

## Anexa tehnica, lot 9 Microscop optic binocular cu camera

### Zeiss Primostar 3 trinocular cu camera Axiocam 212 color, Zeiss, China

Parametri solicitati	Parametri oferiti
<p>"Descriere: Microscopul optic binocular este un instrument de laborator care utilizează un sistem de lentile compuse pentru a amplifica dimensiunile aparente ale obiectelor microscopice, transformând detalii invizibile ochiului liber în imagini clare și contrastante. Prin combinarea puterii de rezoluție a obiectivelor cu magnificația ocularelor, dispozitivul permite scalarea precisă a specimenelor de dimensiuni micrometrice pentru o analiză morfologică detaliată.</p> <p>Tip microscop Upright Tip iluminare Cu lumină transmisă Tip lumină albă Sistem optic Plan Acromat Tip ocular Binocular sau trinocular în dependență de configurația furnizorului Sistemul să includă cameră video Vizualizare simultană prin ocular și cameră Unghi înclinare cap ocular 30 grade Oculare 10X Număr câmp minim FN22 Măsuță mecanică cu sistem de prindere lame Suprafață rezistentă la zgârieturi Tranșlație X și Y cu butoane rotative Tranșlație pe Z minim 20 mm Butoane rotative de ajustarea, reglaj grosier și fin pe axa Z Revolver cu 5 poziții Obiective necesare (FN22):</p> <ul style="list-style-type: none"><li>- 4X</li><li>- 10X</li><li>- 20X</li><li>- 40X</li><li>- 100X imersie ulei</li></ul> <p>Condensator tip Abbe Diafragmă cu apertură ajustabilă Sursă lumină LED Putere sursă minim 3W Cameră amplasată pe al treilea tub sau integrate</p> <p>Rezoluție cameră minim 4K Port conectare PC Kit conectare PC Calculator conform cerințelor minime a producătorului Software vizualizare, arhivare și măsurare Alimentare 220V / 50Hz</p>	<p>"Descriere: Microscopul optic binocular este un instrument de laborator care utilizează un sistem de lentile compuse pentru a amplifica dimensiunile aparente ale obiectelor microscopice, transformând detalii invizibile ochiului liber în imagini clare și contrastante. Prin combinarea puterii de rezoluție a obiectivelor cu magnificația ocularelor, dispozitivul permite scalarea precisă a specimenelor de dimensiuni micrometrice pentru o analiză morfologică detaliată.</p> <p>Tip microscop Upright Tip iluminare Cu lumină transmisă Tip lumină albă Sistem optic Plan Acromat(iPlan-Achromat) Tip ocular trinocular</p> <p>Sistemul include cameră video Axiocam 212 color Vizualizare simultană prin ocular și cameră Unghi înclinare cap ocular 25 grade Oculare 10X Număr câmp FN22 Măsuță mecanică cu sistem de prindere lame Suprafață rezistentă la zgârieturi Tranșlație X și Y cu butoane rotative Tranșlație pe Z minim 20 mm Butoane rotative de ajustarea, reglaj grosier și fin pe axa Z Revolver cu 5 poziții Obiective necesare (FN22):</p> <ul style="list-style-type: none"><li>- 4X</li><li>- 10X</li><li>- 20X</li><li>- 40X</li><li>- 100X imersie ulei</li></ul> <p>Condensator tip Abbe Diafragmă cu apertură ajustabilă Sursă lumină LED Putere sursă 3W Cameră amplasată pe al treilea tub, Axiocam 212 color Rezoluție cameră 4K Port conectare PC Kit conectare PC Calculator conform cerințelor minime a producătorului Software vizualizare, arhivare și măsurare Alimentare 220V / 50Hz</p>

Garanție 24 luni de la data instalării si punerii in funcțiune a echipamentului, cu efectuarea lucrărilor de mentenanță recomandate de producător Transportul pana la sediul beneficiarului Instalare și punere în funcțiune Instruirea personalului medical si tehnic"	Garanție 24 luni de la data instalării si punerii in funcțiune a echipamentului, cu efectuarea lucrărilor de mentenanță recomandate de producător Transportul pana la sediul beneficiarului Instalare și punere în funcțiune Instruirea personalului medical si tehnic"
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## **ZEISS Primostar 3**

Your compact microscope for digital teaching and routine lab work.

[zeiss.com/primostar](https://zeiss.com/primostar)



Seeing beyond

## Your compact microscope for digital teaching and routine lab work.

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In the classroom or in the routine lab, you need reliable microscopes that can take a lot of wear and tear. After all, you and your colleagues or students will be working long hours, often in cramped spaces. You need microscopes that will pay back your investment with smooth operation – day-to-day and year in, year out. Primostar 3 packs all of that into its sturdy metal frame. Yet this robust light microscope is also designed for maximum ease of use. For both productive learning and efficient lab work, students and staff alike will be free from the very beginning to focus on the essentials.

Choose from pre-defined packages for teaching or routine lab work and get the precise microscope configuration you need for the tasks at hand. Each microscope comes pre-installed so it's ready to work right out of the box – that's genuine plug in and play performance. And when you want to take your teaching online or connect your labs on a network, it's easier than ever before with Labscope, the free imaging software from ZEISS.

Primostar 3 is your reliable partner in microscopy – today and in years to come.



*Whether you prefer a basic fixed-Köhler teaching microscope or a dedicated full-Köhler set-up for your lab, ZEISS Primostar 3 comes in pre-defined packages. Choose between ready-to-go combinations.*



# Simpler. More Intelligent. More Integrated.

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## Go for a sound investment

With ZEISS Primostar 3 you're choosing a robust microscope that's designed and built for daily work in a classroom or routine lab. Primostar 3 is made of solid materials so you can rely on a mechanically-stable and resilient microscope.

Even after years of daily, intensive use, its components will still be operating smoothly.

Primostar 3 comes in ready-to-use packages, tailored to your application so you can be sure you will have the optimal configuration. Just un-wrap it, plug it in and play!



## Tailor your microscope to your tasks

Let your application decide which microscope configuration you choose. The stable design of your full-Köhler version also houses an array of clever features. A 30-watt halogen bulb is interchangeable with an energy-saving LED bulb for stable color temperature and illumination intensity.

Or, you can add on a fluorescence tube and turn your Primostar 3 into an LED fluorescence microscope. Contrasting techniques, suitable objective lenses and ports for microscopic documentation are just as you wish. And after a full day's work in the lab, you'll especially appreciate its user-friendly design: the long stage drive lets you work in a relaxed posture, and the double-slider holder boosts efficiency, too.



## Inspire students in your digital classroom

Consider the advantages of having the microscope camera integrated into the tube with a number of digital interface options. Use Labscope, the imaging software from ZEISS, to connect microscopes in your classroom to each other, then share images or videos with your students via mobile devices. Opt for Labscope Teacher to manage and organize your class.

Take advantage of connected microscopes in a digital classroom and gain insights into each and every one through your own iPad or PC.

This saves your valuable time for teaching.

Then to take your teaching online, simply connect your own microscope with your PC and share your images with all members on the call.



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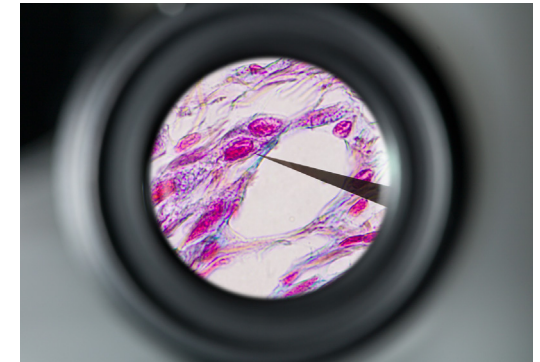
## Fixed-Köhler Reliability for Education

Education matters and time for lessons content is always limited. That's why Primostar 3 offers you some very clever details to make your teaching as productive as possible. Fixed-Köhler versions of Primostar 3 come pre-adjusted with a field of view of 20 mm. Selected objective lenses and eyepieces are already in place. Simply plug in your microscope and start your lesson. And here's another plus: long-lasting LED illumination saves energy in your classroom. You want to place your microscope into your storage cabinet? Carry it securely by the handle.



## LED light band

Check the status of the microscope's illumination at a glance – even from a distance.



## Optional eyepiece pointer

This useful accessory is inserted into the eyepiece, like a reticle, for marking specific object details in the eyepiece image. Retrofittable.



## 5V USB port

Use the port at the back of the fixed-Köhler stand to connect a power bank or charge your mobile device.



## Cable storage

All cables are neatly stored at the microscope.

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## **ZEISS Primostar 3 in teaching and routine labs**

Efficiency in teaching and lab work is key. Full-Köhler versions of Primostar 3 with field of view 22 mm give freedom to teach while using Köhler illumination. In pre-defined packages, a selection of objective lenses and eyepieces are already in place. Benefit from a relaxed posture for day-long work with enlarged stage drive. If you have more specimens in place, you can use

the double slider holder. The light manager offers you the same light intensity level over all magnifications. Additional plus: the ECO mode saves you energy and therefore helps to reduce lab costs. You aim for more comfort for your routine lab work? Then choose Primostar 3 with integrated turret condenser and have brightfield, darkfield and phase contrast techniques at hand.



### **Condenser turret**

Switch easily between different contrasting techniques such as brightfield, phase contrast or darkfield.



[▶ Click here to view this video](#)

### **Light manager**

Activate the light manager when changing lenses and the microscope will remember the precise amount of light set for each lens position.



[▶ Click here to view this video](#)

### **ECO mode**

If activated, the microscope will go into a sleep mode if you don't touch it for 30 minutes.



### **Lamp housing**

Use either a 30-watt halogen bulb or an energy-saving 3W-LED illumination offering stable color temperature and illumination intensity. They are interchangeable.

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## Digital Classroom

Bring on the next generation of scientists in your digital classroom. Use the ZEISS Labscope software to connect all your students' microscopes plus network cameras and create a collective learning experience. As a teacher, you can monitor all of their microscopes at a glance. You can see how your students are progressing right in front of your eyes and support them individually where needed. When you see an image of particular relevance on a microscope in the network, share it with the whole group via a projector or monitor. Let this be where a more interactive learning experience opens up your face-to-face teaching.

Primostar 3 cam with its integrated 5 MP camera is the package of choice for digital classrooms. This camera offers interfaces such as Wi-Fi, Ethernet and USB-C 3.0. As an added bonus, integrated powering saves you from a jumble of cables. If you prefer microscopes with external camera adaptation, this package will also suit your purposes.

Both options pave your way to live online teaching and learning. Simply connect your microscope or Wi-Fi-camera to your PC and share what you see with the members on your call.

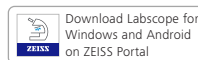


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## ZEISS Labscope

Use Labscope, the imaging software from ZEISS, to display all the live images from your connected microscopes. Select any student's image with just one click. Record images and videos with a resolution of 5 megapixels. You can annotate your images and, for example, measure distances. Then share your images, reports and videos with others via E-Mail or social media. Labscope lets you save your images in the ZEN compatible .czi file format which includes all metadata and a separate annotation layer. Or select the .jpg format to save space. Downloading Labscope is fast and simple. And it's free.

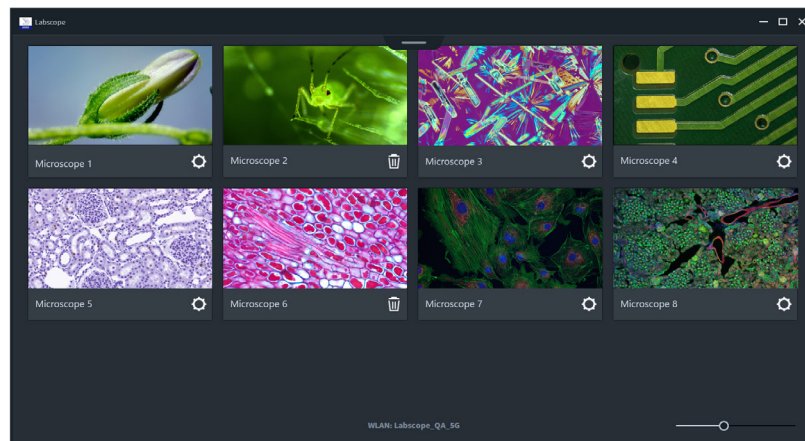


# Expand Your Possibilities

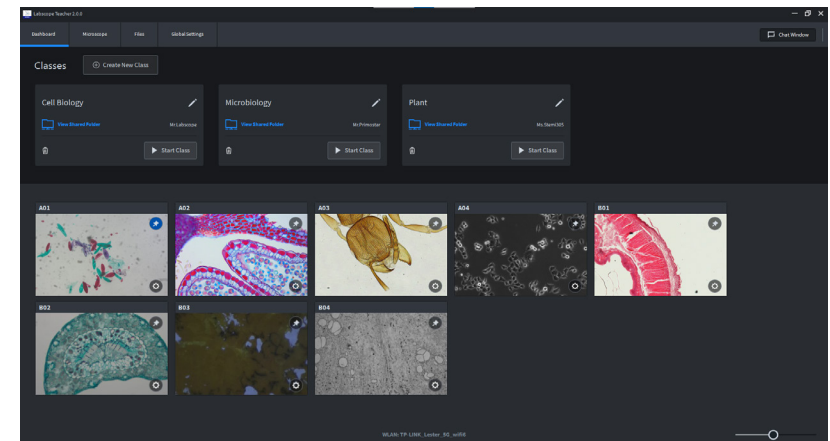
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## ZEISS Labscope

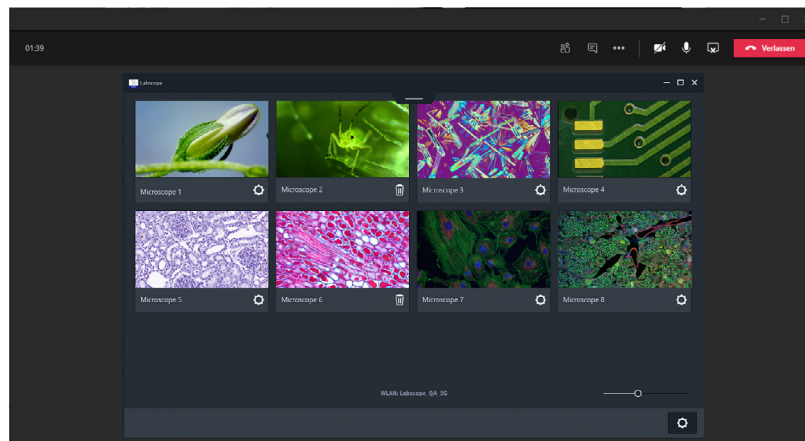
Labscope is your easy-to-use imaging software for connected microscopes. Whether for the routine lab, university or school, or even as a hobby – Labscope lets you snap images, record videos and measure your microscopic samples – easier than ever before.



Start your journey in digital and interactive teaching with all students' microscopes right in front of your eyes.



Labscope Teacher helps you manage your digital classroom.



This is the home or hybrid schooling in microscopy education: students connected to the live image of your microscope via Teams.



No artistic skills required to make hand drawings of a microscopy image. This translucent sketch solution supports an inspiring learning style.

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## Phototube

Document your microscope images with the phototube and a microscope camera.



## Swiveling mirror (for fixed-Köhler stands only)

This accessory lets you use your microscope with ambient light or sunlight – no electricity required.



## Transport case

Protect and transport your ZEISS Primostar 3 with the dedicated case.



## Polarizing contrast

Each stand can be equipped quickly with a polarizer and analyzer for polarizing contrast in transmitted light.



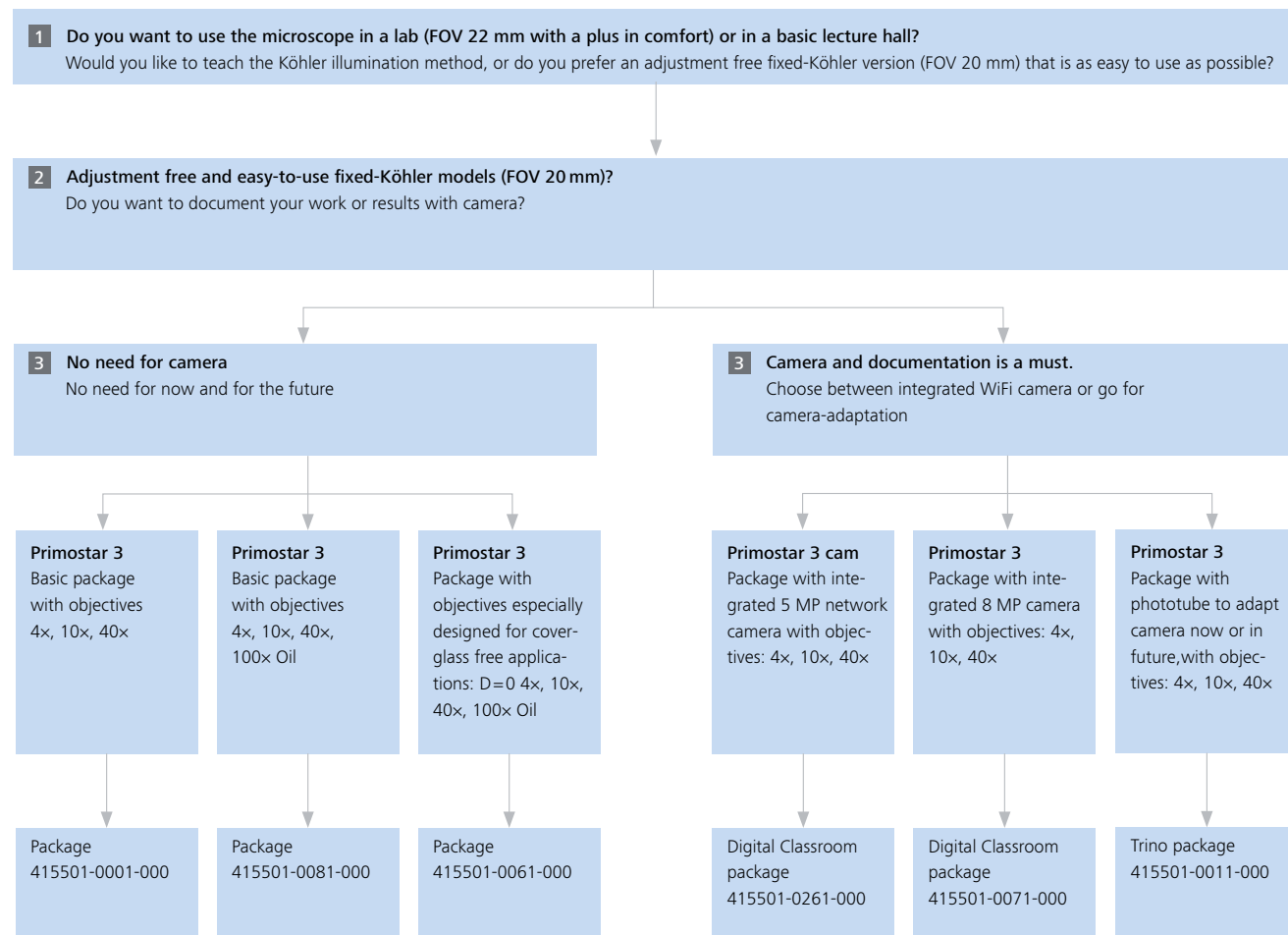
## Fluorescence tube

Add on a fluorescence tube and turn your Primostar 3 into an LED fluorescence microscope.

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## Package Overview

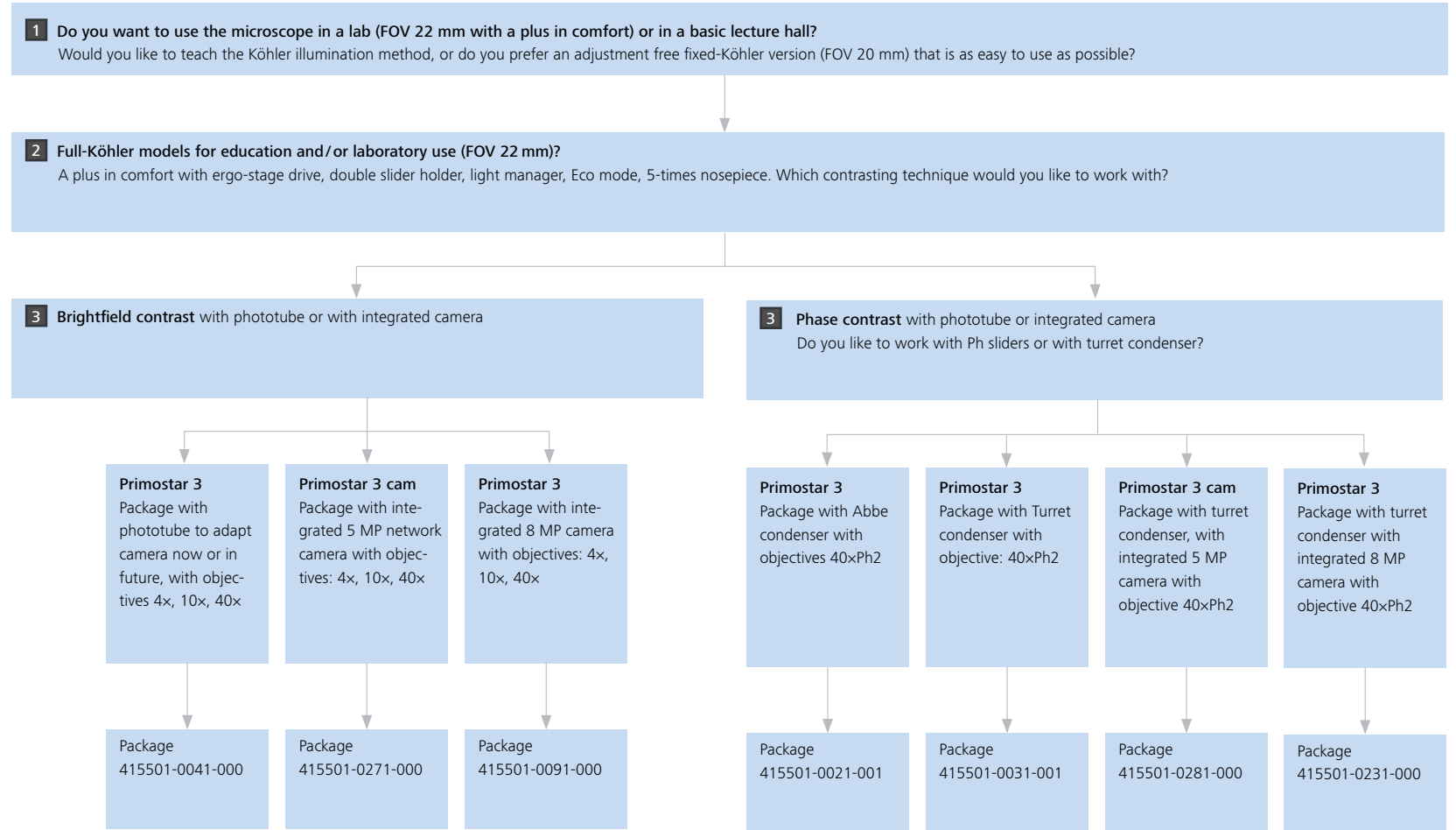


Corporate Social Responsibility | TB-package Primostar 3 iLED

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Order Number	Primostar 3: 415501-0081-000	Primostar 3: 415501-0001-000	Primostar 3: 415501-0011-000	Primostar 3: 415501-0071-000	Primostar 3: 415501-0061-000	Primostar 3: 415501-0041-000	Primostar 3: 415501-0021-001
Viewing angle	25°	25°	25°	25°	25°	25°	25°
Stage drive right	×	×	×	×	×	×	×
FOV 20 mm	×	×	×	×	×		
FOV 22 mm						×	×
Fixed-Köhler	×	×	×	×	×		
Full-Köhler						×	×
HAL						×	×
LED	×	×	×	×	×	×	×
Pointer	×	×	×				
Phototube			×			×	×
Integrated 5MP camera							
Integrated 8MP camera				×			
4x nosepiece	×	×	×	×	×		
5x nosepiece						×	×
Objectives D=0					4x, 10x, 40x, 100x Oil		
Objectives ∞/0.17	4x, 10x, 40x, 100x Oil	4x, 10x, 40x	4x, 10x, 40x	4x, 10x, 40x		4x, 10x, 40x	40x Ph2
Abbe condensor	×	×	×	×	×	×	×
Turret condensor							
Light manager						×	×
Eco mode						×	×

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Order Number	Primostar 3: 415501-0031-001	Primostar 3: 415501-0091-000	Primostar 3: 415501-0231-000	Primostar 3 cam: 415501-0261-000	Primostar 3 cam: 415501-0271-000	Primostar 3 cam: 415501-0281-000
Viewing angle	25°	25°	25°	25°	25°	25°
Stage drive right	×	×	×	×	×	×
FOV 20 mm				×		
FOV 22 mm	×	×	×		×	×
Fixed-Köhler				×		
Full-Köhler	×	×	×		×	×
HAL	×	×	×		×	×
LED	×	×	×	×	×	×
Pointer						
Phototube	×					
Integrated 5MP camera				×	×	×
Integrated 8MP camera		×	×			
4x nosepiece				×		
5x nosepiece	×	×	×		×	×
Objectives D=0						
Objectives ∞/0.17	40x Ph2	4x, 10x, 40x	40x Ph2	4x, 10x, 40x	4x, 10x, 40x	40x Ph2
Abbe condensor		×		×	×	
Turret condensor	×		×			×
Light manager	×	×	×		×	×
Eco mode	×	×	×		×	×

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Typical applications, typical samples	Task	ZEISS Primostar 3 offers
<b>Histology</b> <b>Histopathology</b> <b>Microscopic anatomy</b>	<p>Students need to acquire detailed knowledge of microscopic structure, form and function of cells, tissues, and organs.</p> <p>Each student learn to sketch histological slides and to identify its characteristics by visual microscopic inspection. This to finally justify diagnosis.</p>	<p>Fixed-Köhler packages:            Primostar 3: 415501-0081-000 with 4x, 10x, 40x, 100x Oil            Primostar 3: 415501-0001-000 with 4x, 10x, 40x</p> <p>Fixed-Köhler packages with camera option (trinotube):            Primostar 3: 415501-0011-000 with 4x, 10x, 40x</p> <p>Fixed-Köhler package with integrated camera:            Primostar 3 cam: 415501-0261-000 with 4x, 10x, 40x            or Primostar 3: 415501-0071-000 with 4x, 10x, 40x</p> <p>Full-Köhler package with camera option (trinotube):            Primostar 3: 415501-0041-000 with 4x, 10x, 40x</p>
<b>Cell biology</b>	<p>Students need to acquire detailed knowledge of cell structures, cell components, their forms and functionalities.</p> <p>Basic knowledge in cell biology is an important prerequisite for early detection of uncontrolled cell growth in cancer, for example, and for research into the development and treatment of cancer.</p>	<p>Full-Köhler package with phase contrast and camera option (trinotube):</p> <p>Primostar 3:            415501-0021-001 with 40x Ph2 (Ph-slider)            Primostar 3:            415501-0031-001 with 40x Ph2 (turret condenser)</p>
<b>Food microbiology</b>	<p>Healthy nutrition is important for well-being. New food designs with additives such as lactic acid bacteria or yeasts (so-called probiotics) want to make food even healthier.</p> <p>The composition of the different food additives is key for the positive effect of the food design. The additives, like bacteria, can be detected under the microscope.</p>	<p>Primostar 3: 415501-0031-001 with 40x Ph2            iPlan-Achromat 100x Oil Ph3: 415501-1645-000            Darkfield slider: 415501-1802-000            Camera Educam 105: 426555-9020-000            Camera adapter P90-C 2/3" 0.65x: 415501-1810-000</p>
<b>Medical microbiology</b>	<p>Bacterias can cause numerous diseases, that is why medical lab technicians need to identify the different bacteria correctly. This is pre-requisite to judge on further treatment of the patient.</p> <p>Gram-staining helps to classify between gram-positive (e.g. Staphylococcus, Streptococcus) and gram-negative bacteria (e.g. Enterobacteriaceae). Their different morphology can be visualized under the microscope.</p>	<p>Primostar 3: 415501-0041-000 with 4x, 10x, 40x            iPlan-Achromat 100x Oil: 415501-1641-000</p> <p>Camera Educam 105: 426555-9020-000            Camera adapter P90-C 2/3" 0.65x: 415501-1810-000</p>
<b>Hematology</b>	<p>Blood cells consists of erythrocytes (red blood cells), leukocytes (white blood cells) and platelets (thrombocytes). They all have specific forms and functions, e.g. in transporting oxygen, protecting against blood loss and fighting infections.</p> <p>In stained blood cells under the microscope, the different blood cells and their pathogenic changes can be visualized, blood cells can be counted and also blood differential tests can be made.</p>	<p>Full-Köhler package with camera option (trinotube):            Primostar 3: 415501-0041-000 with 4x, 10x, 40x            Primostar 3: 415501-0061-000 with 10x, 20x, 40x 100x Oil, D=0</p> <p>Accessories:            iPlan-Achromat 100x Oil: 415501-1641-000            Darkfield slider: 415501-1802-000</p> <p>Camera Educam 105: 426555-9020-000            Camera adapter P90-C 2/3" 0.65x: 415501-1810-000</p>

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Typical applications, typical samples	Task	ZEISS Primostar 3 offers
<b>Gynecology</b>	<p>In women healthcare, changes in vaginal discharge can indicate infection with yeast, bacteria, parasite <i>Trichomonas vaginalis</i> or other pathological processes.</p> <p>The composition of the vaginal fluid can be examined under a microscope.</p> <p>To identify the different microorganism, phase contrast is the method of choice.</p>	<p>Full-Köhler package with camera option (trinotube):            Primostar 3: 415501-0021-001 with 40x Ph2 (Ph-slider)            Primostar 3: 415501-0031-001 with 40x Ph2 (Turret condenser)</p> <p>Accessories:            iPlan-Achromat 100x Oil: 415501-1641-000            iPlan-Achromat 20x: 415501-1622-000            Camera Educam 105: 426555-9020-000            Camera adapter P90-C 2/3" 0.65x: 415501-1810-000</p>
<b>Plantbiology</b> <b>Ecology</b> <b>Agriculture</b>	<p>From plants to food. Plants play a growing role as food for humans and animals, especially in view of the growing population worldwide.</p> <p>Studying plant morphology, plant physiology, reliable detection and classification of plant pests and diseases (phytopathology), diagnosis of malnutrition and pathogenic organisms as pre-requisite to decide about successful plant treatment.</p>	<p>Fixed-Köhler package with integrated camera:            Primostar 3: 415500-0071-000 with 4x, 10x, 40x</p> <p>Full-Köhler package with camera option (trinotube):            Primostar 3: 415501-0041-000 with 4x, 10x, 40x            Camera Educam 105: 426555-9020-000            Camera adapter P90-C 2/3" 0.65x: 415501-1810-000</p>
<b>Sputum detection</b>	<p>Lab technicians need to identify <i>Mycobacterium tuberculosis</i> as fast as possible. Gold standard is Ziehl-Neelsen staining and brightfield microscopy.</p> <p>In fluorescence excitation, Mycobacterium tuberculosis can be identified up to 4 times faster, with up to 30 % higher sensitivity. Auramine-O-stained bacilli are easy to detect as glowing tubercle in front of a dark background.</p>	<p>Primostar 3: 415501-0061-000 with 10x, 20x, 40x 100x Oil, D=0</p> <p>Accessory:            Fluorescence intermediate tube iLED 455nm: 415501-1820-000</p>

# ZEISS Primostar 3 at Work

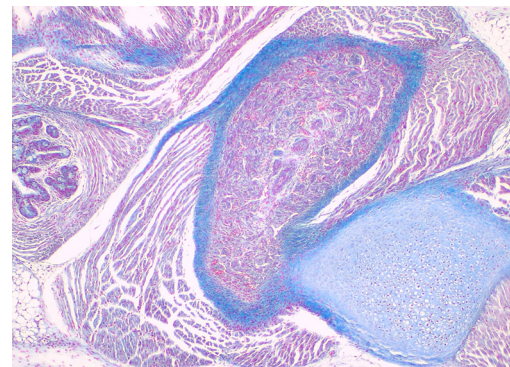
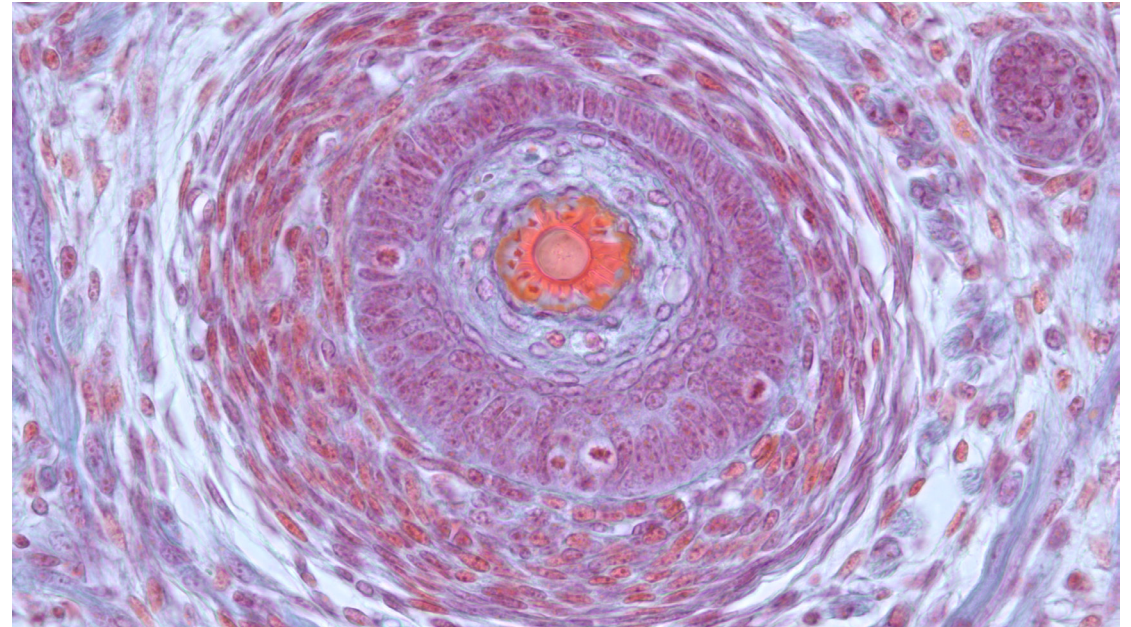
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## Mouse Hair Follicle

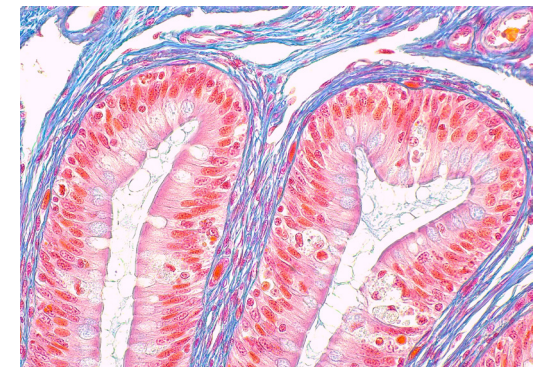
- Brightfield contrast
- Magnification: 40x

Recommended package:

- Package 415501-0011-000:  
Primostar 3 Fixed-Köhler with camera port
- Package 415501-0041-000:  
Primostar 3 Full-Köhler with camera port



Young Mouse: Primostar 3 with iPlan Achromat 10x



Rana: Primostar 3 with iPlan Achromat 40x

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## **Convallaria majalis**

- Brightfield & fluorescence contrast
- Magnification: 4x, 10x

Recommended package:

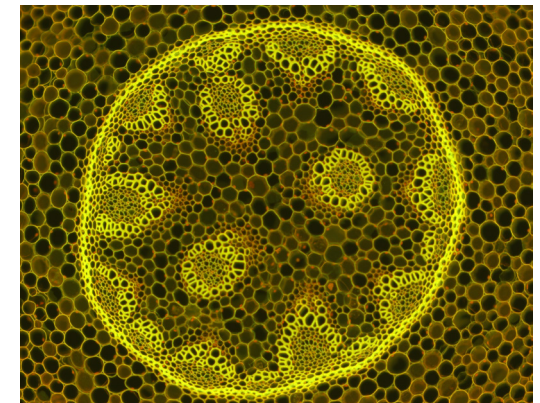
- Package 415501-0041-000  
Primostar 3 Full-Köhler with intermediate  
Fluorescence tube (415501-1822-000) for  
FITC stained specimen



Convallaria in brightfield, magnification: 4x



Convallaria in brightfield, magnification: 10x



Convallaria in fluorescence contrast, magnification: 10x,  
Filterset 09 for FITC

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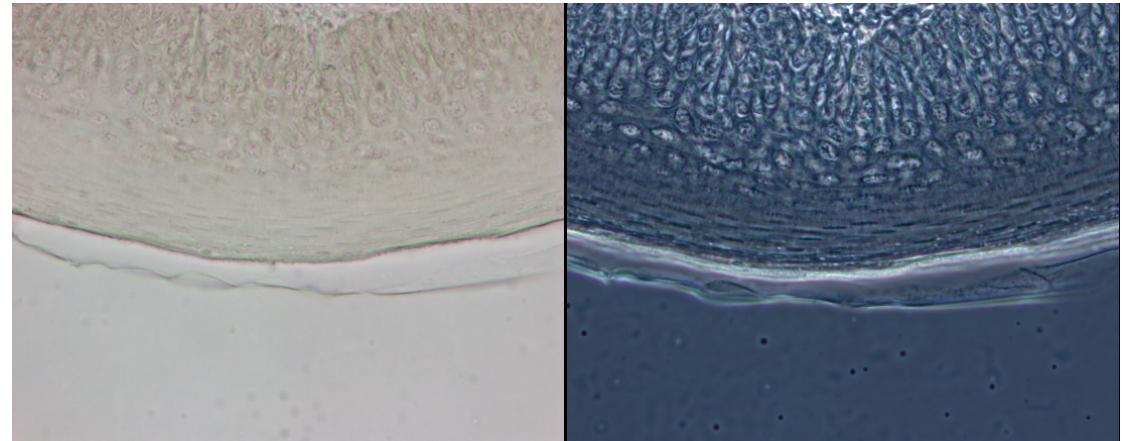
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## Tongue of rabbit, taste buds

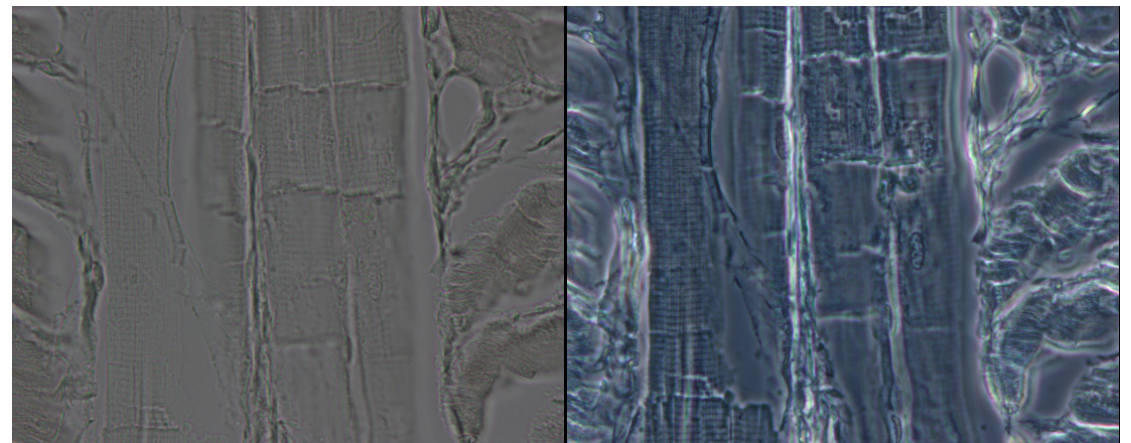
- Brightfield & phase contrast
- Magnification: 40x

Recommended package:

- Package 415501-0021-001:  
Primostar 3 Full-Köhler with phase contrast
- Package 415501-0031-001:  
Primostar 3 Full-Köhler with phase contrast  
and turret condenser



*Taste buds in brightfield and phase contrast, magnification: 40x*



*Taste buds in brightfield and phase contrast, magnification: 40x*

# Your Flexible Choice of Components

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ZEISS Primostar 3 Fixed-Köhler versions



ZEISS Primostar 3 Full-Köhler versions

## 1 Microscope

- Primostar 3 Fixed-Köhler  
FOV=20, 4 position nosepiece, LED, with or without handle
- Primostar 3 Full-Köhler  
FOV=22, 5 position nosepiece, LED/HAL, ECO mode, Light manager, long stage drive, double slider holder

## 2 Objectives

- iPlan-Achromat 4x/10x/20x/40x/100x Oil
- iPlan-Achromat Ph 10x/20x/40x/100x Oil
- iPlan-Achromat D=0 10x/20x/40x/100x Oil

## 3 Eyepieces

- Eyepiece 10x/20 Br. Foc.
- Eyepiece 10x/22 Br. Foc.

## 4 Condensers

- Condenser Abbe 0.9/1.25  
with slot (sliders for Ph and/or DF)
- Turret condenser BF/Ph1/Ph2/Ph3/DF

## 5 Illumination

- Transmitted light halogen 6V 30W  
(only full-Köhler stands)
- Transmitted light LED 3W 5600K
- Reflected light FI iLED\*  
(455 nm + FS 67 or 470 nm + FS 09)

## 6 Cameras

- Educam 105
- Binocular tube 25/22 w/int cam 5 MP
- Binocular tube HD 25/22 w/int cam 8 MP

## 7 Software

- Labscope imaging software

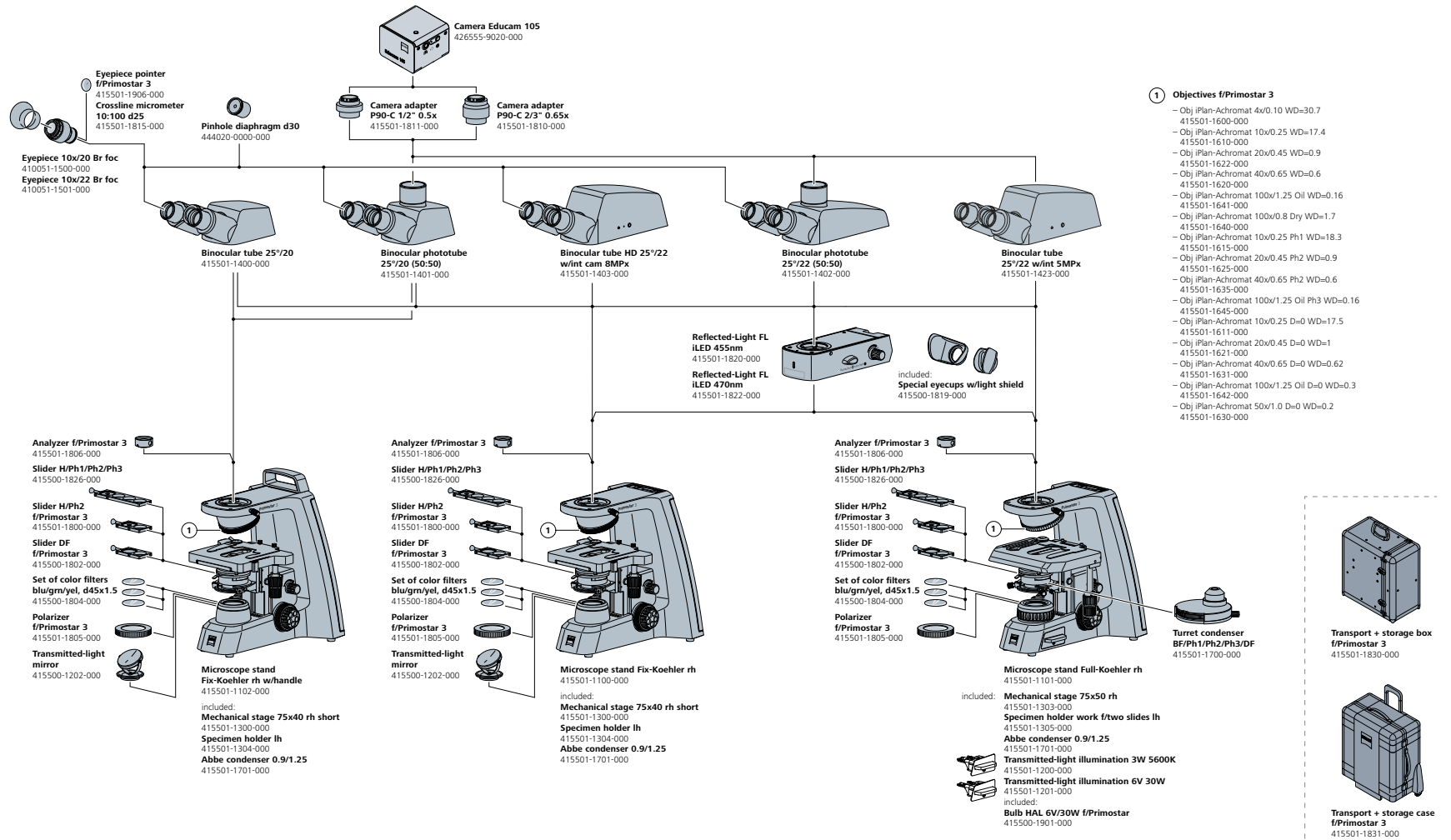
## 8 Further accessories

- Transmitted light mirror
- Eyepiece pointer
- Crossline micrometer
- Simple polarization accessory
- Transport and storage cases

\* Only for stands without handle

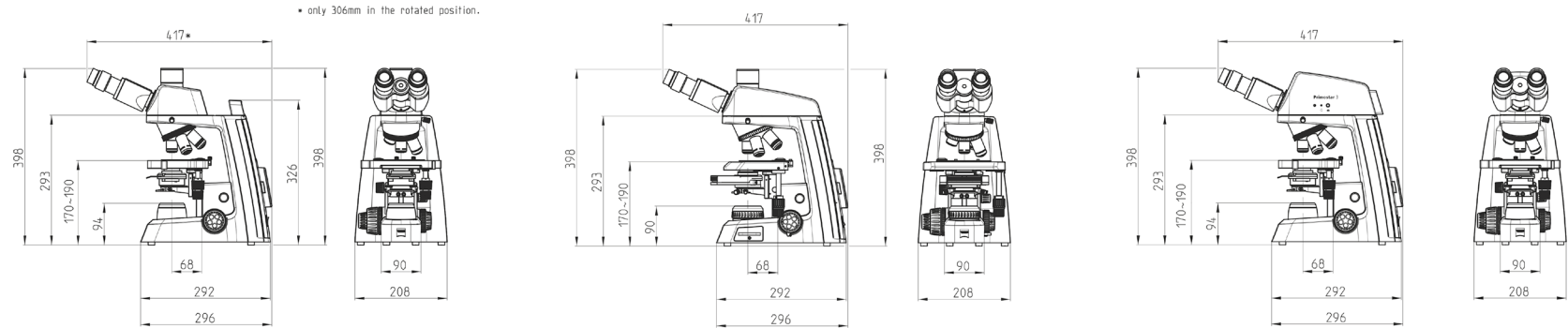
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# Technical Specifications

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## Dimensions (width × depth × height)

Systems with fixed-Köhler stands	approx. 208 mm × 296 mm × 398 mm	(with reflected light FL iLED intermediate tube approx. 208 mm × 296 mm × 453 mm)
Systems with full-Köhler stands	approx. 208 mm × 296 mm × 398 mm	(with reflected light FL iLED intermediate tube approx. 208 mm × 296 mm × 453 mm)
Systems with Binocular tube 25°/20 w/int cam 8 MPx	approx. 208 mm × 296 mm × 398 mm	(with reflected light FL iLED intermediate tube approx. 208 mm × 296 mm × 453 mm)

## Weight

Systems with fixed-Köhler stands	approx. 8.5 – 10.5 kg *
Systems with full-Köhler stands	approx. 9.4 – 11.4 kg *
Systems with binocular tube 25/22 w/int cam 5 MP or tube HD 25/22 w/int cam 8 MP	approx. 9.6 – 13.9 kg *

\* Depending on configuration

# Technical Specifications

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## Ambient conditions

### Transportation (in packaging):

Permissible ambient temperature -40 °C to +70 °C

### Storage:

Permissible ambient temperature +5 °C to +40 °C

Permissible air humidity (no condensation) max. 80 % at 40 °C

### Operation:

Permissible ambient temperature +5 °C to -40 °C

Permissible air humidity (no condensation) <80 % at 40 °C

Atmospheric pressure 800 hPa to 1060 hPa

Installation site Exclusively inside buildings

Altitude max. 2000 m

## Operating data

Protection class II

Protection type IP20

Electrical safety in compliance with DIN EN 61010-1 (IEC 61010-1) including CSA and UL directives

Pollution degree 2

Overvoltage category II

Radio interference suppression in accordance with EN 61326

Line voltage 100 to 240 V ( $\pm 10\%$ ) wide-range input power supply,  
i.e. voltage setting of the instrument need not be changed!

Line frequency 50 / 60 Hz

Power consumption max. 100 VA

Main power input 100~240V AC; 50/60Hz; (Applicable to all models).

Optional power input 1 12V DC, 2A (Fixed-Koehler only)

Optional power input 2 5V DC, 1A (Fixed-Koehler only)

Optional power output 5V DC, 2A (Fixed-Koehler only)

LED class of complete device 3B

# Technical Specifications

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Mechanical and optical data		
Stand with specimen stage and focusing device	Fixed-Köhler stand	Full-Köhler stand
Coarse focusing drive	45 mm/rev.	45 mm/rev.
Fine focusing drive	0.2 mm/rev.	0.2 mm/rev.
Total stage lift	20 mm	20 mm
Specimen stage	Mechanical rackless stage	Mechanical rackless stage
Dimensions (width x depth)	140 mm x 135 mm	180 mm x 145 mm
Stage travel (X x Y)	75 mm x 40 mm	75 mm x 50 mm
Coaxial drive	long, left/right	long, left/right
Vernier scales	readable from right	readable from left
Specimen holder	with spring clip left	with spring clip left, for two slides
Condensers		
	Fixed-Köhler stand	Full-Köhler stand
Abbe condenser 0.9/1.25	for objective 4x to 100x	for objective 4x to 100x
Turret condenser BF/DF/Ph.1/Ph.2	for objective 4x to 100x	for objective 4x to 100x
Light sources		
	Fixed-Köhler stand	Full-Köhler stand
Halogen lamp	–	HAL 6 V/30 W (changeable)
Adjustability	–	1.5 V to 6V DC
Color temperature	–	2,800 K (at 6V)
Luminous flux	–	280 lm
Average service life	–	1,000 h
Luminous area	–	1.5 mm x 3 mm
LED white light illumination	white light LED 1 W 5,600 K (fixed)	white light LED 3 W 5,600 K (changeable)
Peak wavelength	440 nm	440 nm
Homogeneous field illumination	20 mm	22 mm
Analogous brightness adjustment	approx. 15 to 100 %	approx. 15 to 100 %
Average operation lifetime	approx. 30,000 hours	approx. 35,000 hours

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## Tubes

Binocular (Photo)tubes	Binocular tube 25°/20	Binocular phototube 25°/20 (50:50)	Binocular phototube 25°/22 (50:50)
Maximum field-of-view number	20	20	22
Interpupillary distance	adjustable from 48 mm to 75 mm	adjustable from 48 mm to 75 mm	adjustable from 48 mm to 75 mm
Viewing height	380 mm to 415 mm	380 mm to 415 mm	380 mm to 415 mm
Viewing port, tube factor	1×	1×	1×
Photo/video port, tube factor	–	1×	1×
Photo/video port, mount	–	60 mm	60 mm
Invariable splitting ratio	–	50 % vis and 50 % doc	50 % vis and 50 % doc

## Tubes

Binocular tube with integrated camera	Binocular tube 25/22 w/int cam 5 MP or Binocular tube HD 25/22 w/int cam 8 MP
Maximum field-of-view number	22
Interpupillary distance	adjustable from 48 mm to 75 mm
Tube angle	25°
Viewing height	380 mm to 415 mm
Viewing port, tube factor	1×

**Integrated HD-CMOS camera**

# Technical Specifications

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## Integrated 4K microscope camera

<b>Sensor type</b>	Sony CMOS image sensor color, Rolling Shutter
<b>Sensor size</b>	Image diagonal 8.15 mm, equivalent to 1/1.9"
<b>Pixel count</b>	3840 (H) × 2160 (V) = 8.3 MP, Ultra HD (4K)
<b>Pixel size</b>	1.85 μm × 1.85 μm
<b>Bit depth</b>	3 × 8 bit/pixel
<b>Exposure range</b>	0.06 ms up to 1 s
<b>Frame rate</b>	HDMI: 30 fps Ethernet: 30 fps USB 3.0: up to 30 fps
<b>Cooling system</b>	Passive cooling
<b>Spectral sensitivity</b>	RGB Bayer color mask
<b>Interface</b>	HDMI, USB 3.0 Type B, RJ45 (LAN), 3x USB 3.0 Type A, RJ12 for power supply
<b>Wi-Fi compatibility</b>	USB 3.0 Type A
<b>Power supply</b>	Power from stand via RJ12 cable
<b>Operating system</b>	Windows 10 & 11 (64-bit), iOS 15 or later, Android 12 or later
<b>Software</b>	On Screen Display (OSD) for stand alone Labscope v 3.0 and higher
<b>Image enhancement functions</b>	Active denoising, active sharpening, HDR
<b>Automatic features</b>	Automatic exposure and gain regulation at Ultra HD resolution (4K), auto white balance, fast live image under low light conditions

# Technical Specifications

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Integrated Network camera	
Sensor Type	CMOS image sensor Color, Rolling Shutter
Effective Sensor Pixel Count	5.04 MP: 2592 (H) × 1944 (V)
Selectable resolution:	5 MP (snap) and 2 MP (live and snap)
Spectral Sensitivity	Approx. 400 nm – 660 nm, IR filter RGB Bayer color mask
Resolution 5 MP:	2592 × 1944
Pixel size (physical)	2.0 μm × 2.0 μm
Sensor size:	5.2 mm × 3.9 mm, equivalent to 1/2.8" (6.5 mm diagonal)
Resolution 2 MP:	1920 × 1080
Pixel size (calculated)	2.67 μm × 2.67 μm
Sensor size (used):	5.1 mm × 2.9 mm (5.9 mm diagonal)
Gain (Signal Amplification)	0 – 27× adjustable
Digitization	24-bit (3 × 8 bit RGB) A/D conversion
Exposure Time Range (integration time)	0.03 ms up to 1 s
Status LED	Color coded operation status
Interfaces	USB 3.0 Type A for Wi-Fi adapter or USB flashdrive Ethernet (RJ45) for LAN connection
Control buttons on camera	1× Image Capture / Snap button 1× Camera factory reset
Wi-Fi compatibility	Via USB Wi-Fi adapter
Power supply	Power from stand via RJ12 cable.
Power consumption	Input: 100 – 240V AC (±10%), 50/60Hz, 0.5A; Output: 12V DC, 1A, 12W
IP code	IP20
Supported Operating Systems	Windows 10 & 11 (64-bit), iOS 15 or later, Android 12 or later
Supported Application Software	Labscope v4.3 and later



# ZEISS Service – Your Partner at All Times

Your microscope system from ZEISS is one of your most important tools. For over 175 years, the ZEISS brand and our experience have stood for reliable equipment with a long life in the field of microscopy. You can count on superior service and support - before and after installation. Our skilled ZEISS service team makes sure that your microscope is always ready for use.

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## Procurement

- Lab Planning & Construction Site Management
- Site Inspection & Environmental Analysis
- GMP-Qualification IQ/OQ
- Installation & Handover
- IT Integration Support
- Startup Training

## Operation

- Predictive Service Remote Monitoring
- Inspection & Preventive Maintenance
  - Software Maintenance Agreements
    - Operation & Application Training
    - Expert Phone & Remote Support
  - Protect Service Agreements
    - Metrological Calibration
    - Instrument Relocation
      - Consumables
      - Repairs

## New Investment

- Decommissioning
- Trade In

## Retrofit

- Customized Engineering
- Upgrades & Modernization
- Customized Workflows via ZEISS arivis Cloud



Please note: Availability of services depends on product line and location



**Carl Zeiss Microscopy GmbH**  
07745 Jena, Germany  
microscopy@zeiss.com  
[www.zeiss.com/primostar](http://www.zeiss.com/primostar)

**Please note:**

The microscopes are also suitable for use in educational establishments by students at least 14 years old when supervised by trained professionals.

**Follow us on social media:**



# Capture microscope images the smart way.



## **ZEISS Axiocam 212 color**

Your Clever, 12 Megapixel Microscope Camera for Smart Digital Documentation

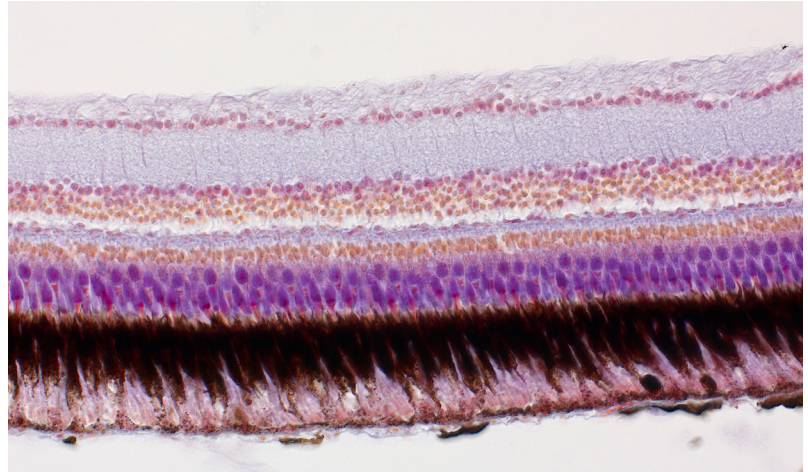
[zeiss.com/axiocam212-color](https://zeiss.com/axiocam212-color)



Seeing beyond

## ZEISS Axiocam 212 color

Your Clever, 12 Megapixel Microscope Camera for Smart Digital Documentation



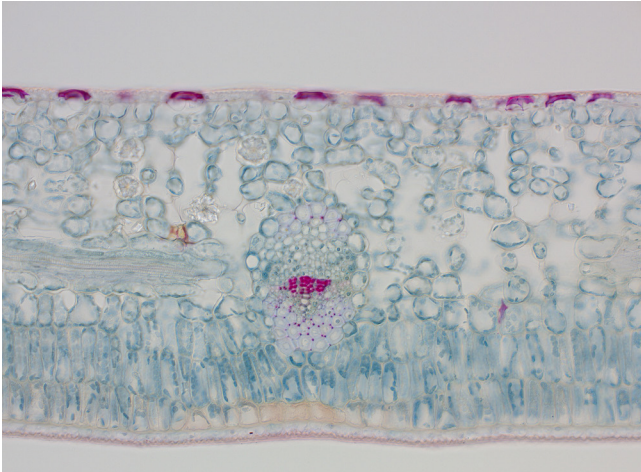
Retina in brightfield, mouse embryo, Azan staining. Acquired with ZEISS Axiolab 5, objective: Plan-Apochromat 40x/0.95 Corr

ZEISS Axiocam 212 color is your smart **12 megapixel color** microscope camera suitable for education, documentation and routine applications. This CMOS camera delivers crisp, detail rich live images with high color fidelity at **full 4k resolution in up to outstanding 30 fps**. Choose between modes of operation:

- In stand-alone mode, you don't need a PC to acquire microscope images. All necessary controls you reach via the on-screen display (OSD) of the microscope camera. The camera automatically adjusts brightness and white balance and offers live image enhancement functions like sharpening, denoising and HDR. Digital documentation of your specimen has never been easier.
- Alternatively, connect the CMOS camera via USB, Ethernet or wirelessly via Wi-Fi dongle to a computer and the imaging software Labscope or ZEN. Since you can connect multiple cameras to the network, Axiocam 212 color is the ideal solution for digital classroom applications and for connected laboratories, too.



Axiocam 212 color comes with a TWAIN driver that provides basic camera functionalities. It enables secure image data transfer to TWAIN-compatible 3<sup>rd</sup> party software solutions such as those often used in routine laboratories. If you combine Axiocam 212 color with Axiolab 5, Axioscope 5 or Axioscope 7 microscope stands you can experience the full concept of smart microscopy. The camera communicates with the microscope and e.g. extracts the correct scaling information.



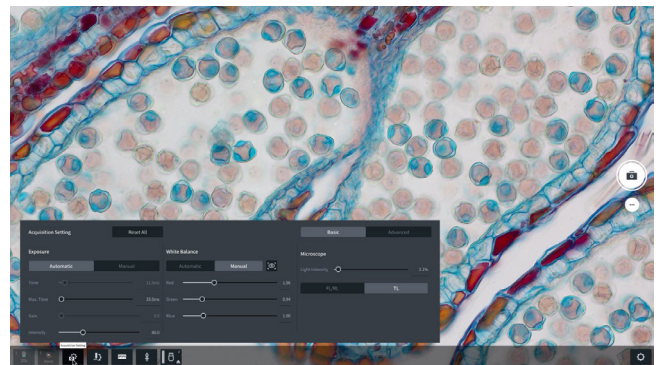
*Camellia leaf vascular bundle in brightfield, cross section.  
Acquired with ZEISS Axiolab 5, objective: Plan-Apochromat 20x/0.8*

## Highlights

- Full 4K resolution in up to outstanding 30 fps
- Live image enhancement functions like sharpening, denoising and HDR
- Use in stand-alone mode, review and save all images on USB flash drive or use the imaging software Labscope or ZEN
- Easy and effortless digital documentation – especially suitable for education, digital classroom and routine documentation in life sciences
- Connections via USB, Ethernet, Wi-fi and HDMI
- Wi-Fi compatible – use Labscope imaging software to control your camera wirelessly
- Stand-alone operation with camera control by intuitive on-screen display (OSD) via mouse and keyboard without a PC

You can operate Axiocam 212 color via the **on-screen display (OSD)** without any additional PC or software required:

- Simply move the mouse over the live image to open the live view menu of the OSD. If you stop to move the mouse, the OSD will close after approx. 15 seconds.
- You can acquire images and record videos as well as multichannel fluorescence images.
- The automatic exposure setting mode ensures a consistent brightness of the image by continuously calculating the correct exposure time based on the current light intensity.
- You can add measurements, markers or text annotations to an image in live view.

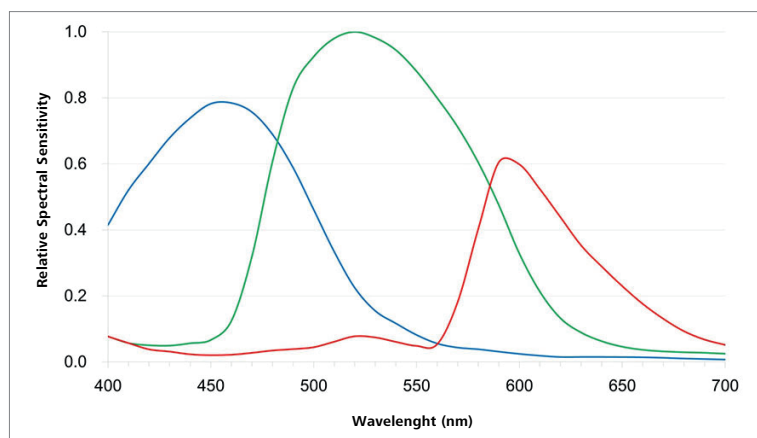


*Operate ZEISS Axiocam 212 color via the **on-screen display (OSD)** without any additional PC*

# Technical Data and Conformity

## Technical Data

<b>Sensor type</b>	CMOS sensor with rolling shutter		
<b>Sensor size/Effective sensor area</b>	Diagonal 9.3 mm (1/1.7"), Full Sensor Diagonal 8.2 mm (1/2.1"), Ultra HD and Full HD		
<b>Pixel count</b>	12.3 Megapixels: 4032 (H) × 3044 (V) 8.1 Megapixels: 3840 (H) × 2160 (V) 2.1 Megapixels: 1920 (H) × 1080 (V)		
<b>Pixel size</b>	1.85 µm × 1.85 µm (resolution 4032 × 3044 and 3840 × 2160) 3.70 µm × 3.70 µm (binned, resolution 1920 × 1080)		
<b>Digitization</b>	3 × 8 bit/pixel		
<b>Exposure Time Range (Integration time)</b>	0.1 ms – 1 s		
<b>Gain</b>	1.0x – 22.4x (equivalent 0 dB – 27 dB) adjustable		
<b>Frame rate</b>	Maximum live frame rate at configuration: Full sensor (4032 × 3044) @ 4K (3840 × 2160) @ 1080p (1920 × 1080) HDMI: – HDMI: 30 fps HDMI: 30 fps Ethernet: – Ethernet: 30 fps Ethernet: 30 fps USB 3.0: 15 fps USB 3.0: 20 fps USB 3.0: 30 fps		
<b>Cooling system</b>	Passive cooling		
<b>Spectral sensitivity</b>	Approx. 400 nm – 700 nm, IR filter RGB Bayer color mask		
<b>Interface</b>	1× HDMI for monitor 1× USB 3.0 Type-C for flash drive, Wi-Fi adapter or PC connection 2× USB 2.0 Type-A for mouse and keyboard 1× RJ45 (Ethernet) for LAN connection 1× M8 for power and communication with dedicated stands		
<b>Wi-Fi compatibility</b>	Via Wi-Fi adapter and router		
<b>Power supply</b>	Via M8 interface		
<b>Operating system</b>	for ZEN Imaging Software: Windows 10 and 11 x64 and higher for Labscope: Windows 10 and 11 x64 and iOS v15 and higher, Android 12 and higher		
<b>Software</b>	On Screen Display (OSD) for stand-alone operation ZEN blue v3.11 and higher (includes ZEN lite/pro/system) ZEN core v3.11 and higher (includes ZEN starter/core) Labscope v4.3 (Win, iOS, and Android) and higher		
<b>Image enhancement functions</b>	Active denoising, active sharpening, auto white balance		
<b>Automatic features</b>	Automatic exposure and gain regulation at Ultra HD resolution (4K), fast live image under low light conditions		
<b>Order number</b>	426570-9901-000		



Spectral Sensitivity of Axiocam 212 color (incl. IR Filter)



**Carl Zeiss Microscopy GmbH**  
07745 Jena, Germany  
microscopy@zeiss.com  
[www.zeiss.com/axiocam212-color](http://www.zeiss.com/axiocam212-color)

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