200's standard EF Plan Achromat objectives provides the user with fatigue-free continuous viewing of high contrast, crisp, and flat images. Developed with the worst environments envisioned, all CCIS® objectives are anti-fungus treated to prolong the life of both the microscope and objectives.

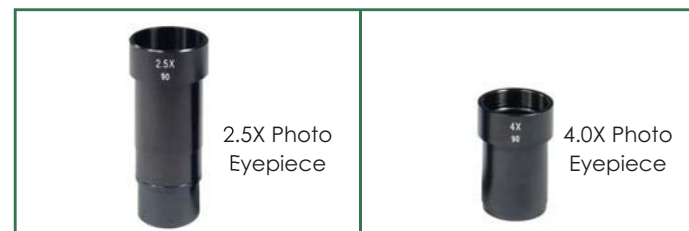
Type	N.A.	W.D. (mm)	Immersion
EF Plan 4X	0.1	6.3	-
EF Plan 10X	0.25	3.9	-
EF Plan 40X	0.65	0.4	-
EF Plan 60X	0.8	0.14	Spring
EF Plan 100X	1.25	0.12	Spring, Oil
E Plan Phase 10X	0.25	1.9	-
E Plan Phase 40X	0.65	0.4	Spring

Documentation

The importance of documentation has expanded into every aspect of microscopy, as has the method of documentation. The BA-200 is available with both a traditional method [photomicrography] and a digital method.

Standard Photomicrography

Selecting the trinocular version of the BA-200 allows the user to capture the images observed through a photomicrography system. The system consists of a 2.5X SLR projection lens, photo eyepiece, camera adapter*, and camera [either film or digital]. Among which, Motic supplies the SLR projection lens and photo eyepiece. Motic offers two options of the photo eyepiece for your preference and application.



*Final adapter must be provided by camera manufacturer

Digital Documentation



Digitalisation of microscopy is Motic's philosophy and the BA-200 offers two methods of digitalisation.

The integration of the BA-200 trinocular microscope and Moticam series of digital cameras delivers crisp, live, and manipulative images. All Moticams come equipped with software to transform the BA-200 into an analysis and documentation station. Please consult the Motic Digital Series of brochures for further details.

Should you elect to use a third party digital camera, the chart to the left will assist your selection of the proper C-mount camera adapter to use with the BA-200.

Adapter	Chip Sensor Size
0.5x	1/2" chip sensor
0.65x	2/3" chip sensor
1.0x	1/3" - 2/3" chip sensor

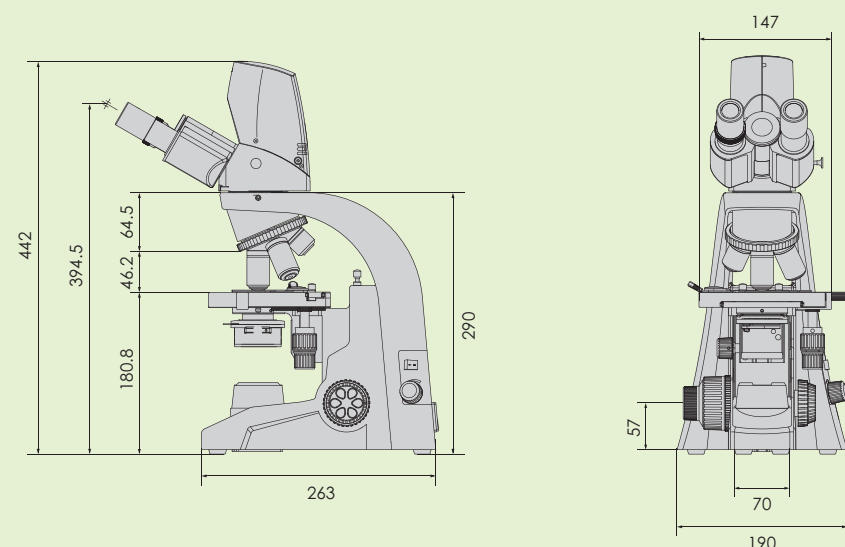
Another digitalisation option is the DMBA-200 digital head. Convenient replacement of the existing head with the DMBA-200 transforms the BA-200 into a teaching, training, and analysis station without the hassle of adapters and focus corrections. With a USB2.0 output to the computer, the system provides high-resolution imaging in both real time and capture modes. For further information, please refer to the DMBA-200 brochure.



Schematic Diagrams

DM-BA200

Unit: mm



Mechanical Stage



Stage controls

Incorporating a ball bearing mechanism for smooth cross travel motion of 76x50mm across the 140x135mm stage, accurate and dependable movements under high magnification are guaranteed. A vernier scale readability of 0.1mm allows one to return the exact position of interest on the slide.

Condenser



N.A. 1.25 Abbe condenser

The improved functionality of the N.A. 1.25 Abbe condenser with slider stop equips the BA-200 with different contrast observations. The focusable condenser provides homogeneous illumination for all magnifications.

Available for specimens where bright field observation yields no information, the BA-200 simple dark field slider can be inserted into the condenser.



Dark field slider

Simple Phase Contrast



Offered in magnification specific phase annuli [10X and 40X], the BA-200's phase contrast option expands the functionality of the microscope beyond simple bright field observation to rapid blood smear screening and tissue inspection applications.

Simple Polarisation



Convenient and simple, the BA-200's polarisation system consists of an analyser filter placed between the head and body; and a polariser filter placed on top of the collector lens.

Illumination



LED illumination

The BA-200 system is conveniently available in three illumination formats to meet one's requirements in budget, preference, and environmental limitations. Employing an intensity controlled 6V/20W quartz halogen lamp, the BA-200's standard critical illumination system provides uniform illuminated images encompassing the entire field of view. The optional LED illumination version of the BA-200 provides a 20W halogen brightness at the power consumption of only 3W and a bulb life span exceeding 10,000 hours. With a colour temperature rating of 5,500°K, the BA-200 LED illumination guarantees no loss of colour representation at the expense of low power consumption and maintenance. For environments or experiments where electrical supply is limited, the mirror lens system of BA-200 utilises the external illumination sources available.



Mirror Set

SYSTEM DIAGRAM
BA 200

BA200 Standard Specifications

Model	BA200
Optical System	Colour Corrected Infinity Optical System [CCIS®]
Observation Tube	Widefield binocular 30° [F.N. 18] Widefield trinocular 30° [F.N. 18]- light distribution 20/80 Widefield trinocular 30° [F.N. 18]- light distribution 0/100
Nosepiece	Reversed quadruple
Stage	140 x 135mm surface; 76 x 50mm movement; coaxial movement
Condenser	N.A. 1.25 Abbe condenser with slider slot; Focusable
Focus	25mm stroke; 2µm minimum increments; torque adjustment for coarse; silicon covered focus controls; focus lock
Illumination	Built-in transmitted 6V/20W halogen critical illumination Built-in transmitted 6V/3W LED illumination [equivalent to 20W halogen output]; 5,500°K Colour Temperature; >10,000 hrs bulb life span Attachable Mirror set

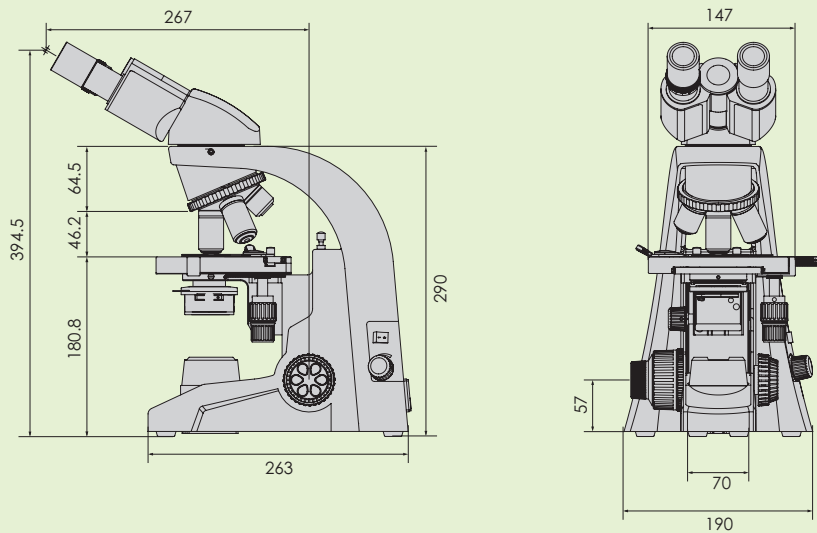
DMBA200 Standard Specifications

Model	DMBA200	
Optical System	Colour Corrected Infinity Optical System [CCIS®]	
Observation Tube	Widefield binocular 30° [F.N. 18] with built-in 2 megapixel digital camera-light distribution 0/100	
Camera Specifications	Effective Pixels	2 megapixels
	Still Image Resolution	1600 x 1200
	Sensitivity	3 lux
	Scanning Mode	Progressive scan method
	Frame Rate	10fps @ 1600 x 1200, 40fps @ 800 x 600, 40fps @ 400 x 300
	Data Transfer	480 MB/Second
	Shutter	Automatic/Manual
	Video Output	Transmission via USB 2.0 across Motic software direct into memory of PC
	White Balance	Automatic/Manual adjusted using software
Recommended System Requirements	Windows: 2000 or XP; P3 1.0GHz 256MB RAM	
	Mac: OSX, G4, 1.0GHz 256MB RAM	

Schematic Diagrams

Unit: mm

BA200



BA200 System Diagram

