Motic®

MORE THAN MICROSCOPY

BA210 BASIC BIOLOGICAL MICROSCOPE

BA210 BASIC BIOLOGICAL MICROSCOPE

Motic's new **BA210 is designed for both educational and teaching environments from basic life sciences to medical applications.**

The BA210's standard configuration best meets the needs of the high school, College-University, and Medical school markets. Through newly formulated Motic Infinity Optics (CCIS®), the BA210 delivers a new higher level of performance in education and training.

The new BA210 Series

With the BA210 Motic is setting a new standard in microscope performance through **improvements both in optical and mechanical features** for the student level.

Designed to be used in **Educational life science, Medical and a variety of Biological applications**, the BA210 is designed for ease of use and longevity due to Motic's complete understanding of the daily demands placed on the standard educational microscope.

Student proof features, working together with **a new generation of EF-N Plan Achromatic objectives** provide a fully corrected intermediate image for crisp and clear visual and digital results.

Whether using the new powerful **6V/30W Halogen** stand or the **3W LED** version, light consuming contrast methods like **Phase contrast, Polarization or Darkfield** are easily performed.

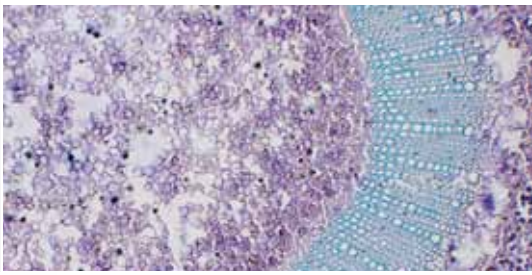
Motic BA210 is a robust student instrument that brings professional, **repeatable image quality** results to all of its intended applications.

Objectives

To improve the overall optical performance of the BA210, Motic introduces a new generation of Plan Achromatic Objectives made of **high quality optical glass; CCIS® EF-N Plan.** These new lenses are now multi-layer coated for **improved contrast** to enhance images even with weak slide stainings.

Together with a new tube lens, the result is a fully corrected, perfected intermediate image without colored fringes. The Trinocular BA210 gives digital access for even sharper imaging and improved digital output quality for **professional results at student level.**

Magnification	N.A.	W.D. (mm)
EF-N Plan 4X	0.10	6,3
EF-N Plan 10X	0.25	4,4
EF-N Plan 20X	0.40	4,66
EF-N Plan 40X, Spring	0.65	0,35
EF-N Plan 60X, Spring	0.85	0,13
EF-N Plan 100X, Spring, Oil	1.25	0,13
EF-N Plan Phase 10X	0.25	4,4
EF-N Plan Phase 40X, Spring	0.65	0,35



New Motic EF-N Plan Achromats

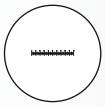
Eyepieces

The new standard eyepieces, also made of **high quality optical glass,** N-WF 10X/20 with **high-eyepoint** for eyeglass wearers, provide consistent **diopter adjustment** for both eyes.

This enables perfect usage of reticles for measuring, counting, etc. Standard lockable eyepieces prevent inadmissible removal and confirms Motic's dedication to **student proof quality.**

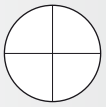
Description	F.N.
Widefield N-WF 10X	20
Widefield N-WF 12.5X	18
Widefield N-WF 15X	16

The following reticles are available:



Graduated linear hair point = 0.1mm/10mm

Graduated cross hair point = 0.1mm/10mm



Plain cross hair

Eyepiece Tubes

Designed with an **ergonomic viewing angle of 30°** and incorporating an **interpupillary distance of 55-75mm**, the BA210 observation tubes guarantee **fatigue-free viewing for hours.** A large field of view (20mm) enables fast and comfortable screening. The trinocular tubes allow digital documentation and integration of each BA210 by using a wide variety of digital cameras, with a **20/80 light split for the trinocular exit.** On special request, an eyepiece tube with 48-75mm interpupillary distance is available.

Condenser Lock

Condenser

To ensure the perfect height adjustment of the condenser, **a condenser lock is integrated.** While using phase/ darkfield sliders, the teacher can **pre-set the condenser position** to prevent potential student mis-adjustments.

Stage

The BA210 comes with a **right hand control stage** and a new slide holder which enables consistent **sample movement across a 76x50mm range.**

The model also offers a hard **coated surface,** resistant against routine usage abrasion.

LED illumination

Illumination

The BA210 introduces a **new collector lens assembly** with a secure, screw-on holder for the frequently used Blue daylight filter, which is an integral part of the illumination package. The fixed cap prevents the filter from dropping when the instrument is stored. The BA210 offers multiple illumination options such as **6V/30W Halogen, 3W LED or a mirror**.

Phase Contrast and Darkfield

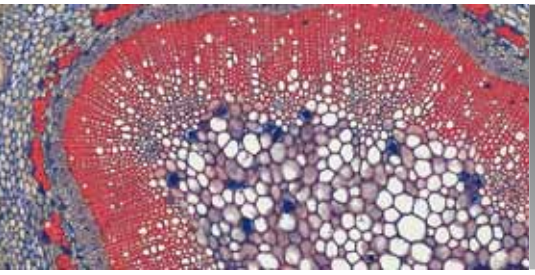
Offered as an option, **phase contrast** is available **for magnifications 10X and 40X**, with the use of a Phase Contrast slider. Darkfield is possible with a **separate DF slider (10X - 40X).**

Polarization

Convenient and easy, the BA210 polarization system consists of a **polarizer**, placed on top of the collector lens, and the **analyzer** placed between the head and body.

Anti-Fungus Design

To protect the system from fungus growth in high-humidity environments, an **anti-fungus treatment** is applied to prolong the life of both microscope and objectives.



Documentation

The importance of documentation has expanded into every aspect of microscopy, as has the method of documentation. The BA210 is available with both a traditional method (photomicrography) and a digital method.

Standard Photomicrography

The traditional use of a **single lens reflex camera** (analogue or digital) requires the trinocular version of the BA210. The adaptation of the camera consists of a **mechanical adapter** combined with a **photo eyepiece** (2.5X or 4X)
The necessary **T2 adapter** referring to the camera model is supplied by the **camera manufacturer. This setup delivers high resolution images of small fields.**

Digital Documentation

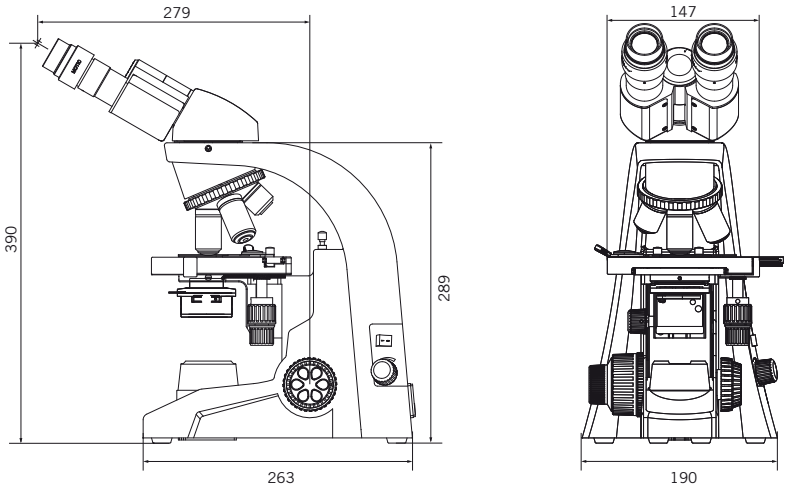
Digitalization of microscopic results is Motic's philosophy and the BA210 provides **two methods.**

The combination of the BA210 trinocular microscope **with the Moticam Series** of digital cameras delivers crisp live images easy to be saved. **All Motic cameras come equipped with software** to convert the BA210 into an analysis and documentation station. Should you select a third-party camera, Motic provides **a range of CCD-adapters** covering all demands for field vs. resolution.

Another digitalization option is the **BA210 digital head**. Replacing the conventional head with the Digital head transforms the BA210 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.**

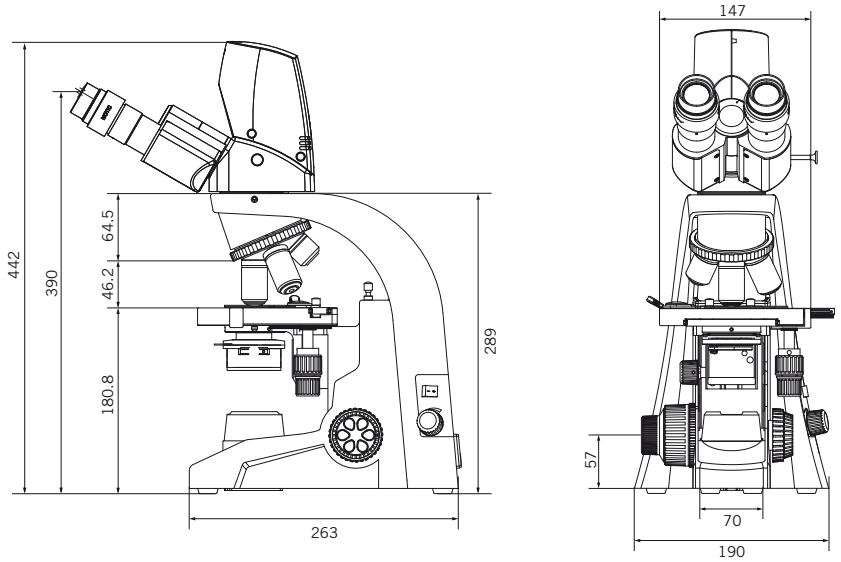
BA210

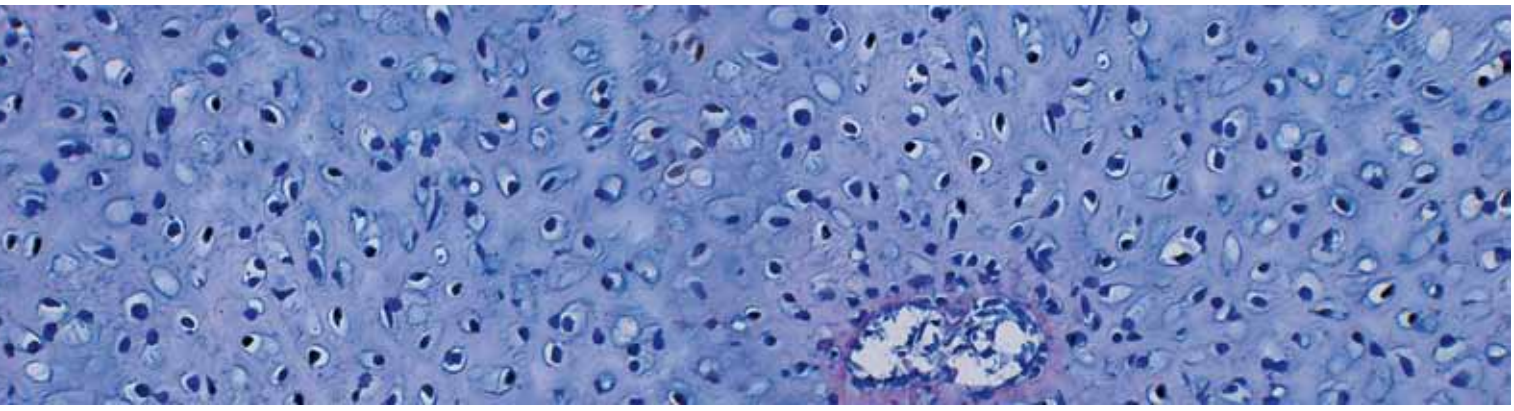
Schematic Diagrams Unit: mm



BA210 Digital

Schematic Diagrams Unit: mm



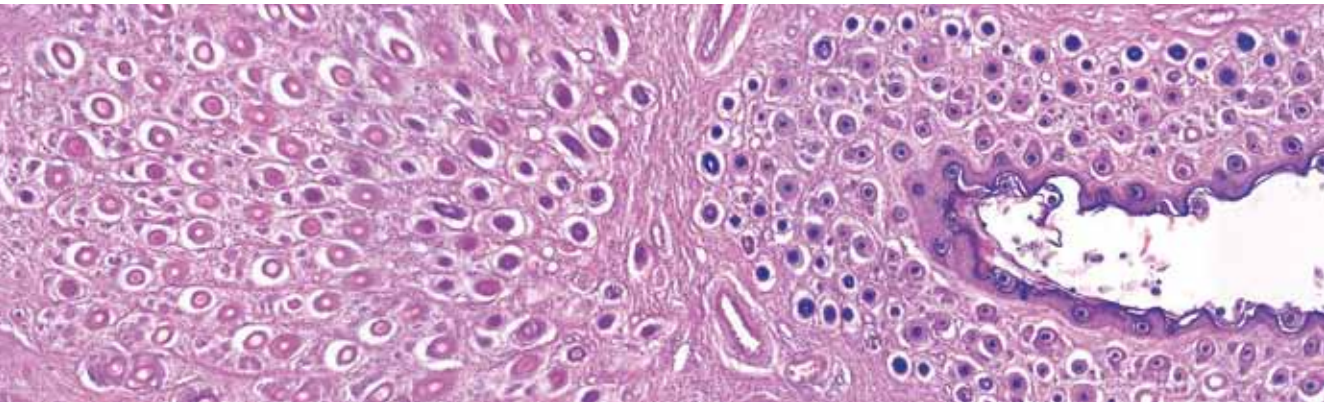


BA210 Standard Specifications

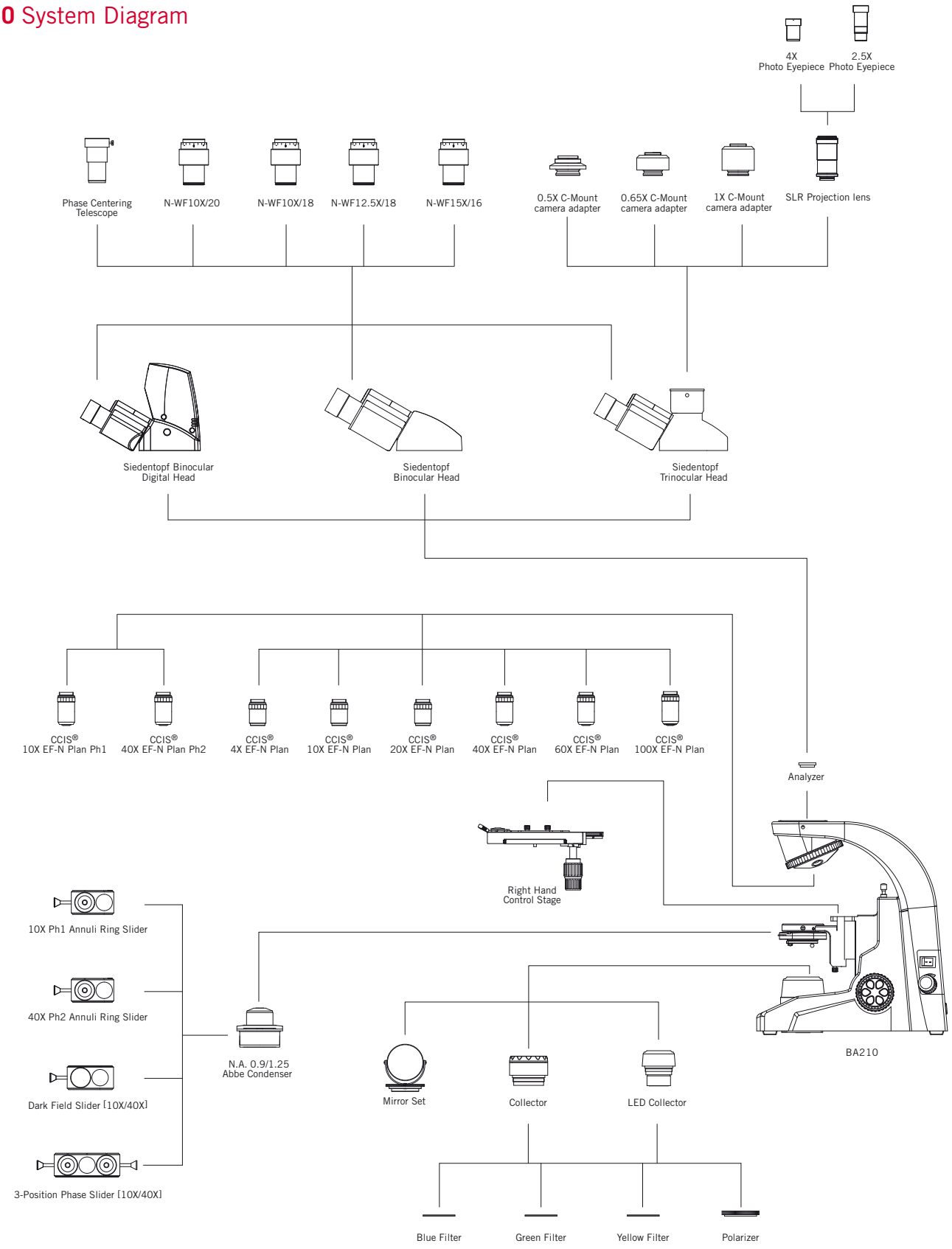
Model	BA210
Optical System	Color Corrected Infinity Optical System [CCIS®]
Obsevation Tube	Widefield binocular 30° [F.N. 20] Widefield trinocular 30° [F.N. 20]- light distribution 100:0/20:80
Nosepiece	Reversed quadruple
Stage	140 x 135mm surface; 76 x 50mm movement; coaxial controls
Condenser	N.A. 1.25 Abbe condenser with slider slot; Focusable and Lockable
Focus	Brass gears Z-Axis movement 25mm stroke Fine focus with 2µm minimum increment, Coarse focus with torque adjustment
Illumination	Built-in transmitted 6V/30W halogen critical illumination Built-in transmitted 3W LED critical illumination; >10,000 hrs bulb life span Attachable Mirror set

BA210 Digital Standard Specifications

Model	BA210 Digital	
Optical System	Color Corrected Infinity Optical System [CCIS®]	
Obsevation Tube	Widefield binocular 30° [F.N. 20] with built-in 3 megapixel digital camera-light distribution 100:0/20:80	
Camera Specifications	Effective Pixels	3.0 Megapixels
	Live Image Resolution	2048 x 1536
	Data Transfer	480 Mb / Second USB 2.0
	White Balance	Manual adjustment by using the software
	Recommended System Requirements	Windows: XP, Vista or 7; P4 1.0GHz 256MB RAM, USB 2.0 Mac: OSX, 1.0GHz 256MB RAM, USB 2.0
	Software	Motic Images Plus 2.0



BA210 System Diagram



Motic®

www.motic.com

Motic Instruments (CANADA)
130 - 4611 Viking Way. Richmond, BC V6V 2K9 Canada
Tel: 1-877-977 4717 Fax: 1-604-303 9043

Motic Deutschland GmbH (GERMANY)
Christian-Kremp-Strasse 11, D-35578 Wetzlar, Germany
Tel: 49-6441-210 010 Fax: 49-6441-210 0122

Motic Incorporation Ltd. (HONG KONG)
Rm 2907-8, Windsor House, 311 Gloucester Road,
Causeway Bay, Hong Kong
Tel: 852-2837 0888 Fax: 852-2882 2792

Motic Spain, S.L. (SPAIN)
Polígon Industrial Les Corts, Camí del Mig, 112
08349 Cabrera de Mar, Barcelona, Spain
Tel: 34-93-756 6286 Fax: 34-93-756 6287

* **CCIS®** is a trademark of Motic Incorporation Ltd.

Motic Incorporation Limited Copyright © 2002-2010.
All Rights Reserved.

Design Change :
The manufacturer reserves the right to make changes in instrument design in accordance with scientific and mechanical progress, without notice and without obligation.

Updated: June 2011