

Microscopy

Your guide to selecting the right microscope
and microscopy equipment



Buch & Holm - Microscope magazine 2023

BUCH  HOLM



At Buch & Holm, we take pride in offering a diverse range of high-quality microscopes designed to meet the unique needs of various applications. Here we present a selection of our microscopes and accessories suitable for use within life science, material research, and education.

If you need more information or guidance on purchasing the perfect microscope for your application, you can contact our product specialist, Line Eliasson, at +45 44 54 00 61 or via email at l@buch-holm.dk



Choosing the right microscope

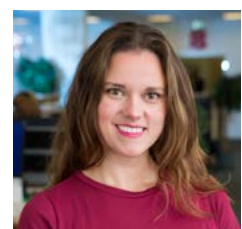
At Buch & Holm we offer a wide variety of microscopes and can also offer tailor-made solutions for our customers. We have a wide range of biological microscopes, material microscopes and stereo microscopes. The specific microscope needed always depends on the sample you wish to observe.

Biological microscopes are used for histology and life science application to view cells and tissues. They are equipped with a light source, that provides transmitted illumination through the specimen. If you only observe your samples from a slide, choose an upright microscope. If you view your samples from a variety of different sources, e.g. slides, culture flasks, well plates, petri dishes etc. choose an inverted microscope.

Material microscopes are used for material analysis, such as metals, polymers, ceramics, and minerals. They can be equipped with light sources that provide transmitted illumination through your sample or reflective illumination for bulky samples, which do not allow light to pass through. If your samples are thin specimens such as plates, or can be mounted on a slide, choose an upright microscope. If your samples are big and bulky, choose an inverted microscope.

Both biological and material microscopes allow you to magnify your sample under high magnification typically ranging from 50x-1000x and achieve a two-dimensional view of your sample. If you want a three-dimensional view of your sample, choose a stereo microscope, and achieve magnifications ranging between 5x-100x.

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BIOLOGICAL MICROSCOPES

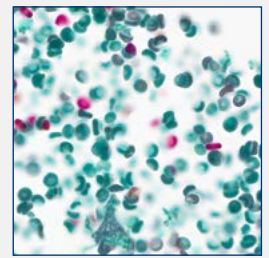
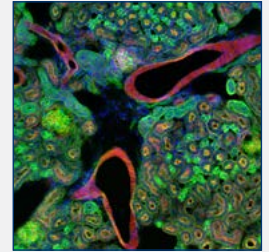
Biological upright microscopes are used within life science and in clinical environments. They are used for observing slides with sections, smears and innately transparent samples.

ZEISS AXIOLAB 5

The high-end Axiolab 5 microscope is a compact and ergonomic microscope designed for the clinical environment and routine lab work. Combine it with Axiocam 208 color for SMART microscopy, capturing crisp true-color images with a single button press. The microscope body is durable, powder-coated metal that resists staining reagents, cleaning solvents, and disinfectants.

Highlighted options:

- Brightfield, Phase contrast, darkfield, multifuorescence
- Multiple objective classes available
- Binocular or Trinocular. Angular binocular ergotube is also available
- 1,25X/2,5X/4X/10X/20X/40X/50X/63X/100X objective magnification

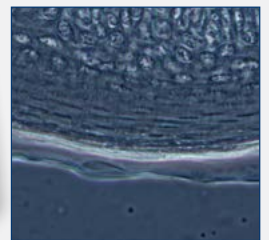
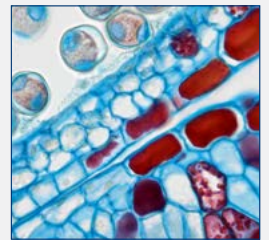


ZEISS PRIMOSTAR 3

The Primostar 3 is a sturdy upright microscope that was intended and manufactured for daily use in a school or a typical laboratory. Primostar 3 is an easy-to-use, compact, and long-lasting instrument that turns your investment into an excellent choice for long working hours even in the most space-limited environments.

Highlighted options:

- Brightfield, Phase contrast
- Binocular or Trinocular
- Fixed or Full Köhler
- 4X/10X/20X/40X/50X/100X objective magnification

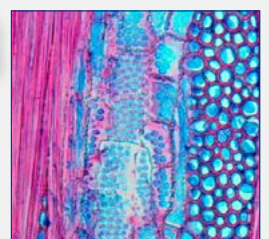
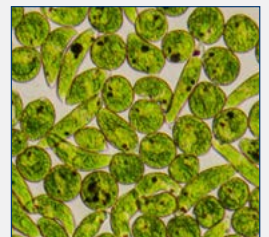


MOTIC BA310

Motic Bestseller for basic work in life science and medicine. Sections, smears and native transparent samples are displayed clearly due to good quality 4X/10X/40X and 100X objectives. Students and lab technicians benefit from the pre-installed full Köhler setup with optics and LED illumination, ready to start.

Highlighted options:

- Brightfield, Darkfield, Phase contrast, polarization
- Binocular or Trinocular



BIOLOGICAL MICROSCOPES

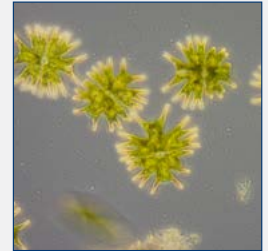
Inverted biological microscopes are used for observing living biological specimens. They are commonly used in cell culture applications, where researchers need to observe cells growing in a culture dish or other types of containers without destroying or disturbing their cells. Unlike the upright microscope, the inverted microscope has the objective lens located beneath the specimen stage while the light source and condenser are located above the stage.

ZEISS PRIMOVERT

Primovert is ideal for your cell culture facility. It allows for quick and efficient investigations of both unstained cells in phase contrast and GFP-labeled cells in fluorescence contrast, if needed. It is designed to fit easily into your laminar flow cabinet and work in a sterile environment.

Highlighted options:

- Brightfield, Phase contrast, GFP-fluorescence
- 2,5x/5x/10x/20x/40x/63x/100x objective magnification
- Binocular and Trinocular

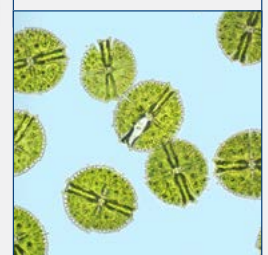
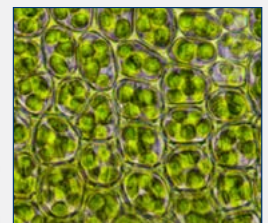


MOTIC AE2000

Inverted microscopes are used in everyday microbiology. The pre-defined optical setup with phase contrast is ready for native sample inspection. The fixed köhler illumination with interchangeable light source (HAL/LED) ensures safe and energy-efficient operation.

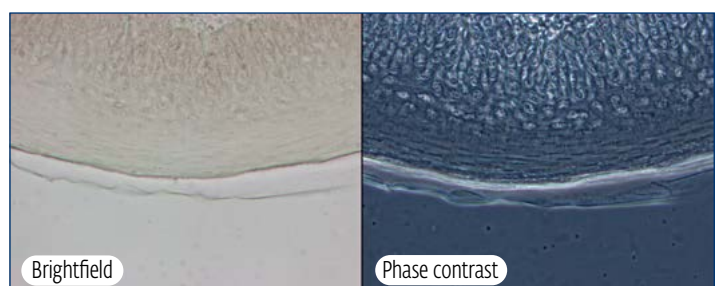
Highlighted options:

- Binocular or Trinocular
- 4x/10x/20x/40x objective magnification



Visualize your living cells with ease using phase contrast

Phase contrast is a crucial microscopy technique that enhances the contrast of images of transparent and colorless specimens, such as a cell cultures, thin tissues and microorganisms. As phase contrast microscopy does not require cells to be neither killed nor stained, the technique enables living cells to be observed in their natural state in detail.

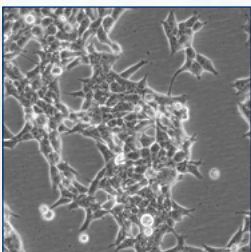
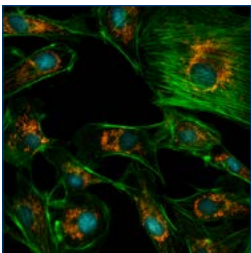


ZEISS AXIOVERT 5 / AXIOVERT 5 DIGITAL

The ZEISS Axiovert 5 High-End inverted microscope is ideal for advanced routine work in any biological laboratory. This inverted microscope can be designed and tailored to perfectly fit your application. You can have a wide selection of contrast techniques added, including multifuorescence, which is tailored to illuminate your fluorophores. Choose between a classical binocular version or a digital version with an integrated tablet solution.

Highlighted options:

- Brightfield, Phase contrast, darkfield, DIC, multifuorescence
- Multiple objective classes available
- Binocular, Trinocular, Digital, Angular binocular ergotube is also available
- 2,5x/5x/10x/20x/40x/63x/100x objective magnification



MATERIAL MICROSCOPES

Upright material microscopes are used for industrial small and thin samples. Upright material microscopes are usually a more budget friendly solution compared to inverted material microscopes and may be used for specimens that are either translucent or opaque.

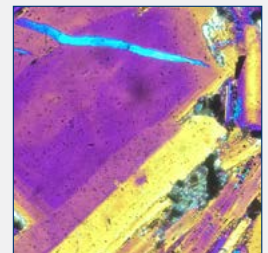
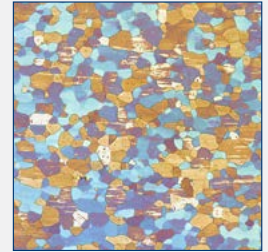
ZEISS AXIOLAB 5 MAT

Axiolab 5 MAT is made for the routine microscopy work for all types of material science. The microscope is equipped with transmitted and reflective light illumination to ensure the perfect lighting of your sample. Whether your work is material inspection, sample preparation, metallography or mineralogy, you can be ensured that all your sample features can clearly be visualized.

Combine it with Axiocam 208 color microscope camera for enhanced digital documentation. Capture crisp, true-color images with a single button press, faithfully representing the details and subtle color differences of the sample.

Highlighted options:

- Brightfield, Phase contrast, darkfield, DIC, polarization, multifuorescence
- Multiple objective classes available
- Binocular or Trinocular
- 1,25x/2,5x/4x/10x/20x/40x/50x/63x/100x objective magnification

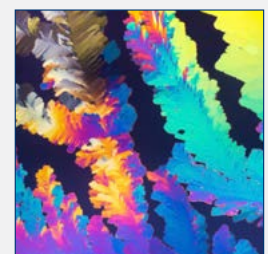
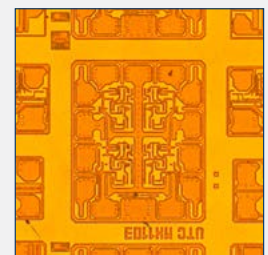


MOTIC BA310 MET & POL

The MOTIC BA310 MET & POL microscope series is an affordable and powerful line of flexible upright microscopes for incident and reflective light microscopy. The industrial quality control of opaque samples can be efficiently conducted, along with educational teaching in engineering and material professions, where affordability and ease of use are essential requirements.

Highlighted options:

- Brightfield & Polarization
- Binocular or Trinocular
- Multiple specimen stages available
- 5x/10x/20x/50x/100x objectives available



MATERIAL MICROSCOPES

Inverted material microscopes have a unique construction in which the objective lens is located beneath the specimen stage while the light source and condenser are located above the stage. This inverted arrangement allows for the investigation of thick or bulky samples that typical upright microscope cannot accommodate.

At Buch&Holm, we take pride in delivering cutting-edge solutions to meet the evolving needs of our valued customers from different industries.

In partnership with our trusted suppliers, we can offer state-of-the-art and customized industrial microscopes to ensure that the standard of your quality inspections is met. Buch & Holm can offer tailor-made solutions for metallographic, mineralogic and industrial application.

Contact Line Eliasson from Buch & Holm lel@buch-holm.dk or phone +45 44 54 00 61 and get an industrial microscope to unlock the hidden details within your sample.



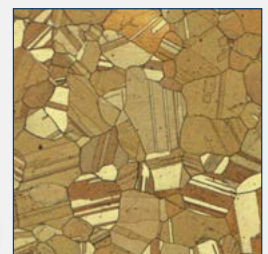
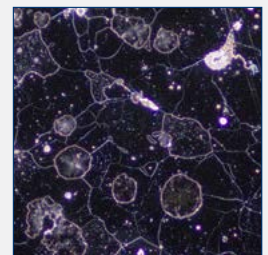
ZEISS AXIOVERT 5 & 7

If you are looking for a compact microscope that effortlessly delivers high-quality images of even bulky and heavy samples, look no further than the ZEISS Axiovert 5. This inverted microscope is a joy to use in the materials lab for everyday and research activities. The microscope is equipped with reflected light but can also be upgraded with transmitted light. Allow the system to choose appropriate settings for a constantly well-illuminated and sharp image using an ergonomic design and clever technologies.

If you want to boost productivity even more, consider a Zeiss Axiovert 7 and add additional automation features such as a motorized Z-focus and stage.

Highlighted options:

- Brightfield, darkfield, DIC & polarization
- Multiple specimen stages available
- Binocular or Trinocular
- Huge range of objectives available



STEREO MICROSCOPES

A stereo microscope provides a three-dimensional image of a specimen. A dissecting microscope or stereo zoom microscope are other names for this type of microscope.

ZEISS STEMI 305

The Stemi 305 is your compact stereo microscope with a 5:1 zoom that can be utilized in the biology classroom, research lab, or on the factory floor. Enjoy all the benefits of a simple-to-use microscope with integrated white LED illumination for reflected and transmitted light. Each image will appear crisp and clear with natural daylight color.

Highlighted options:

- Multiple built in light sources available: Ring light, goosenecks, oblique light and transmitted bottom light
- Possibility of 10-200x magnification with additional accessories!
- Binocular or Trinocular
- A wide variety of boom stands available to fit your application

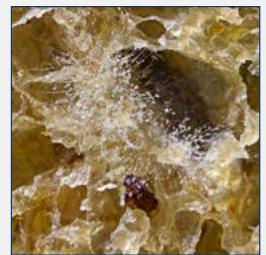
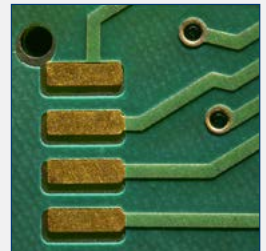


ZEISS STEMI 508

Stemi 508 is a compact, dependable stereo microscope with optics and mechanics intended for high workloads. You can notice even minute structures in high contrast thanks to the massive 8:1 zoom and apochromatic lens, and visualize your objects completely distortion-free and without any color fringes. Furthermore, the microscope is equipped with white LEDs that are noiseless and maintenance free.

Highlighted options:

- Multiple built in light sources available: Ring light, goose necks, oblique light and transmitted bottom light
- Possibility of 2-250x magnification with additional accessories!
- Binocular or Trinocular
- A wide variety of boom stands available to fit your application

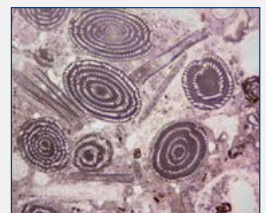


MOTIC SMZ-171

A flexible and budget friendly stereo microscope for advanced research work in biomedicine and industrial quality control with a magnification range of 7.5x-50x in a standard setup with 5 "click-stops" for defined magnifications. The microscope can be bought with or without transmitted and oblique illumination.

Highlighted options:

- Binocular or Trinocular
- Different stands are available





TECHNICAL SERVICE

A microscope is an important instrument in the day-to-day work, and we recommend an annual service check. In connection with the service call a service report is carried out, and this is used for documentation. At the annual check the microscope is cleaned, checked and lubricated carefully.

Our technician will check the following:

- Cleaning and check of lenses
- Control and test of light source
- Cleaning and test of cross table
- Adjustment of köhler alignment
- Cleaning and adjustment of condensor
- Cleaning and adjustment of ocular lenses

The above applies to basic microscopes but we also offer service agreements of more complex fluorescence microscopes, etc.

Visit our showroom in Herlev and get free expert guidance

Feel free to bring your samples and visit our showroom in Herlev! Immerse yourself in a world of wonders as you witness a dazzling array of advance microscopes on display and get hands-on with the latest microscopes from Zeiss and Motic. Step inside our facility and let our microscope expert guide you with professional insights and help you make an informed decision on your microscope purchase.



The proper illumination is essential for successful stereo microscopy. When the surface is accurately highlighted, it reveals hidden details, allowing the observer to thoroughly examine and evaluate the specimen.

However, finding the right illumination setup for your sample analysis can be a daunting task.

At Buch & Holm, we distribute Schott light sources and light guides for stereomicroscopy, which enable a solution for all lightning scenarios.

We have extensive knowledge on providing you with the very best solution for your sample analysis. If you need more information or guidance on purchasing the perfect microscope for your application, you can contact our product specialist, Line Eliasson, at +45 44 54 00 61 or via email at lel@buch-holm.dk



ILLUMINATION FOR STEREO MICROSCOPY

SCHOTT
glass made of ideas

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Schott kl fiber optic light sources

The KL Fiber Optic Light Sources offer a variety of options for cold light in microscopy. When paired with flexible SCHOTT Light Guides, the four models cater to different needs, including the compact KL 300 LED for educational and basic inspection purposes, as well as the KL 2500 LED, designed for specialized applications. In addition, we recommend the KL1500 HAL if a halogen light source is desired for better color rendering. Check out the different cold light sources on our [website](#)

Light guide add-ons:

- Brightfield and darkfield ring lights
- Line Light and transmitted light stage
- Polarization and color filters available
- 1-3 branch goose necks

Schott easyled complete systems

The SCHOTT easyLED light sources offer a selection of LED lightguides that can be directly attached to your stereo microscope without the need of a separate cold light source. This includes goose necks, ring lights, and a back light. A combination of high brightness, consistent color temperature and a long lifetime make the SCHOTT EasyLED series ideal for reliable and efficient illumination. Check our entire SCHOTT easyLED selection on our [website](#)



KL1600 LED



KL2500 LED



KL300 LED



KL 1500 HAL



EasyLED goose necks



EasyLED ring light



EasyLED back light

UNDERSTANDING LIGHT SOURCES IN STEREOMICROSCOPY

Microscopy samples vary widely, requiring diverse lighting options to reveal relevant details accurately.

Back lights for transparent samples

To illuminate samples from below, back lights are employed. Back lights are also referred to as transmitted light stages. Bright Field Back Lights are used for transparent stained specimens, whilst Dark Field Back Lights are utilized for unstained transparent specimens.

Ring lights for nontransparent samples and shadowfree illumination

A ring light is attached onto the objective and will provide a shadow free illumination of your specimen. Many ring lights can be adjusted with full circle mode, which will provide a uniform illumination. This feature is great for color analysis and image stitching. They may also have a segment mode, which enables a particular section of a ring light to illuminate. This is great for shiny samples to avoid reflections or for surface topography analysis.

Line lights for nontransparent and flat samples

If you need to enhance the visibility of fine surface structures on flat samples, a line light can be a very beneficial addition to your stereo microscopy setup. A line light illuminates the specimen with grazing light at a low angle, which enhances the contrast of small structures.

Goose necks for nontransparent samples and high versatility

With goose necks the light direction and angle can be adjusted which provides the user with a very flexible illumination method. However, the illumination is not reproducible. Depending on the angle of the light you can alter the impression of your specimen, including the contrast of surface structures.

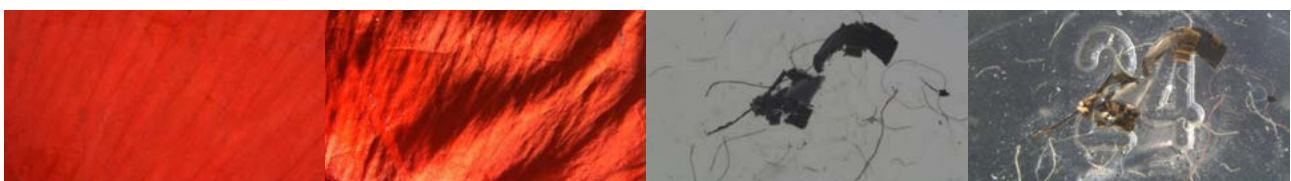


Leather - Ring light

Leather - Line light

Diode - Full circle ring light

Diode - Segmented circle ring



Corn puppy - Ring light

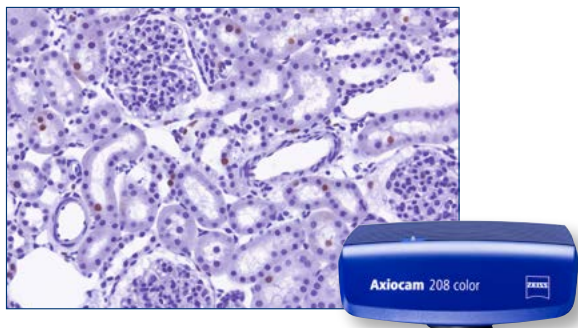
Corn Puppy - Goose necks

Plastic bottle
- transmitted light stage w. brightfield

Plastic bottle
- transmitted light stage w. darkfield

MICROSCOPE CAMERAS

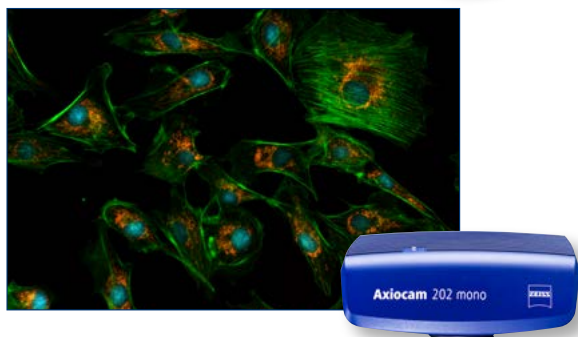
At Buch & Holm we have a strong partnership with Zeiss and Motic to ensure that we can provide you with the perfect camera to capture the right details in your sample. Due to extensive experience in microscopy, we are also able to provide you with innovative smart AI software solutions, that will make your daily lab work much more efficient.



ZEISS AXIOCAM 208

Your versatile 8 MP color camera

User-friendly and intuitive 8 MP color camera from Zeiss, which makes it possible to take both pictures and video in 4K resolution with automatic adjustment of brightness, white balance and exposure using the free ZEISS labscope software. The camera delivers images with incredible color rendering and sharpness and enables live transmission to an external monitor via HDMI, transfer to a USB port or connection to a pc.



ZEISS AXIOCAM 202

2 MP camera for capturing your fluorescent cells

User-friendly and intuitive stand-alone 2 MP black/white camera from Zeiss, which makes it possible to take both pictures and video of fluorescent cells. You can easily adjust brightness, white balance and exposure, so that you can achieve the perfect image of your fluorescent cells. In addition, the camera comes with the ZEISS Labscope software which enables many add-ons for automation (see next page).



MOTICAM PRO S5 LITE

5 MP camera with premium sensitivity

The Moticam Pro S5 cameras stand out with their sizeable 2/3" sCMOS sensor and a global shutter designed for swift capture of dynamic events. These cameras prioritize sensitivity, with a focus on applications such as fluorescence, polarization, and darkfield imaging.



MOTICAM 1080 BMH

Upgrade your microscope with a powerful LCD-screen

Build an efficient working station on your microscope, using the newly launched Moticam 1080 BMH screen. With this solution you get the powerful 6 MP microscope camera Moticam 1080 combined with an LCD-screen that can output your live images fast in full HD (1920x1080 px). The screen has built-in camera software, so you can easily make live measurements, annotations and image adjustments directly through the screen by connecting a USB mouse to the camera. With its integrated micro SD card slot, you are able to save and store your images as well.



Connect all microscopes in the classroom and share their live images with the Zeiss Digital Classroom tool. Snap, edit and discuss your results easily with your students. With an iPad, iPhone or a Windows PC combined with the Labscope Imaging Software you can transform your ZEISS microscope and ZEISS camera into a Wi-Fi-enabled imaging system, which will allow you to display all the live images from the connected microscopes.

ZEISS LABSCOPE



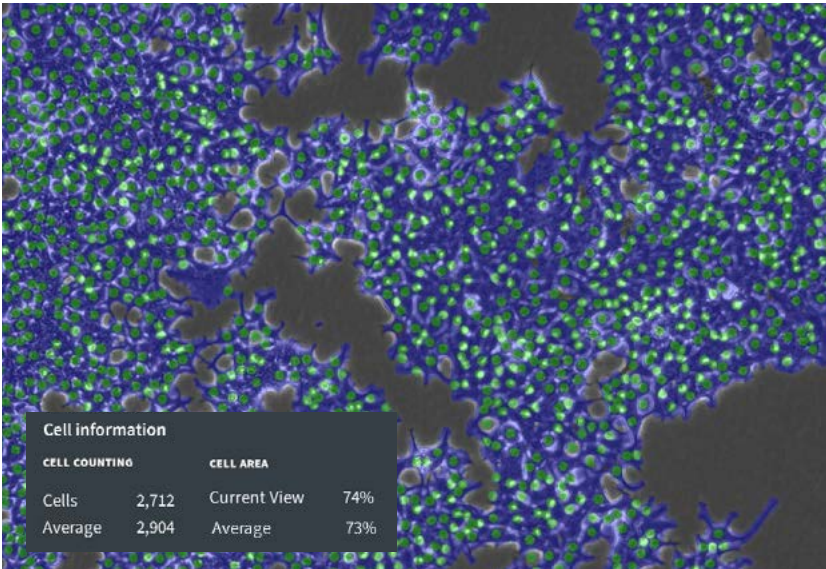
At Buch & Holm, we can provide schools and universities with inspiring educational spaces due to our **ZEISS Digital Classroom solution**. The **ZEISS digital Classroom** is a tool specifically designed for passionate teachers to inspire their students. All you need is your Zeiss Microscope, camera and the free **ZEISS Labscope** software.

The ZEISS Digital Classroom allows teachers to seamlessly connect all of their student's live microscope images and see exactly what your students are observing through their eyepieces. The teacher may also showcase a specific student's findings on the monitor for all their students to marvel at. This encourages students to actively share their work and observe and discuss each other's findings.

Reproduce your results with Zeiss' AI automation solutions

Save yourself from time-consuming and labor-intensive processes in front of your microscope. Use AI to automatically assess cell count and cell area coverage with ZEISS Labscope imaging software.

Simply move your cell culture sample from one area to another, taking images as you go. Using artificial intelligence, the percentage of cell coverage in your cell dish is automatically and instantly displayed. The AI will even take possible inhomogeneities of the sample into account.



MICROSCOPY EQUIPMENT

Buch & Holm has a broad selection of microscopy equipment, including slides, storage solutions, immersion oils and beyond. Delve into our finest selection of microscopy tools, designed to enhance details in your microscope sample.

Microscope slides

Through our partnership with Epredia, we can offer high-quality microscope slides made of low-iron, optically clear, extra-white soda lime glass manufactured to high quality standards. This ensures optimal clarity when viewing your microscope image. All slides are pre-cleaned, thin, flat and can feature finely ground edges. We also have a wide variety of coverslips in different sizes and shapes for optimal cover of your microscope slide. In addition, we have many microscope slide storage solutions. See the full product range on our [website](#).

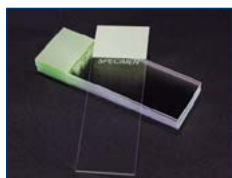


EPREDIA BASIC SLIDES



Plain slides

These slides feature a smooth, unfrosted surface, ensuring optimal performance and versatility in various scientific analyses. Used for applications in haematology, microbiology, and urinalysis, among other general laboratory and research uses.



Superfrost slides

Superfrost slides features a durable, easy to write, print and read tab, which can be purchased in many colors. Printed tab is impervious to virtually all common laboratory chemicals and reagents.

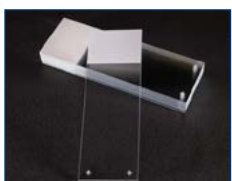


Epredia diagnostic slides

Epredia Specialty Slides are clean, wettable printed slides with a super hydrophobic mask. This involves laser etching of the glass slide and/or printed ink surface to form micro-lines and patterns. Localize cells in an easily identifiable area on the slide surface with Epredia diagnostic slides.

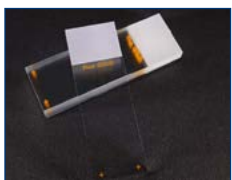
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EPREDIA ADHESION SLIDES



Superfrost PLUS slides

Superfrost PLUS adhesion slides are designed to secure tissue sections without the need for laboratory-applied coatings. Slides secure frozen and formalin-fixed, paraffin embedded tissue sections as well as cytology preparations. Tissue loss during staining can be minimized thereby resulting in rapid turnaround times and reduced risk associated with tissue loss and repeat testing.



Epredia Superfrost PLUS adhesion slides

Complex adhesion technology which attracts and chemically bonds fresh or formalin-fixed frozen tissue sections firmly to the surface of the slide. Recommended for hard-to-hold tissue samples like bone, brain, breast and skin.

ZEISS IMMERSION OILS



At Buch & Holm we have high-quality Immersion oils from Zeiss, that allows you to take full advantage of your microscope's oil objectives to reveal fine details in your image. Choose Zeiss Immersion oil Immersol 518 N for standard microscopy applications and Immersol 518 F for fluorescence microscopy. See the complete range of Zeiss immersion oils on our [website](#).

MICROSCOPY EQUIPMENT

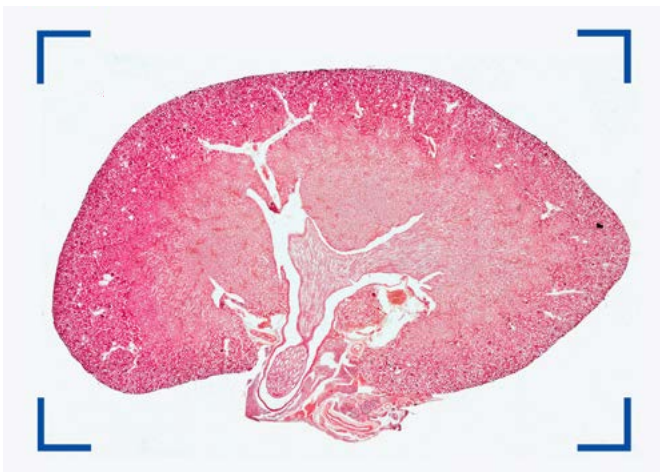
Buch & Holm can enhance your microscopy experience by providing excellent ergonomic solutions. Our range includes state-of-the-art microscopy tables from Zystm, as well as Zeiss microscopes equipped with angular adjustable binocular heads, ensuring optimal comfort and usability.

ZYSTM MICROSCOPY TABLES

Experience the ultimate comfort in your microscopy routine!

We distribute Zystm microscopy tables, designed to elevating the ergonomics and comfort of routine microscopy users. The tables are built with 3 individual tabletops, which are adjusted in height with a gentle press on the control panel. The armrests are mounted on the 2 side panels, providing the greatest stability to the table where the microscope is placed. The armrests can be individually adjusted in height and angle relative to the tabletop.

The columns of the table are equipped with an electrically driven spindle motor, ensuring stable and secure movement. The design ensures that the product can be used in GMO (Genetically Modified Organisms) areas. All surfaces are smooth and withstand professional cleaning.

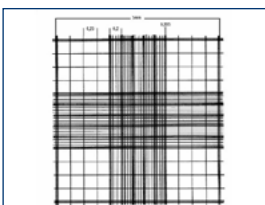


Did you know that you can turn your microscope into a whole slide scanner?

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