ZEISS Primostar 3

Your robust yet compact microscope for digital teaching and routine lab work.

zeiss.com/primostar
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 app from ZEISS.

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

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. That built-in durability is reflected in our offering you the benefit of an extended warranty up to five years. Primostar 3 comes in ready-to-use packages, tailored to your application so you can be sure you will have the optimal configuration. Just unwrap 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 app from ZEISS, to connect microscopes in your classroom to each other, then share images or videos with your students via HD monitors or projectors. Opt for the software module 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.
Tailored Precisely to Your Applications

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.
Tailored Precisely to Your Applications

**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.

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

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

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

**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.
Expand Your Possibilities

Digital Classroom
Bring on the next generation of scientists in your digital classroom. Use the ZEISS Labscope app to connect all your students’ microscopes plus WiFi 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 with its integrated 8.3 MPx HD WiFi-camera is the package of choice for digital classrooms. This camera offers versatile interfaces such as LAN, HDMI, 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 WiFi-camera to your PC and share what you see with the members on your call.
Expand Your Possibilities

**ZEISS Labscope**
Use Labscope, the imaging app 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 the high resolution of 8.3 megapixels. You can annotate your images and, for example, measure distances. Then share your images, reports and videos with others via email, social media or cloud services. 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

**ZEISS Labscope**

Labscope is your easy-to-use imaging app 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.

**In Brief**

**The Advantages**

**The Applications**

**The System**

**Technology and Details**

**Service**

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.
Expand Your Possibilities

Photo tube
Document your microscope images with the photo tube and a microscope camera.

Swiveling mirror
(for fixed-Köhler stands only)
This well-known and popular accessory lets you use your microscope with ambient light or sunlight – no electricity required.

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

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

Fluorescence tube
Add on a fluorescence tube and turn your Primostar 3 into an LED fluorescence microscope.
Tailored Precisely to Your Applications

Package Overview

1. Do you want to use the microscope in a lab (FOV 22 mm with a plus in comfort) or in a basic lecture hall?
   Would you like to teach the Köhler illumination method, or do you prefer an adjustment free fixed-Köhler version (FOV 20 mm) that is as easy to use as possible?

2. Adjustment free and easy-to-use fixed-Köhler models (FOV 20 mm)?
   Do you want to document your work or results with camera?

3. Full-Köhler models for education and/or laboratory use (FOV 22 mm)?
   A plus in comfort with ergo-stage drive, double slider holder, light manager, Eco mode, 5-times nosepiece. Which contrasting technique would you like to work with?

4. No need for camera
   No need for now and for the future

5. Camera and documentation is a must.
   Choose between integrated WiFi camera or go for camera-adaptation

6. Brightfield contrast with phototube
   Do you like to work with Ph sliders or with turret condenser?

7. Phase contrast with phototube
   Do you want to work with Ph sliders or with turret condenser?

Primostar 3 Basic package with objectives 4x, 10x, 40x
Primostar 3 Basic package with objectives 4x, 10x, 40x, 100x Oil
Primostar 3 Package with objectives especially designed for coverslip free applications: D=0 4x, 10x, 40x, 100x Oil
Primostar 3 Package with integrated WiFi Axiocam 208 color, with objectives: 4x, 10x, 40x
Primostar 3 Package with phototube to adapt camera now or in future, with objectives: 4x, 10x, 40x
Primostar 3 Package with phototube to adapt camera now or in future, with objectives: 4x, 10x, 40x Ph2
Primostar 3 Package with Abbe condenser, with objective 4x, 10x, 40x Ph2
Primostar 3 Package with Turret condenser, with objective 4x, 10x, 40x Ph2

Package 415501-0001-000
Package 415501-0081-000
Package 415501-0001-000
Digital Classroom package 415501-0071-000
Trino package 415501-0011-000
Package 415501-0041-000
Package 415501-0021-000
Package 415501-0031-000
Tailored Precisely to Your Applications

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage drive right</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
</tr>
<tr>
<td>FOV 20 mm</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
</tr>
<tr>
<td>FOV 22 mm</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
</tr>
<tr>
<td>Fixed-Köhler</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
</tr>
<tr>
<td>Full-Köhler</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
</tr>
<tr>
<td>HAL</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
</tr>
<tr>
<td>LED</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
</tr>
<tr>
<td>Pointer</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
</tr>
<tr>
<td>Phototube</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
</tr>
<tr>
<td>4times nosepiece</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
</tr>
<tr>
<td>5times nosepiece</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
</tr>
<tr>
<td>Abbe condensor</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
</tr>
<tr>
<td>Turret condensor</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
</tr>
<tr>
<td>Light manager</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
</tr>
<tr>
<td>Eco mode</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
<td>x  x  x  x  x  x  x  x</td>
</tr>
</tbody>
</table>
## Tailored Precisely to Your Applications

<table>
<thead>
<tr>
<th>Typical applications, typical samples</th>
<th>Task</th>
<th>ZEISS Primostar 3 offers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Histology</strong></td>
<td>Students need to acquire detailed knowledge of microscopic structure, form and function of cells, tissues, and organs.</td>
<td>Fixed-Köhler packages: Primostar 3: 415500-0081-000 with 4×, 10×, 40×, 100× Oil</td>
</tr>
<tr>
<td>Historyopathology</td>
<td>Each student learn to sketch histological slides and to identify its characteristics by visual microscopic inspection. This to finally justify diagnosis.</td>
<td>Fixed-Köhler packages with camera option (trinotube): Primostar 3: 415501-0011-000 with 4×, 10×, 40×</td>
</tr>
<tr>
<td>Microscopic Anatomy</td>
<td></td>
<td>Fixed-Köhler package with integrated camera: Primostar 3: 415501-0071-000 with 4×, 10×, 40×</td>
</tr>
<tr>
<td>Fixed-Köhler package with integrated camera: Primostar 3: 415501-0071-000 with 4×, 10×, 40×</td>
<td></td>
<td>Full-Köhler package with camera option (trinotube): Primostar 3: 415501-0041-000 with 4×, 10×, 40×</td>
</tr>
<tr>
<td><strong>Cell Biology</strong></td>
<td>Students need to acquire detailed knowledge of cell structures, cell components, their forms and functionalities.</td>
<td>Full-Köhler package with phase contrast and camera option (trinotube): Primostar 3: 415501-0021-000 with 4×, 10×, 40× Ph2 (Ph-slider)</td>
</tr>
<tr>
<td></td>
<td>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.</td>
<td>Primostar 3: 415501-0031-000 with 4×, 10×, 40× Ph2 (turret condenser)</td>
</tr>
<tr>
<td><strong>Food Microbiology</strong></td>
<td>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.</td>
<td>Primostar 3: 415501-0031-000 with 4×, 10×, 40× Ph2</td>
</tr>
<tr>
<td></td>
<td>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.</td>
<td>iPlan-Achromat 100× Oil Ph3: 415501-1645-000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Darkfield slider: 415501-1802-000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Camera Axioxa 208 color: 426570-9000-000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Camera adapter (P95-C 2/3” 0.65×): 415501-1810-000</td>
</tr>
<tr>
<td><strong>Medical Microbiology</strong></td>
<td>Bacteria 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.</td>
<td>Primostar 3: 415501-0041-000 with 4×, 10×, 40×</td>
</tr>
<tr>
<td></td>
<td>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.</td>
<td>iPlan-Achromat 100× Oil: 415501-1641-000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Camera Axioxa 208 color: 426570-9000-000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Camera adapter (P95-C 2/3” 0.65×): 415501-1810-000</td>
</tr>
<tr>
<td><strong>Hematology</strong></td>
<td>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.</td>
<td>Full-Köhler package with phase contrast and camera option (trinotube): Primostar 3: 415501-0041-000 with 4×, 10×, 40×</td>
</tr>
<tr>
<td></td>
<td>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.</td>
<td>Primostar 3: 415501-0061-000 with 10×, 20×, 40× 100× Oil, D=0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Accessories: iPlan-Achromat 100× Oil: 415501-1641-000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Darkfield slider: 415501-1802-000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Camera Axioxa 208 color: 426570-9000-000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Camera adapter (P95-C 2/3” 0.65×): 415501-1810-000</td>
</tr>
</tbody>
</table>
## Tailored Precisely to Your Applications

<table>
<thead>
<tr>
<th>Typical applications, typical samples</th>
<th>Task</th>
<th>ZEISS Primostar 3 offers</th>
</tr>
</thead>
</table>
| **Gynecology**                       | In women healthcare, changes in vaginal discharge can indicate infection with yeast, bacteria, parasite *Trichomonas vaginalis* or other pathological processes.  
The composition of the vaginal fluid can be examined under a microscope.  
To identify the different microorganism, phase contrast is the method of choice. | Full-Köhler package with camera option (trinotube):  
Primostar 3: 415501-0021-000 with 4x, 10x, 40x Ph2 (Ph-slider)  
Primostar 3: 415501-0031-000 with 4x, 10x, 40x Ph2 (Turret condenser)  
Accessories:  
iPlan-Achromat 100x Oil: 415501-1641-000  
iPlan-Achromat 20x: 415501-1622-000  
Camera Axiocam 208 color: 426570-9000-000  
Camera adapter (P95-C 2/3" 0.65×): 415501-1810-000 |
| **Plantbiology**  
**Ecology**  
**Agriculture** | From plants to food. Plants play a growing role as food for humans and animals, especially in view of the growing population worldwide.  
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. | Fixed-Köhler package with integrated camera:  
Primostar 3: 415500-0071-000 with 4x, 10x, 40x  
Full-Köhler package with camera option (trinotube):  
Primostar 3: 415501-0041-000 with 4x, 10x, 40x  
Camera Axiocam 208: 426570-9000-000  
Camera adapter (P95-C ⅔" 0.65×): 415501-1810-000 |
| **Sputum detection** | Lab technicians need to identify *Mycobacterium tuberculosis* as fast as possible. Gold standard is Ziehl-Neelsen staining and brightfield microscopy.  
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. | Primostar 3: 415501-0061-000 with 10x, 20x, 40x, 100x Oil, D=0  
Accessory:  
Fluorescence intermediate tube iLED 455nm: 415501-1820-000 |
ZEISS Primostar 3 at Work

Hair follicle of mouse
- Brightfield contrast
- Magnification: 4x, 10x, 40x

Recommended package:
- Package 415501-0001-000:
  Primostar 3 Fixed-Köhler
- Package 415501-0011-000:
  Primostar 3 Fixed-Köhler with camera port
- Package 415501-0041-000:
  Primostar 3 Full-Köhler with camera port
ZEISS Primostar 3 at Work

Convallaria majalis
- Brightfield & fluorescence contrast
- Magnification: 4×, 10×

Recommended package:
- Package 415501-0041-000
  Primostar 3 Full-Köhler with intermediate
  Fluorescence tube (415501-0022-000) for
  FITC stained specimen

Convallaria in brightfield, magnification: 4×
Convallaria in brightfield, magnification: 10×
Convallaria in fluorescence contrast, blue 09 and blue 38, magnification: 10×
ZEISS Primostar 3 at Work

**Tongue of rabbit, taste buds**

- Brightfield & phase contrast
- Magnification: 40x

Recommended package:
- Package 415501-0021-000: Primostar 3 Full-Köhler with phase contrast
- Package 415501-0031-000: Primostar 3 Full-Köhler with phase contrast and turret condenser

Taste buds in brightfield and phase contrast, magnification: 40x
Your Flexible Choice of Components

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

2 Objectives
- iPlan-Achromat 4×/10×/20×/40×/100× Oil
- iPlan-Achromat Ph 10×/20×/40×/100× Oil
- iPlan-Achromat D=0 10×/20×/40×/100× Oil

3 Eyepieces
- Eyepiece 10×/20 Br. Foc.
- Eyepiece 10×/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 Fl iLED* (455 nm + FS 67 or 470 nm + FS 09)

6 Cameras
- Axiocam 208 color (recommended camera)
- Binocular tube HD 25°/22 w/int cam BMPx*

7 Software
- Labscope imaging app
- ZEN Imaging Software

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

* Only for stands without handle
System Overview

In Brief

The Advantages

The Applications

The System

Technology and Details

Service
Technical Specifications

Dimensions (width x depth x 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 HD 25°/20 w/int cam 8MPx | 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 HD 25°/20 w/int cam 8MPx | approx. 9.6 – 12.0 kg * |

* Depending on configuration
# Technical Specifications

## Ambient conditions

<table>
<thead>
<tr>
<th>Transportation (in packaging):</th>
<th>Permissible ambient temperature</th>
<th>–40 °C to +70 °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage:</td>
<td>Permissible ambient temperature</td>
<td>+10 °C to +40 °C</td>
</tr>
<tr>
<td></td>
<td>Permissible air humidity (no condensation)</td>
<td>max. 75 % at 35 °C</td>
</tr>
<tr>
<td>Operation:</td>
<td>Permissible ambient temperature</td>
<td>+10 °C to +40 °C</td>
</tr>
<tr>
<td></td>
<td>Permissible air humidity (no condensation)</td>
<td>max. 75 % at 35 °C</td>
</tr>
<tr>
<td></td>
<td>Atmospheric pressure</td>
<td>800 hPa to 1060 hPa</td>
</tr>
<tr>
<td></td>
<td>Installation site</td>
<td>Exclusively inside buildings</td>
</tr>
<tr>
<td></td>
<td>Altitude</td>
<td>max. 2000 m</td>
</tr>
</tbody>
</table>

## Operating data

<table>
<thead>
<tr>
<th>Protection class</th>
<th>II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protection type</td>
<td>IP20</td>
</tr>
<tr>
<td>Electrical safety</td>
<td>in compliance with DIN EN 61010-1 (IEC 61010-1) including CSA and UL directives</td>
</tr>
<tr>
<td>Pollution degree</td>
<td>2</td>
</tr>
<tr>
<td>Overvoltage category</td>
<td>II</td>
</tr>
<tr>
<td>Radio interference suppression</td>
<td>in accordance with EN 61326</td>
</tr>
<tr>
<td>Line voltage</td>
<td>100 to 240 V ±10 % wide-range input power supply, i.e. voltage setting of the instrument need not be changed!</td>
</tr>
<tr>
<td>Line frequency</td>
<td>50 / 60 Hz</td>
</tr>
<tr>
<td>Power consumption</td>
<td>70 VA; secondary voltage of external power supply 12 V</td>
</tr>
<tr>
<td>Plug-in power unit output</td>
<td>12 V DC; max. 2.5 A</td>
</tr>
<tr>
<td>Microscope 12 V / 6 V DC</td>
<td>adjustable from 1.5 V to 6 V</td>
</tr>
<tr>
<td>LED class of complete device</td>
<td>3B</td>
</tr>
</tbody>
</table>
Technical Specifications

<table>
<thead>
<tr>
<th>Mechanical and optical data</th>
<th>Fixed-Köhler stand</th>
<th>Full-Köhler stand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stand with specimen stage and focusing device</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coarse focusing drive</td>
<td>45 mm/rev.</td>
<td>45 mm/rev.</td>
</tr>
<tr>
<td>Fine focusing drive</td>
<td>0.5 mm/rev.</td>
<td>0.5 mm/rev.</td>
</tr>
<tr>
<td>Total stage lift</td>
<td>15 mm</td>
<td>15 mm</td>
</tr>
<tr>
<td>Specimen stage</td>
<td>Mechanical rackless stage</td>
<td>Mechanical rackless stage</td>
</tr>
<tr>
<td>Dimensions (width x depth)</td>
<td>140 mm x 135 mm</td>
<td>185 mm x 135 mm</td>
</tr>
<tr>
<td>Stage travel (X x Y)</td>
<td>75 mm x 40 mm</td>
<td>75 mm x 50 mm</td>
</tr>
<tr>
<td>Coaxial drive</td>
<td>short, right</td>
<td>long, right</td>
</tr>
<tr>
<td>Vernier scales</td>
<td>readable from right</td>
<td>readable from left</td>
</tr>
<tr>
<td>Specimen holder</td>
<td>with spring clip left</td>
<td>with spring clip left, for two slides</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Condensers</th>
<th>Fixed-Köhler stand</th>
<th>Full-Köhler stand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abbe condenser 0.9/1.25</td>
<td>for objective 4x to 100x</td>
<td>for objective 4x to 100x</td>
</tr>
<tr>
<td>Turret condenser BF/Ph1/Ph2/Ph3/DF</td>
<td>for objective 4x to 100x</td>
<td>for objective 4x to 100x</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Light sources</th>
<th>Fixed-Köhler stand</th>
<th>Full-Köhler stand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Halogen lamp</td>
<td>–</td>
<td>HAL 6 V / 30 W (changeable)</td>
</tr>
<tr>
<td>Adjustability</td>
<td>–</td>
<td>1.5 V to 6 V DC</td>
</tr>
<tr>
<td>Color temperature</td>
<td>–</td>
<td>2,800 K (at 6 V)</td>
</tr>
<tr>
<td>Luminous flux</td>
<td>–</td>
<td>280 lm</td>
</tr>
<tr>
<td>Average service life</td>
<td>–</td>
<td>1,000 h</td>
</tr>
<tr>
<td>Luminous area</td>
<td>–</td>
<td>1.5 mm x 3 mm</td>
</tr>
<tr>
<td>LED white light illumination</td>
<td>white light LED 3 W, 5,600 K (fixed)</td>
<td>white light LED 3 W, 5,600 K (changeable)</td>
</tr>
<tr>
<td>Peak wavelength</td>
<td>440 nm</td>
<td>440 nm</td>
</tr>
<tr>
<td>Homogeneous field illumination</td>
<td>20 mm</td>
<td>22 mm</td>
</tr>
<tr>
<td>Analogous brightness adjustment</td>
<td>approx. 15 to 100 %</td>
<td>approx. 15 to 100 %</td>
</tr>
<tr>
<td>Average operation lifetime</td>
<td>approx. 30,000 hours</td>
<td>approx. 35,000 hours</td>
</tr>
</tbody>
</table>
## Technical Specifications

### Binocular (Photo)tubes

<table>
<thead>
<tr>
<th>Tube Type</th>
<th>Binocular tube 25°/20</th>
<th>Binocular phototube 25°/20 (50:50)</th>
<th>Binocular phototube 25°/22 (50:50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum field-of-view number</td>
<td>20</td>
<td>20</td>
<td>22</td>
</tr>
<tr>
<td>Interpupillary distance</td>
<td>adjustable from 48 mm to 75 mm</td>
<td>adjustable from 48 mm to 75 mm</td>
<td>adjustable from 48 mm to 75 mm</td>
</tr>
<tr>
<td>Viewing height</td>
<td>370 mm to 410 mm</td>
<td>370 mm to 410 mm</td>
<td>370 mm to 410 mm</td>
</tr>
<tr>
<td>Viewing port, tube factor</td>
<td>1x</td>
<td>1x</td>
<td>1x</td>
</tr>
<tr>
<td>Photo/video port, tube factor</td>
<td>–</td>
<td>1x</td>
<td>1x</td>
</tr>
<tr>
<td>Photo/video port, mount</td>
<td>–</td>
<td>60 mm</td>
<td>60 mm</td>
</tr>
<tr>
<td>Invariable splitting ratio</td>
<td>–</td>
<td>50 % vis and 50 % doc</td>
<td>50 % vis and 50 % doc</td>
</tr>
</tbody>
</table>

### Binocular tube with integrated camera

<table>
<thead>
<tr>
<th>Tube Type</th>
<th>Binocular tube HD 25°/20 w/int cam 8MPx</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum field-of-view number</td>
<td>22</td>
</tr>
<tr>
<td>Interpupillary distance</td>
<td>adjustable from 48 mm to 75 mm</td>
</tr>
<tr>
<td>Tube angle</td>
<td>25°</td>
</tr>
<tr>
<td>Viewing height</td>
<td>370 mm to 410 mm</td>
</tr>
<tr>
<td>Viewing port, tube factor</td>
<td>1x</td>
</tr>
</tbody>
</table>

### Integrated HD-CMOS camera

---

---
# Technical Specifications

**Integrated 4K microscope camera**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor type</td>
<td>Sony CMOS image sensor color, Rolling Shutter</td>
</tr>
<tr>
<td>Sensor size</td>
<td>Image diagonal 8.1 mm, equivalent to 1/2.1” (7.1 mm × 4.0 mm)</td>
</tr>
<tr>
<td>Pixel count</td>
<td>3840 (H) × 2160 (V) = 8.3 MP, Ultra HD (4K)</td>
</tr>
<tr>
<td>Pixel size</td>
<td>1.85 µm × 1.85 µm</td>
</tr>
<tr>
<td>Bit depth</td>
<td>3 × 8 bit/pixel</td>
</tr>
<tr>
<td>Exposure range</td>
<td>0.06 ms up to 1 s</td>
</tr>
<tr>
<td>Gain</td>
<td>1× – 22× adjustable</td>
</tr>
<tr>
<td>Frame rate</td>
<td>HDMI: 30 fps</td>
</tr>
<tr>
<td></td>
<td>Ethernet: 30 fps</td>
</tr>
<tr>
<td></td>
<td>USB 3.0: up to 30 fps</td>
</tr>
<tr>
<td>Cooling system</td>
<td>Passive cooling</td>
</tr>
<tr>
<td>Spectral sensitivity</td>
<td>Approx. 400 nm – 700 nm, IR filter</td>
</tr>
<tr>
<td></td>
<td>RGB Bayer color mask</td>
</tr>
<tr>
<td>Interface</td>
<td>HDMI, USB 3.0 Type C, Ethernet, Micro-D</td>
</tr>
<tr>
<td>Wi-Fi compatibility</td>
<td>Via USB Wi-Fi adapter and router</td>
</tr>
<tr>
<td>Power supply</td>
<td>External power supply provided, 9 W, compatibility to international sockets available</td>
</tr>
<tr>
<td>Operating system</td>
<td>for ZEN Imaging Software: Windows 10 x64 Prof./Ultimate and higher</td>
</tr>
<tr>
<td></td>
<td>for Labscope: Windows 7/10 x64 Prof./Ultimate and iOS v11 and higher</td>
</tr>
<tr>
<td>Software</td>
<td>On Screen Display (OSD) for stand alone</td>
</tr>
<tr>
<td></td>
<td>Labscope v2.9 (win), v2.8.3 (iOS) and higher</td>
</tr>
<tr>
<td></td>
<td>ZEN (blue edition) v3.0 and higher</td>
</tr>
<tr>
<td></td>
<td>TWAIN driver</td>
</tr>
<tr>
<td>Image enhancement functions</td>
<td>Active denoising, active sharpening, HDR</td>
</tr>
<tr>
<td>Automatic features</td>
<td>Automatic exposure and gain regulation at Ultra HD resolution (4K), auto white balance, fast live image under low light conditions</td>
</tr>
</tbody>
</table>

---

**In Brief**

- **The Advantages**
- **The Applications**
- **The System**
- **Technology and Details**
- **Service**
Because the ZEISS microscope system is one of your most important tools, we make sure it is always ready to perform. What’s more, we’ll see to it that you are employing all the options that get the best from your microscope. You can choose from a range of service products, each delivered by highly qualified ZEISS specialists who will support you long beyond the purchase of your system. Our aim is to enable you to experience those special moments that inspire your work.

**Repair. Maintain. Optimize.**
Attain maximum uptime with your microscope. A ZEISS Protect Service Agreement lets you budget for operating costs, all the while reducing costly downtime and achieving the best results through the improved performance of your system. Choose from service agreements designed to give you a range of options and control levels. We’ll work with you to select the service program that addresses your system needs and usage requirements, in line with your organization’s standard practices.

Our service on-demand also brings you distinct advantages. ZEISS service staff will analyze issues at hand and resolve them – whether using remote maintenance software or working on site.

**Enhance Your Microscope System.**
Your ZEISS microscope system is designed for a variety of updates: open interfaces allow you to maintain a high technological level at all times. As a result you’ll work more efficiently now, while extending the productive lifetime of your microscope as new update possibilities come on stream.

> Profit from the optimized performance of your microscope system with services from ZEISS – now and for years to come.

>> www.zeiss.com/microservice