

Motic®

2015

BA 400 / 450

BIOLOGICAL MICROSCOPE

The next generation biological microscope

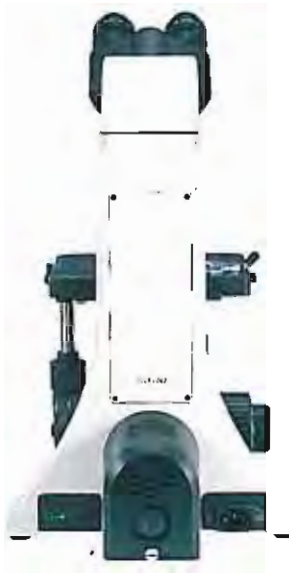


COLOUR CORRECTED INFINITY OPTICAL SYSTEM

The CCIS optics allow new accessories and functions to be incorporated into the BA400/450 clinical microscope.

The BA400/450, which combines CCIS optics with innovative mechanical design, provides unrivalled versatility, ergonomics and optical excellence that Motic is striving to achieve.

The CCIS infinity design has succeeded in achieving longer working distance objectives with higher numerical aperture. This represents a significant development in optical performance and versatility.



BA450



THE MICROSCOPE STAND

The design of the BA400/450 microscope optimally integrates all functions enabling effective ergonomics and maximum expandability.

The wide arm provides strength and rigidity. Additionally, the inverted "Y" support in the back of the microscope provides extra lateral stability.

Our BA400/450 has been designed to fit the requirements of a personal microscope. The size of the microscope is compact in order to minimize the footprint and conserve the limited desk space available in today's laboratories.

Ergonomic design has made the BA400 compatible with the manner in which you work. The location of focusing controls for the stage and light intensity are placed conveniently at your fingertips to minimize fatigue. The ideally positioned low profile fine focus knob and stage controls make the manipulation of both stress free.

THE LIGHT SOURCE

The 6V-30W halogen Koehler illumination system provides bright, even illumination at any magnification. The "only one in its class" centerable lamp is housed externally and has an externally operated mechanism for control of all facets of illumination. A diffuser is housed in the base of the microscope. The diffuser can be easily removed from the light path by turning the engage/disengage lever.



OBSERVATION TUBES

In order to maintain parfocality, the BA400/450 Siedentopf eyepiece tubes will not change their length when interpupillary distance adjustments are made. An inclination angle of 30° for both the binocular tubes is utilized for comfort and posture management. In combination with eyelevel risers, you can adjust the eyepoint height for the most comfortable posture for observation. Each riser is 20mm high and up to three can be used to raise the eye level to a maximum of 60mm.

An ergonomic binocular tube (in preparation) with a variable inclination angle and an eyepiece tube with a telescoping device will provide maximum viewing comfort.



EYEPIECES

A field of view of 22mm has now been adopted as the standard for 10X eyepieces. This enlarged field provides for faster scanning and easier viewing.

Parfocality of focus is assured by independent diopter adjustment provided on each eyepiece.

Various graticules for measurement and counting can be used with the adjustable eyepieces.



THE REVOLVING NOSEPIECE

The revolving reversed nosepiece accepts five objectives. It runs on ball bearings and has internal click stops so that the image remains centered after each change in magnification.



OBJECTIVES

Motic infinity objectives have succeeded in achieving longer working distances with higher numerical aperture while significantly improving optical performance and versatility.

- Objective Plan Achromat 4X/0.13
- Objective Plan Achromat 10X/0.25
- Objective Plan Achromat 20X/0.40
- Objective Plan Achromat 40X/0.65
- Objective Plan Achromat 100X/1.25 Oil



Objective Plan Achromat

RECTANGULAR MECHANICAL STAGE

A hard coating protects the stage surface from abrasion and wear. The 174 x 145mm stage incorporates a ball bearing mechanism and is available with its coaxial mechanical controls on either the right or left hand side. Its cross travel motion is 76 x 50mm and the vernier scale can be read to 0.1mm. The user can set the upper stage drive limit with the coarse focus stopper, to prevent damage to objectives or specimen. A user adjustable torque control for the X and Y movement is provided.

The stage can be rotated for composition in photomicrography.



CONDENSER

The substage condenser mount is height adjustable with rack and pinion movement and has a dovetail mount with a clamp screw.

The newly developed swing-out Achromat condenser with numerical aperture of 0.90, provides homogeneous illumination for observation and photomicrography at all magnifications from 2X to 100X.

The Phase Contrast Condenser turret condenser with numerical aperture of 1.25, has four phase positions (10X, 20X, 40X and 100X) and a brightfield position with iris diaphragm. This condenser is particularly convenient for studies in which rapid change between illumination techniques is required.



POLARIZED LIGHT

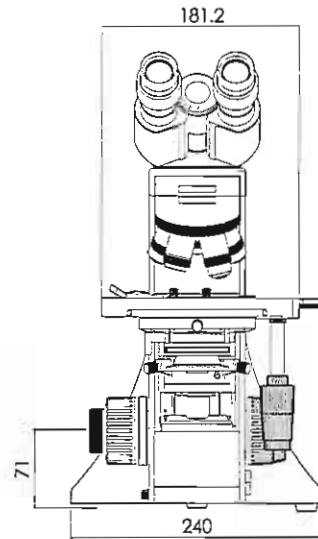
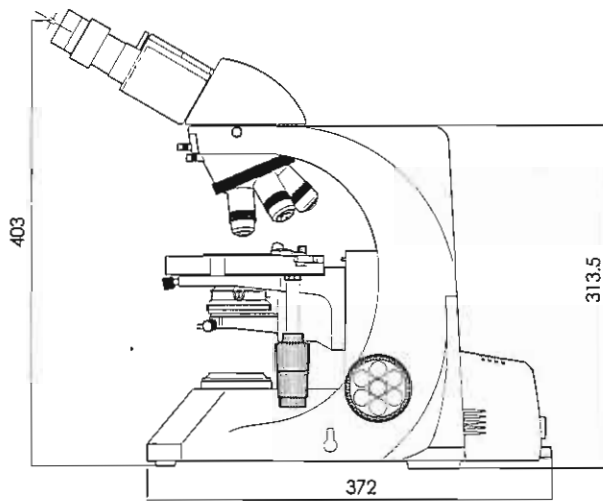
Two filter slots in the upper part of the stand accommodate sliders with an analyzer and a First Order Red Compensator (535nm) for screening possible cases of gout. The slide mounted analyzer is removable for quick changes between polarizing and standard brightfield operation. The polarizer is installed over the field lens.



DIMENSIONS

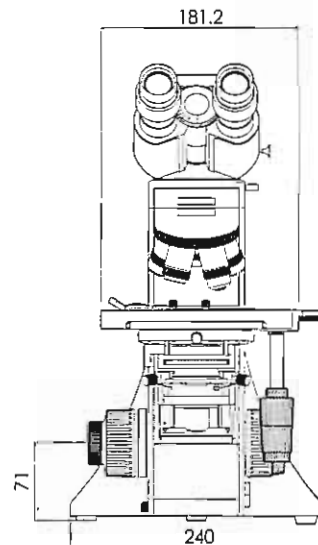
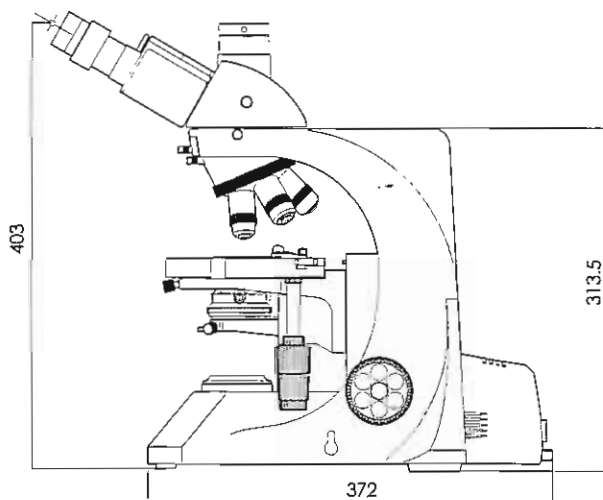
BA400

unit:mm



BA450

unit:mm



SPECIFICATIONS

Optical System	CCIS (colour corrected infinity optical system) Parfocal distance: 45mm
Observation Tube	Siedentopf type Binocular tube 30° Siedentopf type Trinocular tube 30° (light distribution: binocular 100%, binocular/photo: 20/80) Ergonomic binocular tube (in preparation). Eye level riser 20mm (for adjusting eye level).
Eyepiece	Widefield high eyepoint WF 10X (FN22) with diopter adjustment
Nosepiece	Reversed quintuple
Coarse / fine focusing	Control knobs coaxially positioned; movement per rotation: 42mm coarse / 0.2mm fine; minimum increment: 2µm; coarse motion torque adjustable; upper stage drive stop incorporated.
Stage	Rectangular 174 x 145mm surface area; 76 x 50mm cross travel range using low-positioned coaxial X and Y control knob on either the right or left hand side. A hard coating protects the stage surface from abrasion and wear. Vertical movement range -27mm
Substage Illumination	6V-30W Quartz halogen centerable lamp is housed externally and has an externally operated device for all the elements of illumination. Diffuser is housed in the base and swing out from the light path by turning the engage/disengage lever.
Filters	Blue filter

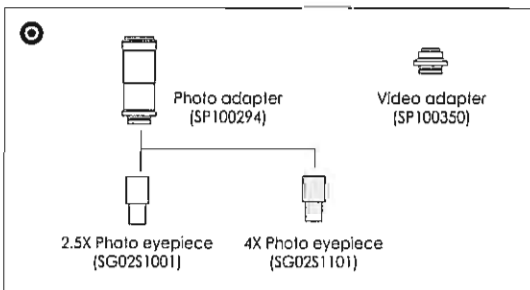
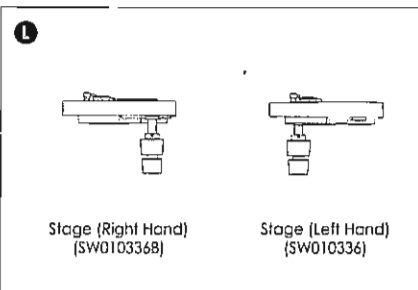
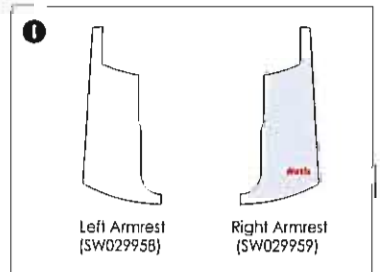
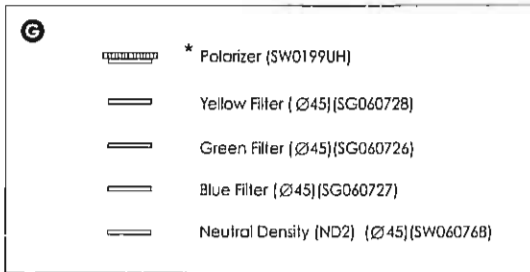
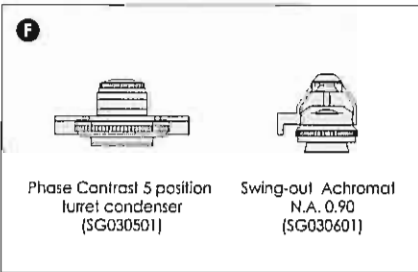
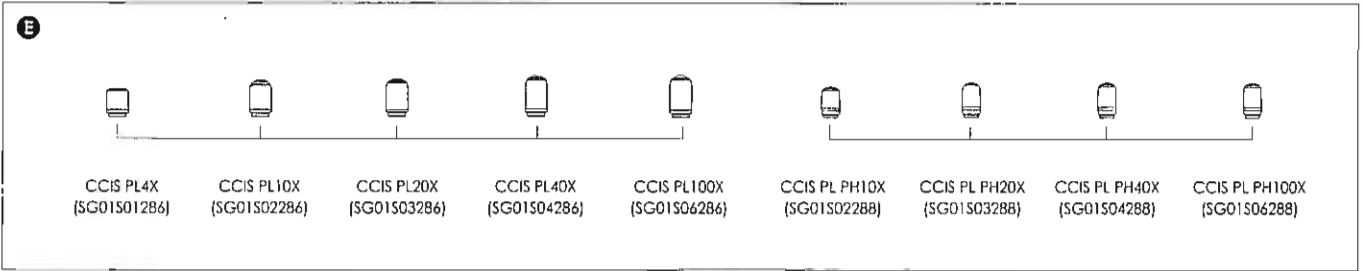
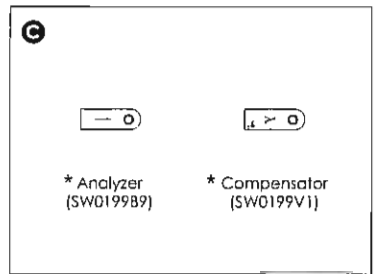
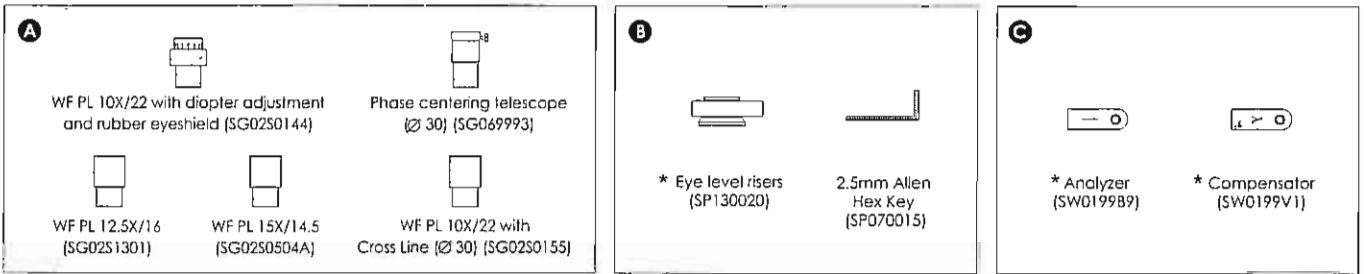
STANDARD & OPTIONAL CONFIGURATION

Specification with CCIS - Colour Corrected Infinity Optical System		Order No.	BA400	BA450	Unit	
Stand		/	Binocular	Trinocular	each	
CCIS Infinity Objectives	Plan Achromat Brightfield	CCIS PL 4X	SG01S01286	●	●	each
		CCIS PL 10X	SG01S02286	●	●	each
		CCIS PL 20X	SG01S03286	○	○	each
		CCIS PL 40X	SG01S04286	●	●	each
		CCIS PL 100X	SG01S06286	●	●	each
	Plan Achromat Phase Contrast	CCIS PL PH10X	SG01S02288	○	○	each
		CCIS PL PH20X	SG01S03288	○	○	each
		CCIS PL PH40X	SG01S04288	○	○	each
		CCIS PL PH100X	SG01S06288	○	○	each
		Eyepieces High Eyepoint	WF PL 10X/22 with diopter adjustment and rubber eyeshield	SG02S0144	●	●
WF PL 10X/22 with cross Line	SG02S0155		○	○	pair	
WF PL 12.5X/16	SG02S1301		○	○	pair	
WF PL 15X/14.5	SG02S0504A		○	○	pair	
Binocular Tube	Siedentopf type F.O.V. 22mm	SP100246	●	/	each	
Trinocular Tube	Siedentopf type F.O.V. 22mm	SP100296	/	●	each	
Ergonomic Binocular Tube	To be released shortly	AB404AE22	○	○	each	
Rectangular Mechanical Stage	Scratch resistant hard coated	Right-hand control	SW010336B	●	●	each
		Left-hand control	SW010336	○	○	each
Condenser	Swing-out Achromat N.A. 0.90	SG030601	●	●	each	
	Phase Contrast 5 position turret condenser	SG030501	○	○	each	
Armrest	Left	SW029958	●	●	each	
	Right	SW029959	●	●	each	
Video Adapter	1X	SP100350	/	○	each	
Photo Adapter	Requires one of the photo eyepiece below		SP100294	/	○	each
	Photo eyepieces for Photomicrography	2.5X	SG02S1001	/	○	each
		4X	SG02S1101	/	○	each
Phase Contrast Accessories	Phase centering telescope	SG069993	○	○	each	
Filters	Yellow 45mm Dia.	SG060728	○	○	each	
	Green interference (546nm) 45mm Dia.	SG060726	○	○	each	
	Blue 45mm Dia.	SG060727	●	●	each	
	Neutral Density (ND2) 45mm Dia.	SG060768	○	○	each	

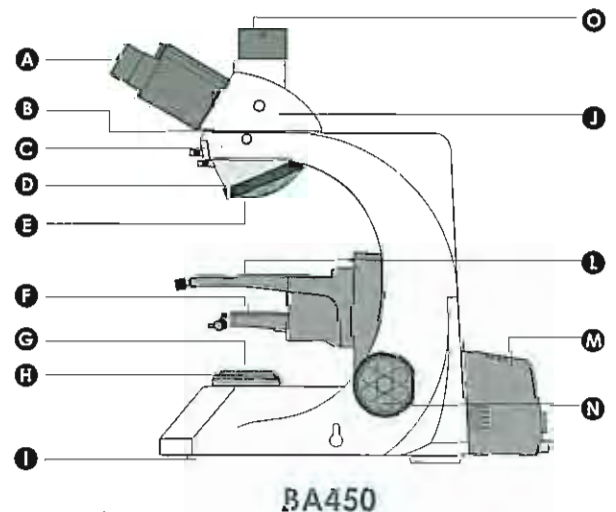
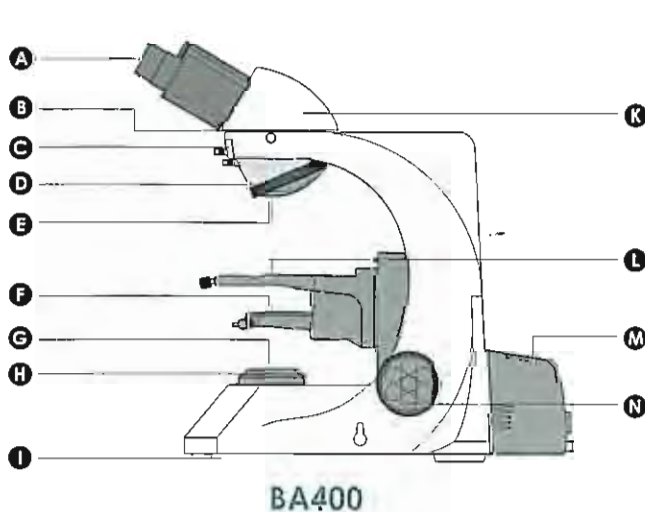
Note: "●" represents standard accessories. "○" represents optional accessories.

BA400/450 BIOLOGICAL MICROSCOPES SYSTEM DIAGRAM

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- D** Quintuple revolving nosepiece
- H** Field lens / Field diaphragm ring
- J** Siedentopf trinocular tube
- K** Siedentopf binocular tube
- M** Lamp housing
- N** Fine focus knob



* Available second quarter 2003