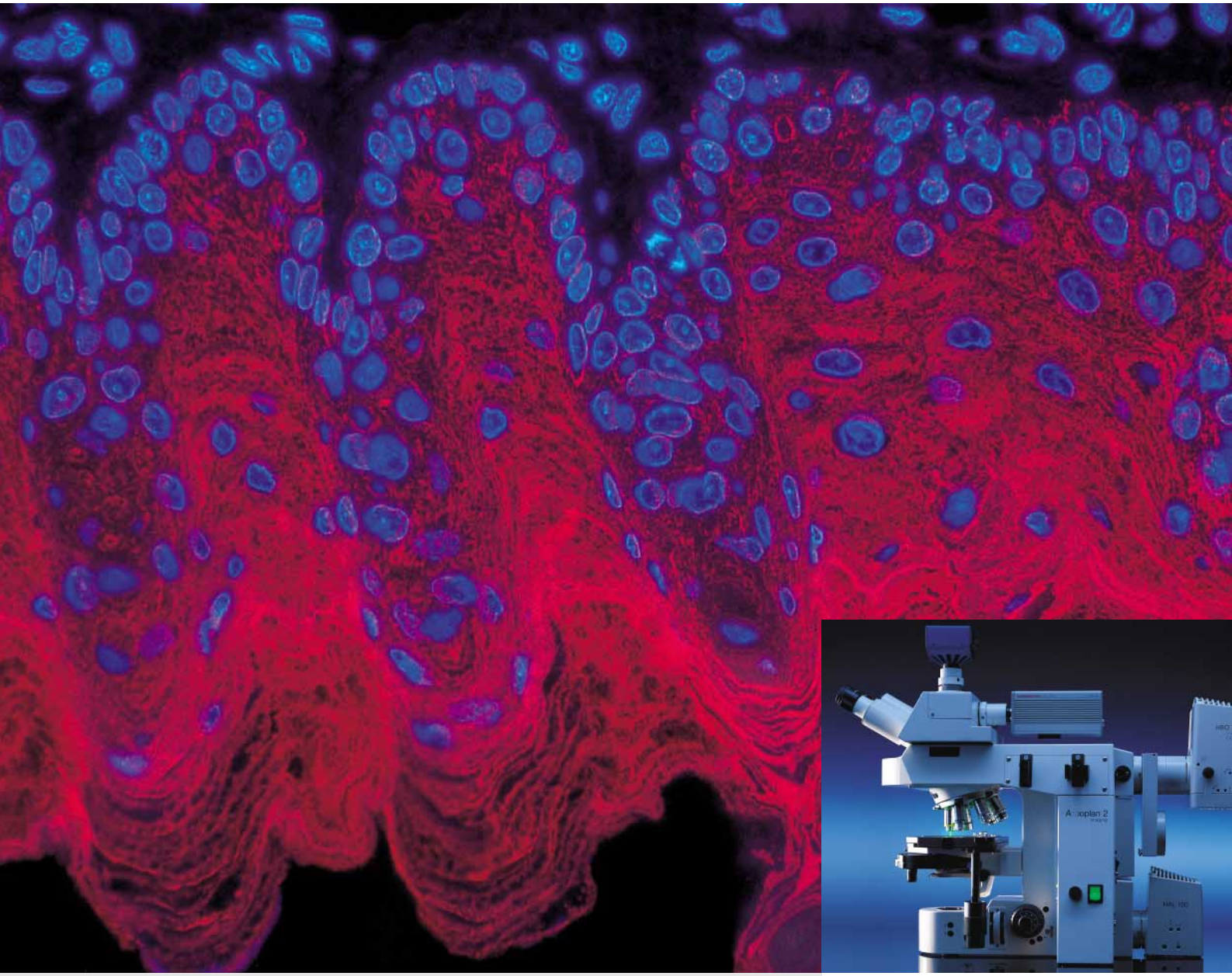
Axioplan 2 imaging

The Universal Microscope System



Microscopy with digital perfection

ZEISS

Axioplan 2 imaging

As we start a new millennium, we also enter a new age of microscopy – the age of digital technology. As with many major milestones in the history of microscopy, Carl Zeiss is at the forefront, leading the digital revolution. To meet the challenges of this new age, we have created **Axioplan 2 imaging**, a flexible microscope system designed for the future. An exciting single solution with infinite flexibility that can be tailored to every application. Computer-controlled or operated manually, this microscope not only captures and stores images digitally and with brilliant precision, it can also communicate with other systems. **Axioplan 2 imaging**: the high-performance, high-flexibility microscope system that guarantees new heights in success.

So: If you want to stay in the lead in the digital age, you need a reliable partner. One who can always meet the latest demanding requirements in research and routine microscopy. One who is always up to date with the rapid developments in technology. With more than 150 years of experience in microscope making, with unquestioned leadership in practice-oriented software and with its highly competent sales and service organization, Carl Zeiss is this partner. Turn to Carl Zeiss for solutions that ensure you accomplish the tasks of today and tomorrow – from simple image handling to complex image analysis problems.

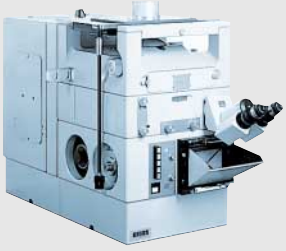
Milestones

In 1847, Carl Zeiss sold his first microscope to a scientist. Since then, the company he founded has been a leading player in microscope development worldwide. Time and again, Zeiss innovations have set new standards in research and routine microscopy.

Lumipan

1925
The Carl Zeiss company develops the first reflected-light microscope with infinity optics.

1939
A universal microscope ushers in the modern era in microscopy: the **Lumipan** stand.



Axiomat

1958
Sets new standards in microscope design: The **Universal** Research Microscope, still indispensable in many laboratories.

1973
A completely new stand and legendary quality: **Axiomat**. Over and above its revolutionary design, it features infinity optics for all microscopical techniques.

Axioplan

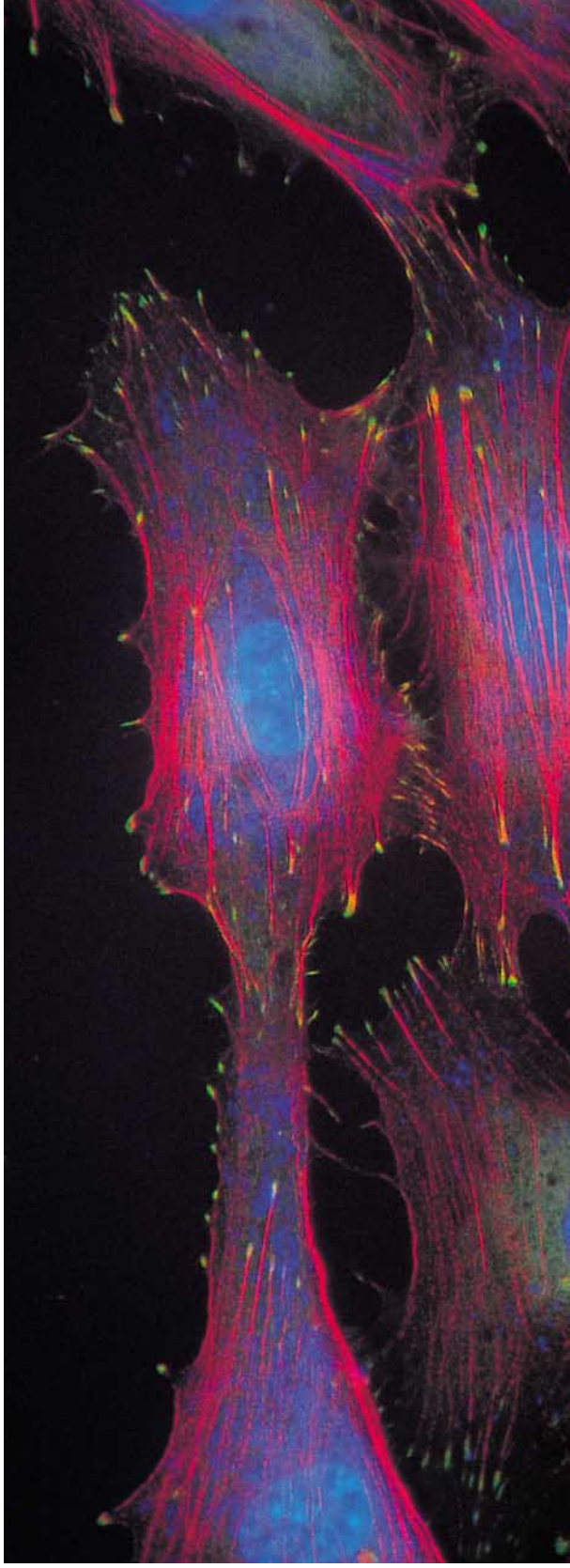
1986
The infinity optics principle brought to perfection: **Axioplan** and **Axiophot**. Technical innovations and unprecedented ergonomic advantages set new standards.

2000
Subject to continuous optimization and updating, thousands of these "pyramids" are doing excellent service around the world. Today's top model: **Axioplan 2 imaging**.


AxioCam
ZEISS
ZEISS


AxioVision 2.0 - [C:\Multi Channel image.zvi]
Mikroskop
Kamera
Skalierungen
Aufnahme
Bildverarbeitung
Erweiterte Tiefenschärfe
Mehrkanalaufnahme
Skalierung
1 2 3 4 5 6 7 8
Belichtungszeit
Auto
Mikroskopeinstellungen
Während Aufnahme
DAPI
Setzen
Zwischen Aufnahmen
Alexa 488
Setzen
Einstellungen bei Aufnahme verwenden
Aufnehmen
Alle aufnehmen
Löschen
Live
60 µm
SIEMENS

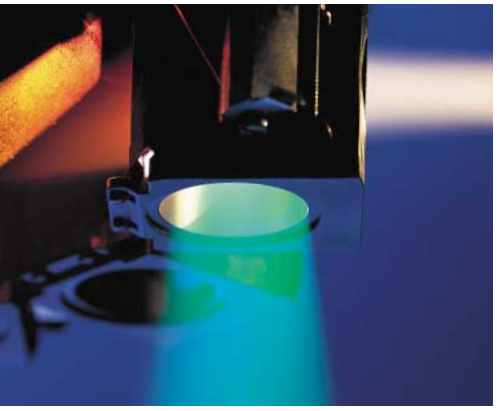
Axioplan 2 imaging – Fluorescence



High performance in fluorescence must be expected of any microscope that claims to meet your highest expectations. With its optics of high light transmission and the precision of its innovative mechanisms, the new **Axioplan 2 imaging** provides everything that fluorescence microscopists could ever want: Perfect, high-contrast images and maximum system stability in multichannel fluorescence applications.

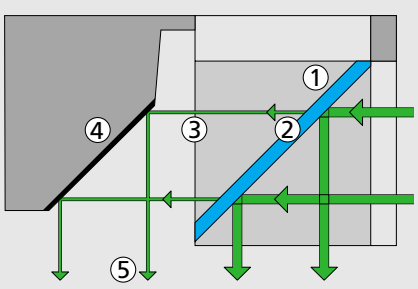
Simply brilliant: The Light Trap

The quality of a fluorescence image hinges on contrast, or signal-to-noise ratio. However good the light-gathering power of the objective, the quality of the reflected light beam or the signal selectivity of the filter set may be, any compromise at the cost of contrast would impair the system's detection sensitivity and consequently the identification of image details. **Axioplan 2 imaging** solves the problem with the proprietary "Light Trap". This unparalleled Carl Zeiss invention with its new filter cubes open at the rear removes stray light from the imaging beam path, thus substantially curtailing background noise.

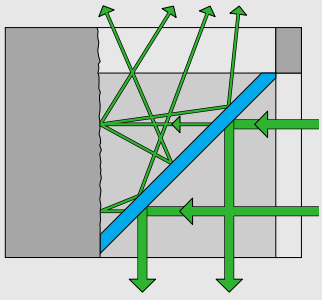


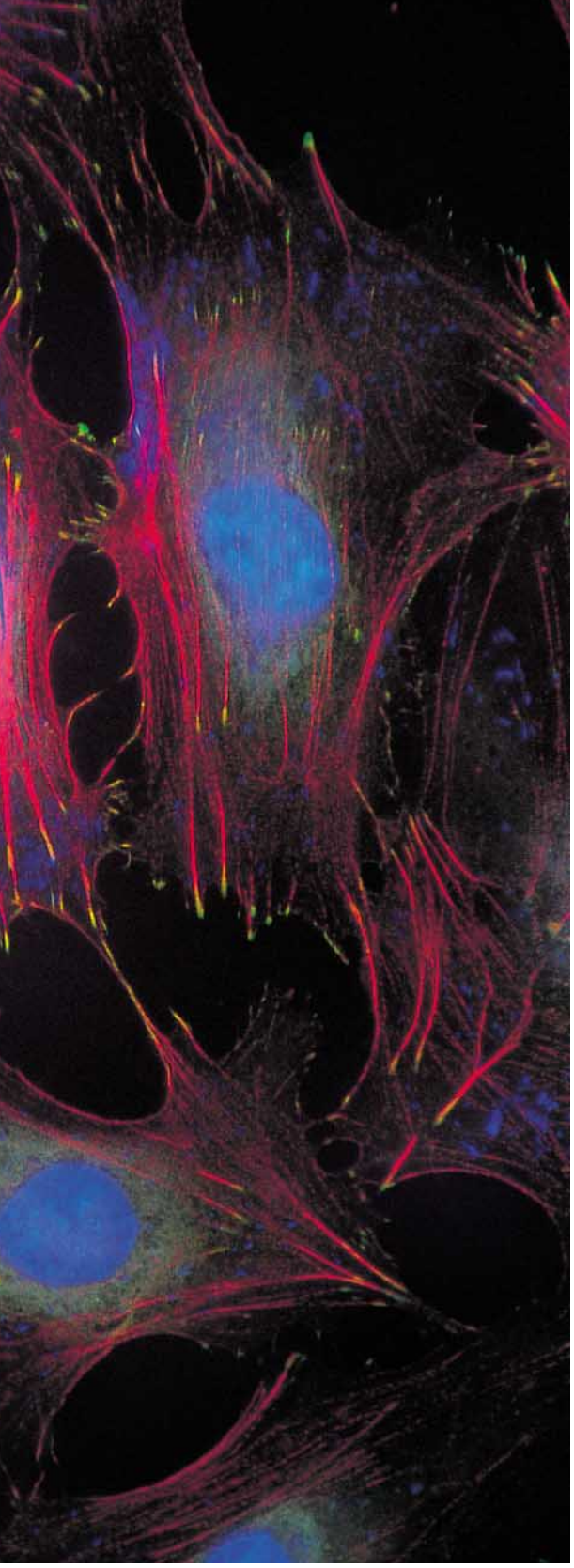
Stray radiation passes a dichroic mirror (2), and leaves the filter cube (1) on a direct path via the rear opening (3). The tapered mount (4) of the filter cube then deflects it out of the beam path (5). The results: Substantially enhanced contrast, images of greater definition and brilliance, and higher sensitivity

Beam path with Light Trap



Beam path in a conventional reflector module





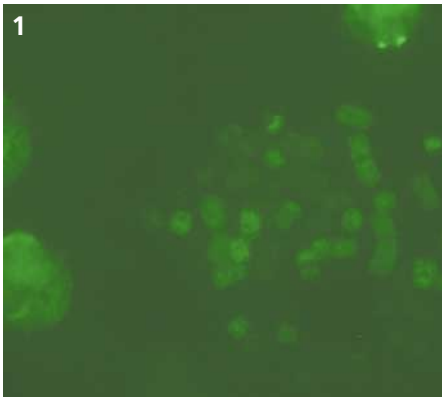
Bright And Brilliant

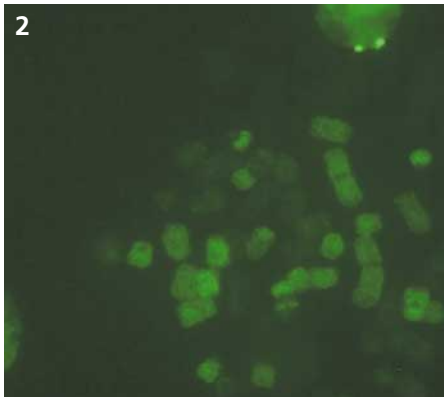
Perfect in every dimension: The new optics

The superbly corrected optics of **Axioplan 2 imaging** guarantee optimal chromatically corrected illumination in the image plane. Where light intensities are very low, an optional 5-element chromatic collector further enhances the illumination homogeneity. Improving color correction, it assures maximum excitation and, as a result, maximum emission. High-performance filters made to very close tolerances help avoid pixel shifts. The newly designed reflected-light beam path allows the system to be tailored either for best transmission or for diffraction-limited imaging of the field diaphragm. Thanks to interchangeable diaphragm sliders, the user can select diaphragm formats or modules.

◁ *Human endothelium cells. Quadruple fluorescence: DAPI, Alexa 350, Alexa 488, Phalloidin-Alexa 594. Plan-Neofluar 63/1.25 oil. J. Zbaeren, Insel Hospital, Bern*

The decisive gain in contrast: FITC fluorescence micrograph without Light Trap (1), with Light Trap (2)



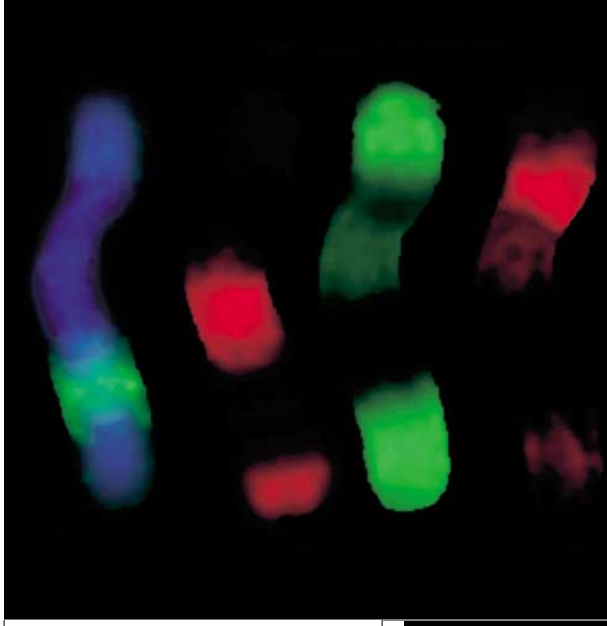


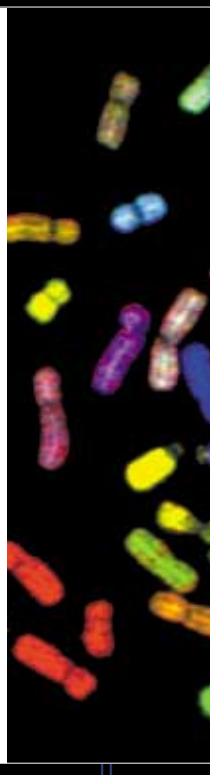
Axioplan 2 imaging – Fluorescence

Multichannel fluorescence is playing an increasingly important role in research, whether used alone or in combination with other optical methods. There is a current trend, for example, from single channel FISH (fluorescence in-situ hybridization) to multicolor FISH, where combinations of up to seven fluorochromes yield 24 colors for automatic chromosome analysis. In many research labs, different mutants of fluorescent proteins are combined with standard fluorescent dyes. So it is becoming more and more important to have six or more positions on the filter turret. With **Axioplan 2 imaging**, you have eight.

With 8 positions in the lead: Filters and filter turret

Eight filter places, easily accessible in a compact turret without compromising the full 25 mm field of view: This is top performance combined with unequalled flexibility. You can insert a wide range of dichroic mirror-emission filter combinations, Optovar modules and a DIC analyzer for convenient change. If you install the optional external filter changer, you can use up to eight excitation filters as well.

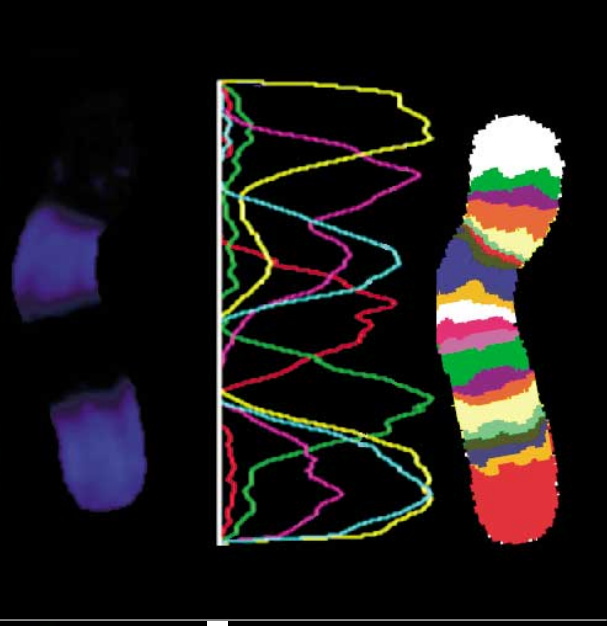




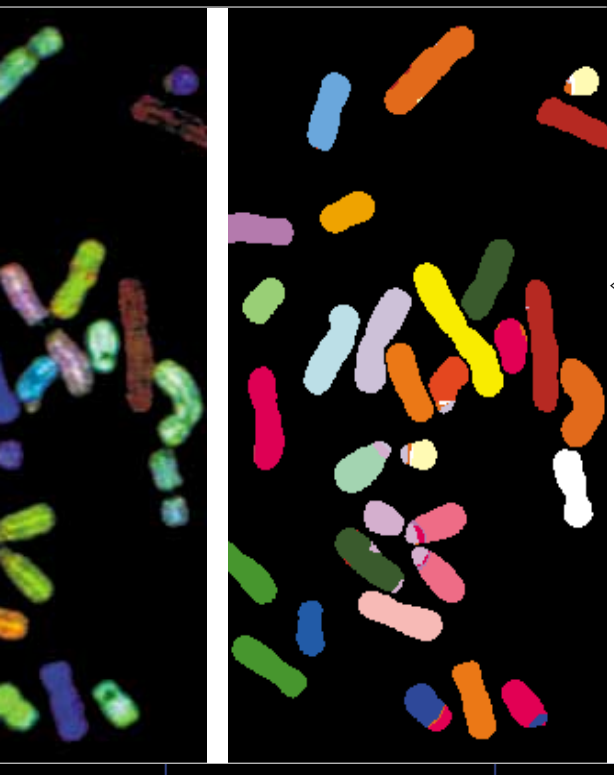
With the Push&Click mechanism, filter cubes are changed within seconds.

Fast access to the right filter set: the filter wheel with 8 positions for Push&Click filter cubes

Number One In Performance And Flexibility

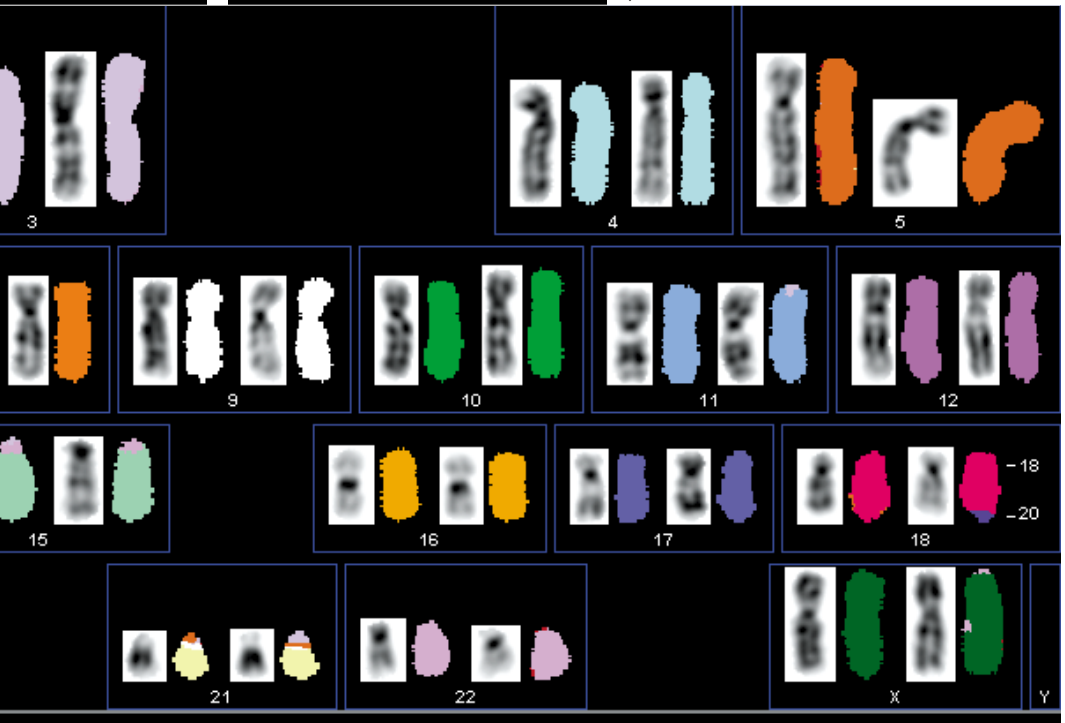


High-resolution four-color banding of human chromosomes. Dr. I. Chudoba, Institute of Human Genetics, Jena, and MetaSystems, Altlussheim



◁ *Metaphase. Left to right: Inverted and band-enhanced DAPI counterstaining; RGB presentation; classified pseudocolor presentation*

Chart of chromosome karyotypes. Comparison of DAPI counterstaining and classified chromosomes. Dr. Köhler, Applied Spectral Imaging ▽



Fast changeover: Push&Click

With so many options to choose from, flexibility is the key. The new, cube-mounted filter sets can be quickly removed or added to the **Axioplan 2 imaging** filter turret. No more screws, no problems with alignment: The practical Push&Click mechanism ensures the filters are correctly positioned and held securely in place.

Axioplan 2 imaging – Fluorescence

Research assignments pose formidable challenges to both people and equipment. **Axioplan 2 imaging** brilliantly satisfies the demands placed on a microscopy workplace. It is the researcher's ideal partner when it comes to getting the best results.

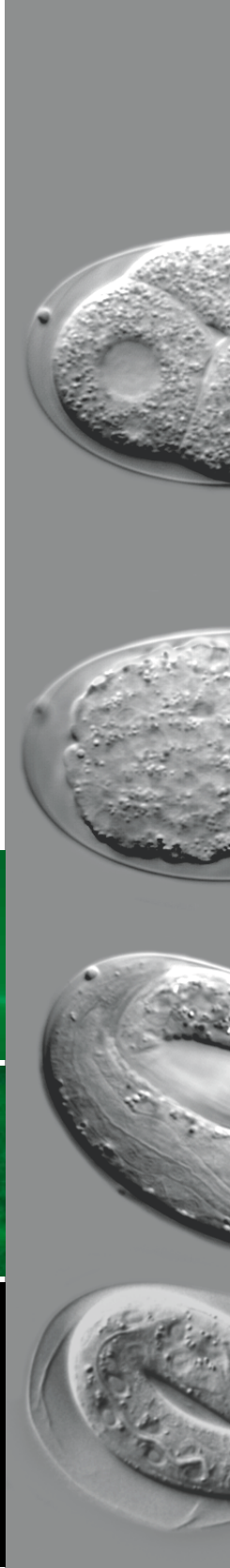
Differentiation by better contrast: DIC with a memory

For studies in developmental biology using DIC microscopy, the maximum in resolution and contrast is only just good enough. To achieve this, all parts of the instrument must be perfectly tuned to each other – as is the case with **Axioplan 2 imaging**. For every objective, there is a specially matched DIC slider, including one with Sénarmont contrasting. Once the DIC slider has been set, the objective will keep the setting in mind.

Axioplan 2 imaging comes with an extensive range of ICS objectives of renowned, continuously optimized Zeiss quality, with superb contrast and resolution. One of them will be ideally suited to your current application, whatever it may be.

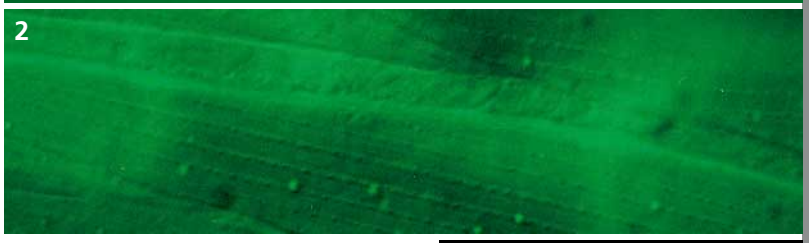
Turn minimum signals into maximum results: Zeiss optics

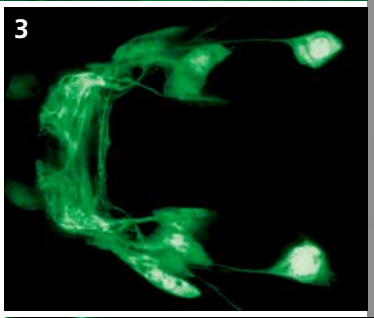
Suppose you want to observe signals at a cell membrane or flows inside a cell, or investigate the presence of GFP in, or GFP transport between, specific cell compartments. No matter whether the emission signal comes from a fluorescence-labeled antibody, an ion-depicting dye or another specific marker, it is too faint to be detectable with optics of any but the highest performance. Objectives from Carl Zeiss feature highest NA (limited only by the laws of physics), ideal chromatic correction and image flattening, and the very best transmission properties for visible light, UV and IR imaging. In short: maximum performance for every application.

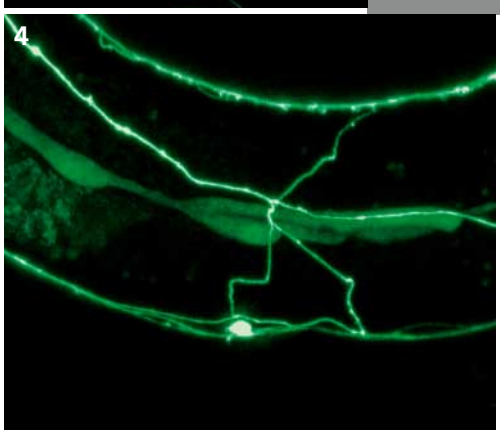


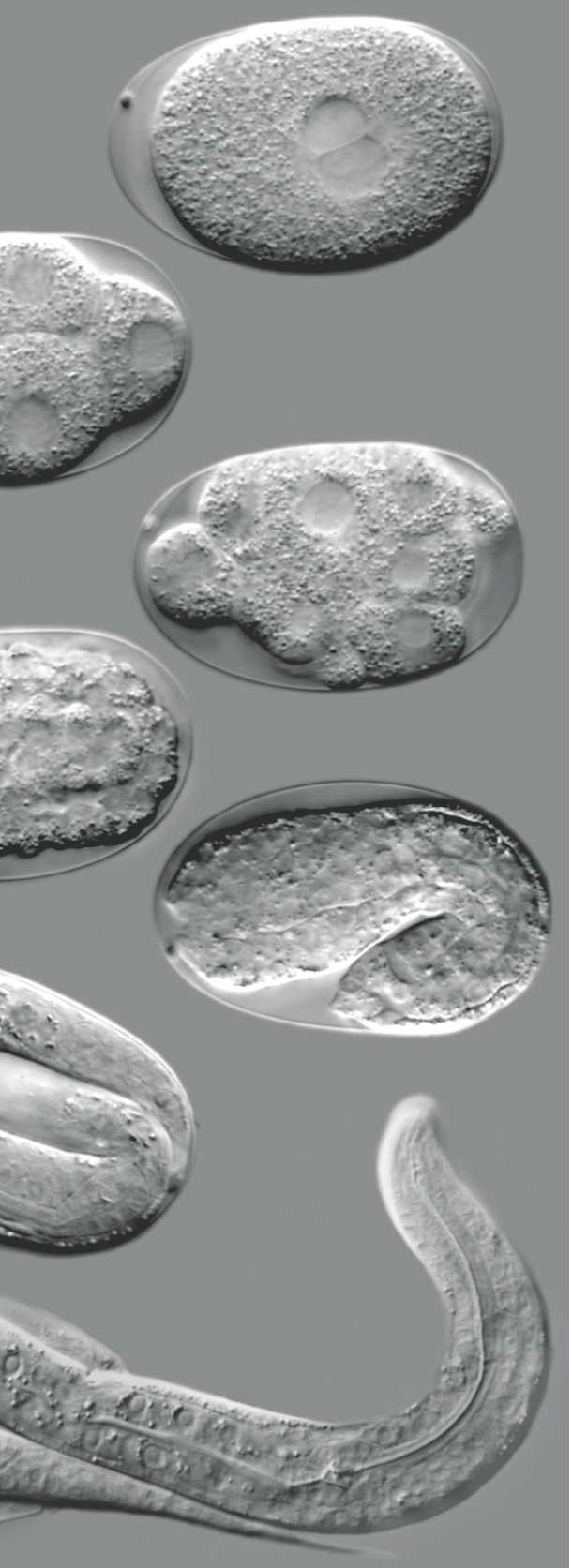
Development stadia of C. elegans. DIC. Prof. Schnabel, Braunschweig University of Technology

1–5
C. elegans. GFP-labeled neurons.
H. Hutter, MPI Heidelberg









5

Focus On Research

Perfect specimen protection: The high-speed shutter

The microscopy of live objects is particularly demanding. In order to get the best images, specimens must be treated with the least possible damage. The motorized high-speed shutter of **Axioplan 2 imaging** provides a superb advantage in fluorescence work. With shutter speeds down to a few microseconds, it is the perfect solution for GFP images of living systems. Simply leave the light source on and control exposure time with the shutter. This reduces bleaching and phototoxicity of the specimen.

Fast but gentle: The SoftStop function

With the new SoftStop function, you can change reflector modules and objectives within fractions of a second. This will save valuable time, especially in automated processes. In addition, a special algorithm prevents switching oscillations otherwise inevitable at such speeds – a feature that is easy on your microscope and your specimens.

Correct excitation: AttoArc 2

With AttoArc 2 you can control the intensity of the excitation light via the brightness of the lamp source. As a result, you automatically get signals of the intensity needed for documentation. In computer-controlled multichannel fluorescence work, the light intensity will be automatically adjusted from channel to channel. Whether with manual or digital control, AttoArc 2 will always provide signals of optimum strength. And this means perfect results.

Electronic dimmer for high-pressure lamps: AttoArc 2

Axioplan 2 imaging – ICS Optics

Infinity optics were designed in the early 1930s on the basis of August Köhler's concepts and calculations. But it took the invention of ICS (Infinity Color-corrected System) in 1986 to make this type of optics the core of a complete range of instruments.

ICS optics aim at achieving the best possible performance with the least possible number of optical elements. As every optical element contributes to limiting the system's light transmission, minimizing the number of optical components means maximizing the overall optical performance.

ICS optics and SI (System Integration) stand design have brought about visible improvements in optical performance with regard to image contrast, brightness and detail resolution. Today, after more than a decade, the ICS concept is still unsurpassed. With continued upgrading of the imaging elements and advanced manufacturing processes, ICS optics have become indispensable for providing the high apertures and long working distances needed for the applications of today and tomorrow.

Plan-Neofluar objectives

Fluar objectives

C-Apochromat objectives

Plan-Apochromat objectives

Limited Only By The Laws Of Physics

1) Mycelia.
Grocott silvering.
Prof. Höfler, Munich
University of Technology

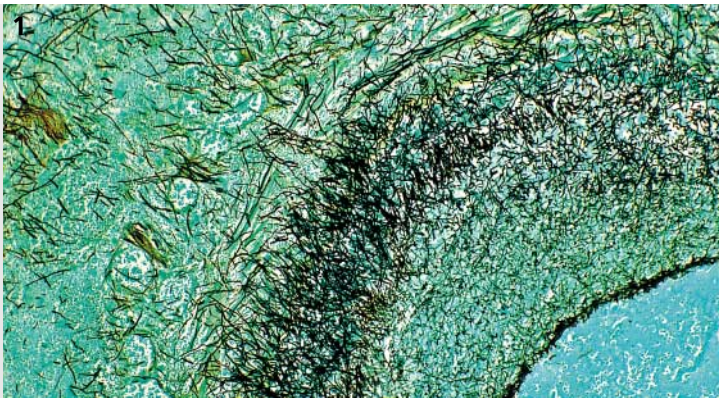
2) Salivary gland of a drosophila.
GFP labeling

3) Cell nuclei and mitosis.
Triple fluorescence.
Dr. Beensen,
Friedrich Schiller University, Jena

4) Embryo of C. elegans. DIC.
Prof. Schnabel, Braunschweig
University of Technology

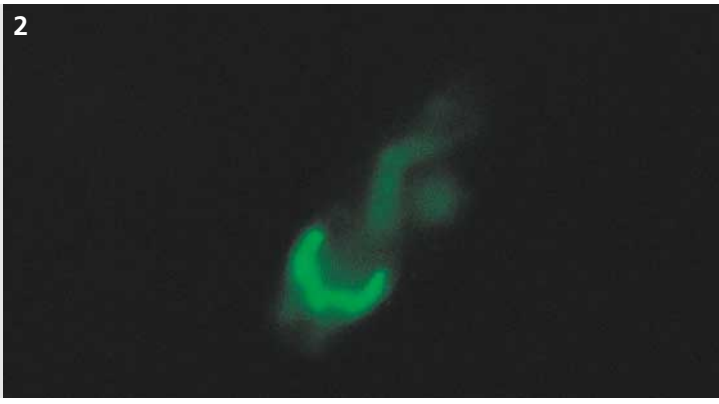
Allrounders

If flexibility and a wide range of techniques are required, universal semi-apochromatic Plan-Neofluar objectives are the answer. With transmission from the near UV, semi-apochromatic correction, excellent image flattening, optimum working distances, low strain and high numerical apertures, they are ideal for brightfield, darkfield, phase contrast, DIC, polarization and fluorescence. High contrast makes them perfect for capturing sharp, clear images for post processing and subsequent analysis.



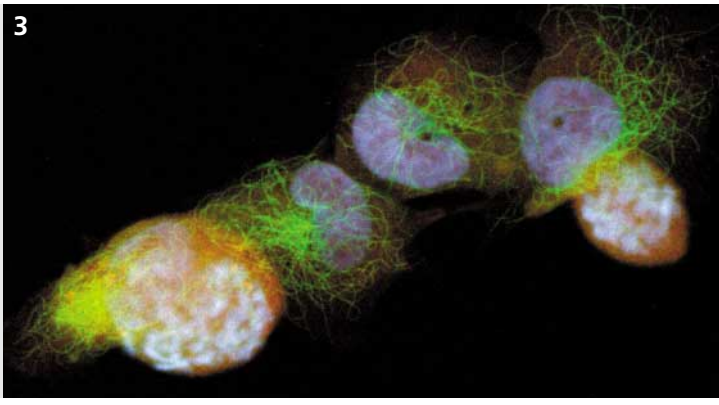
Photon counters

The Fluar range is designed for maximum transmission and photon collection. Constructed from special optical glass, these objectives feature high numerical apertures and high contrast, ensuring the best light transmission throughout the visible spectral range down to the near UV. Fluar objectives are your best choice if you want to capture even the faintest fluorescence signal.



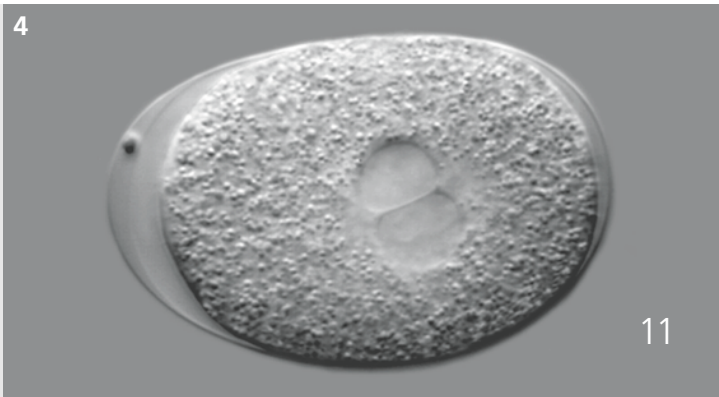
Immersion specialists

For the examination of living organisms and immersion preparations, you need high-performance objectives capable of optically compensating differing refractive indices and volumes of the media involved. These requirements are best met by the special family of Multi-Immersion Plan Neofluar objectives or the apochromatically corrected C-Apo family for the most demanding applications. Both will always give you brilliant images.



Top performers

Thanks to the combination of best color correction with highest numerical apertures, Plan-Apochromat objectives provide the ultimate in resolution, image definition, and rendition of subtlest color differences. With their large apertures, they deliver outstanding brightfield and DIC images and perform brilliantly in fluorescence microscopy.



Axioplan 2 imaging – The Digital Imaging Platform

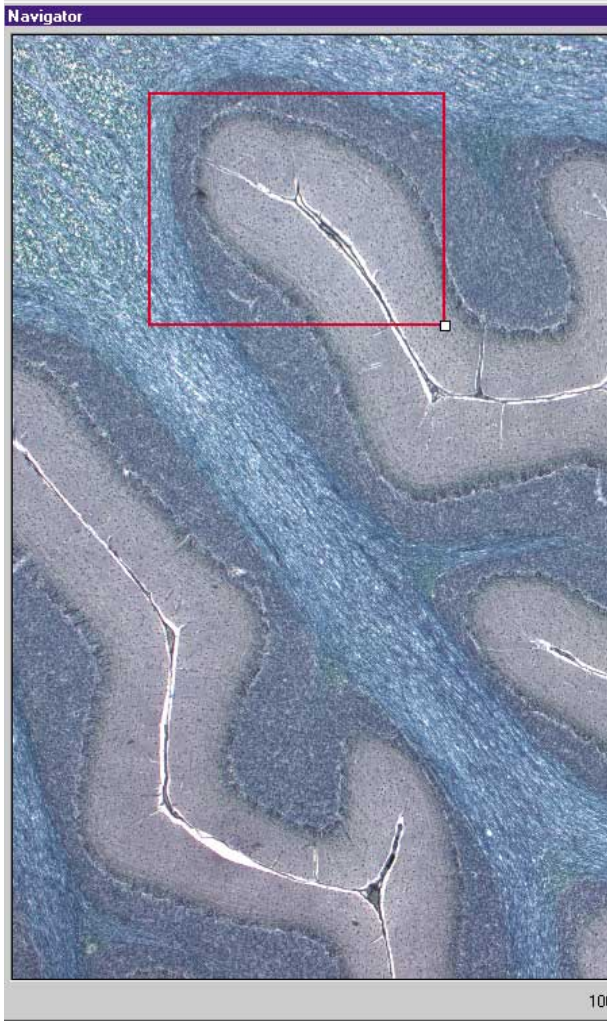
AxioCam + **Axioplan 2 imaging** – the ideal combination of high-end camera and microscope – provide you with a digital imaging workstation unparalleled in perfection and convenience. No films, no time lost with processing – the images are available immediately on a PC screen, perfectly resolved with up to 3900 x 3090 non-interpolated pixels per color channel.

The programmable resolution of AxioCam not only ensures perfect documentation but also allows you to digitize the maximum available optical resolution without any losses. This produces brilliant digital image files with the resolution of traditional transparencies – ideal for printed publications and your notes, workbooks or records. Of course, they can be incorporated into your web site or sent by e-mail.

AxioCam can be used with a wide range of tubes and adapters for micrography. Together with a useful device called the port replicator, this allows you to expand your system with video cameras, digital compact cameras or other advanced imagers – meaning that your system is one hundred percent future-safe.

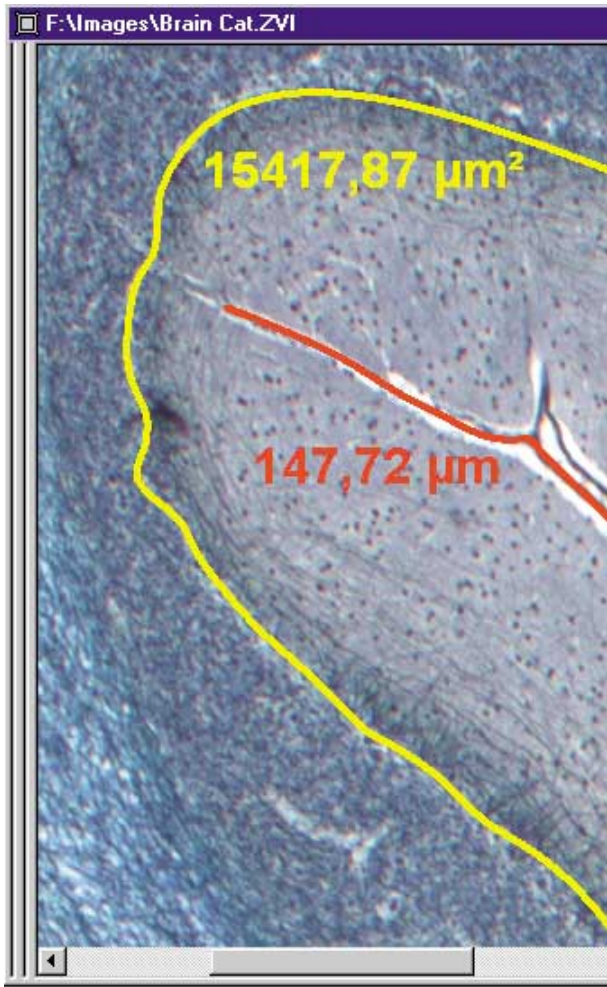
Digital micrography: Image quality with AxioCam perfection

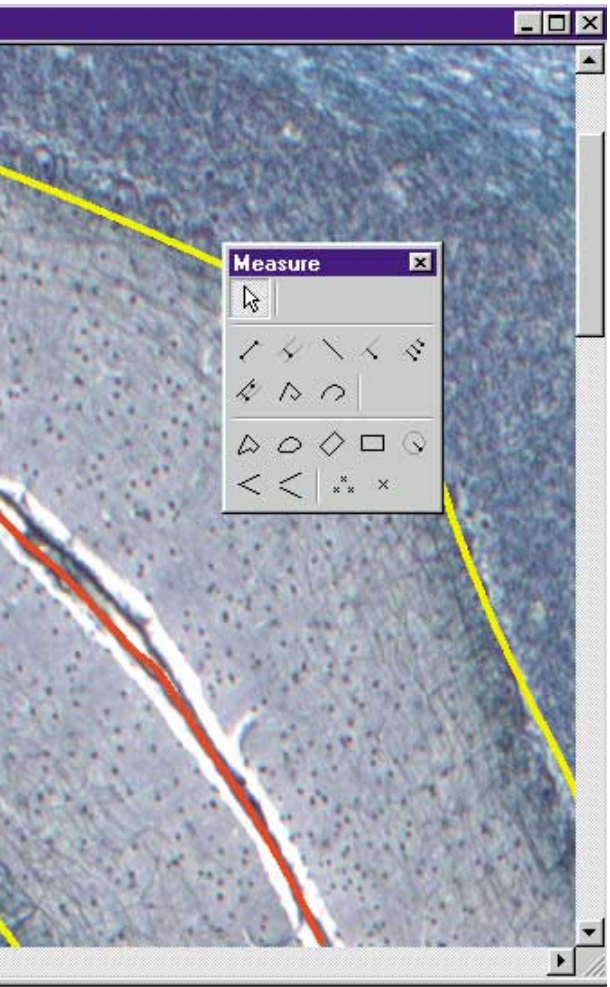
For top-quality digital images, whether in color or black&white, AxioCam is the optimum imager for **Axioplan 2 imaging**. A camera designed by Carl Zeiss to meet the requirements of microscopy one hundred percent. Perfect image quality is ensured by a sophisticated electronic system composed of first-grade devices, including a 14-bit analog-to-digital converter. The camera is connected via glass fiber cable so as to be isolated from ambient interferences. Cooled by a Peltier element, the CCD image sensor is kept free from disturbing effects, so that even long exposures needed for very faint fluorescences produce images of excellent quality. AxioCam is the perfect digital choice for brightfield and DIC micrography. It is amazing how well it performs with single- and multichannel fluorescence; in the black&white configuration, it satisfies even the most exacting demands.



Overall view

Selective enlargement





Cat's cerebellum.
Silver staining.
J. Zbaeren,
Insel Hospital, Bern

Brilliant Captures

Dual capability with many benefits: The multi-imaging tube

Want to use a video camera and a digital camera in parallel? Split up fluorescence signals according to wavelength and document the image at the same time? The new motorized multi-imaging tube, with ports for two cameras, makes it possible. Equipped with a software control interface, with XY camera positioning to ensure perfect image overlay and with a neutral beam splitter mirror in the Push&Click module, which you can replace with a dichroic mirror, the multi-imaging tube opens up any documentation road you want to go – with full automation.

Added flexibility: The dual video adapter

In addition to the binocular or multi-imaging tube, the dual video adapter provides another optical port. For wavelength selection, you can easily replace the neutral beam splitter with a dichroic mirror, using the Push&Click mechanism just as with the multi-imaging tube.
That means that you can assemble the exact system you need for your specific application.

Top:
Axioplan 2 imaging with motorized multi-imaging tube and dual video adapter

Bottom:
Axioplan 2 imaging with motorized multi-imaging tube

Axioplan 2 imaging – Motorization

Whether manually controlled or motorized, **Axioplan 2 imaging** lets you decide precisely which configuration suits your routine or research tasks best.

Simple and clever: SmartContrast

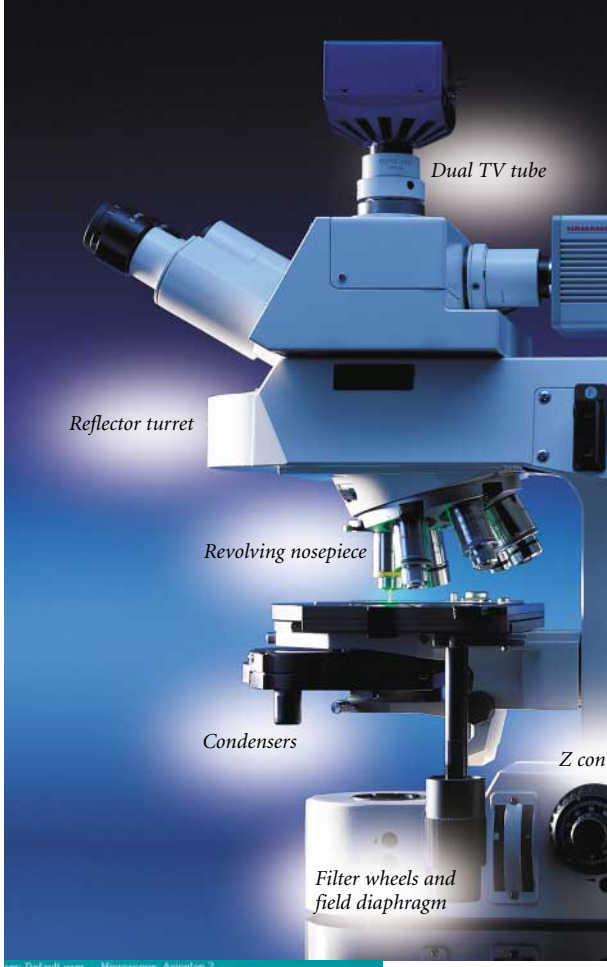
Precise images require precise microscope settings. Every time you change an objective or a contrasting technique, you need to readjust the light source, brightness, filters and diaphragms. **Axioplan 2 imaging** saves you much of the effort and time involved: The new SmartContrast feature and the motorized DIC condenser allow you to save your favored settings and automatically retrieve them time and again – for every objective and every contrast technique. For example, change from 40x DIC to 40x FITC – at the touch of a single button!

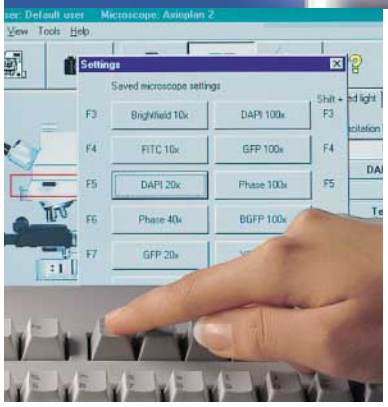
Precisely in focus: The third dimension

Maximum resolution governs the third dimension as well: **Axioplan 2 imaging** combines minute, discrete focusing steps with motorized speed, satisfying the most exacting requirements of 3D imaging. Manual focusing is supported by programmable step sizes and separate coarse and fine focusing knobs – a first for a motorized microscope. Precision and repeatability at their finest!

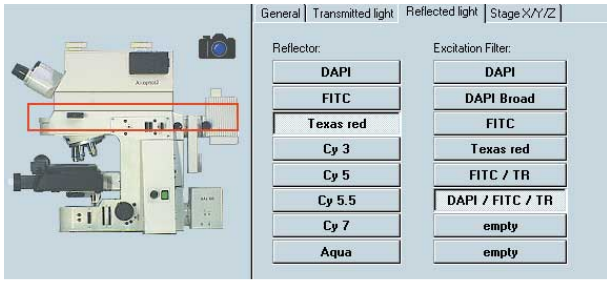
Automated convenience: Motorized scanning stages

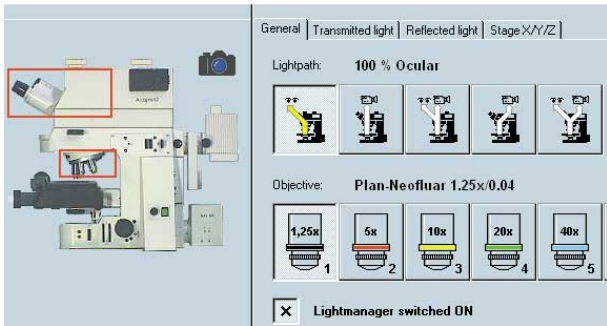
Motorized scanning stages open up almost unlimited possibilities: Let **Axioplan 2 imaging** scan your specimens overnight; detect, select, locate and group predefined patterns with the intelligent image processing software; effect chromosome karyotyping; produce a high-resolution scan of your specimen, control the microscope remotely, or automatically track the growth of live cells beyond the margin of the visual field. Microscopy unlimited in time and space!





The graphic operator interface of AxioVision Control





The motorized components of Axioplan 2 imaging Mot

Perfection The Automatic Way

Supports your success: Repeatability

The brilliance of images is one of the two decisive quality criteria in microscopy. Reliable repeatability is the other. With its coded and motorized stands and components, **Axioplan 2 imaging** not only ensures exact documentation of your experiments but also allows all settings made to be exactly reproduced.

AxioVisionControl, a basic software package option available with the motorized **Axioplan 2 imaging**, allows you to control all microscope functions and inquire all settings. Flexible, easy to operate and absolutely user-friendly, AxioVisionControl is also ideal in a multi-user environment.

Flexible choice: Manual or motorized functions

It is up to you to decide which functions of your microscope should be motorized or coded. Whatever you decide or set is saved by the software – whether you make manual settings on a motorized component or select a function on the graphic user interface and see the microscope home in on the selected position. Here is a concept providing you with full control of everything. You decide whether you operate the motorized functions of **Axioplan 2 imaging** digitally via PC or by hand as with a manual microscope – the flexible system design gives you the choice.

Personalized settings: The function keys

To facilitate setting, you, as well as any other user, can store up to twenty individual, frequently used settings in separate user menus and activate them when needed. Select the field diaphragm setting, the phase annulus, the objective, and the intensity of illumination, and save the information behind a screen button or – with even faster access – behind a key of your keyboard. Simply strike this key to reproduce the settings in next to no time. In micrography, with every shot you can save the exact settings of all motorized and encoded microscope mechanisms in a database. Reproducibility at a keystroke – even in documentation!

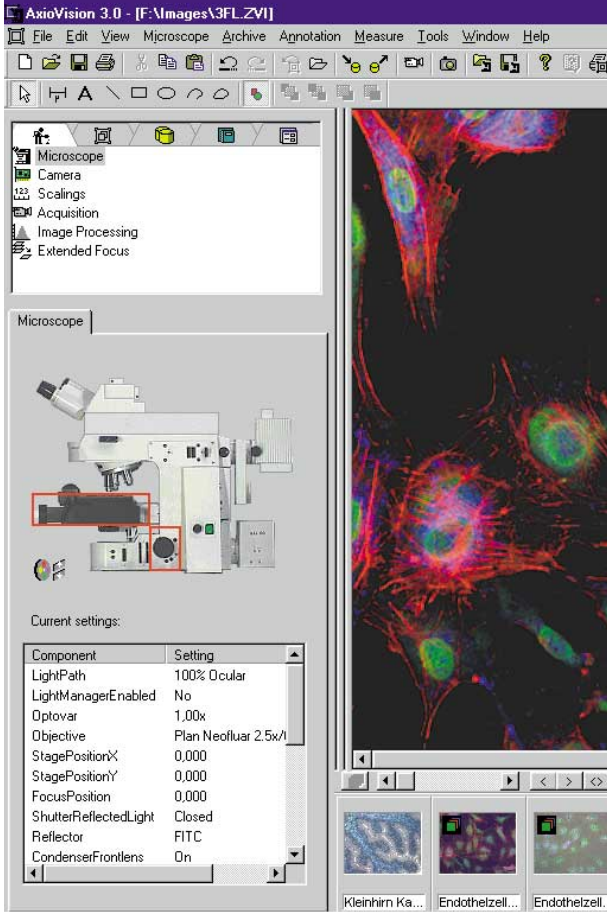
Carl Zeiss – Digital Technology

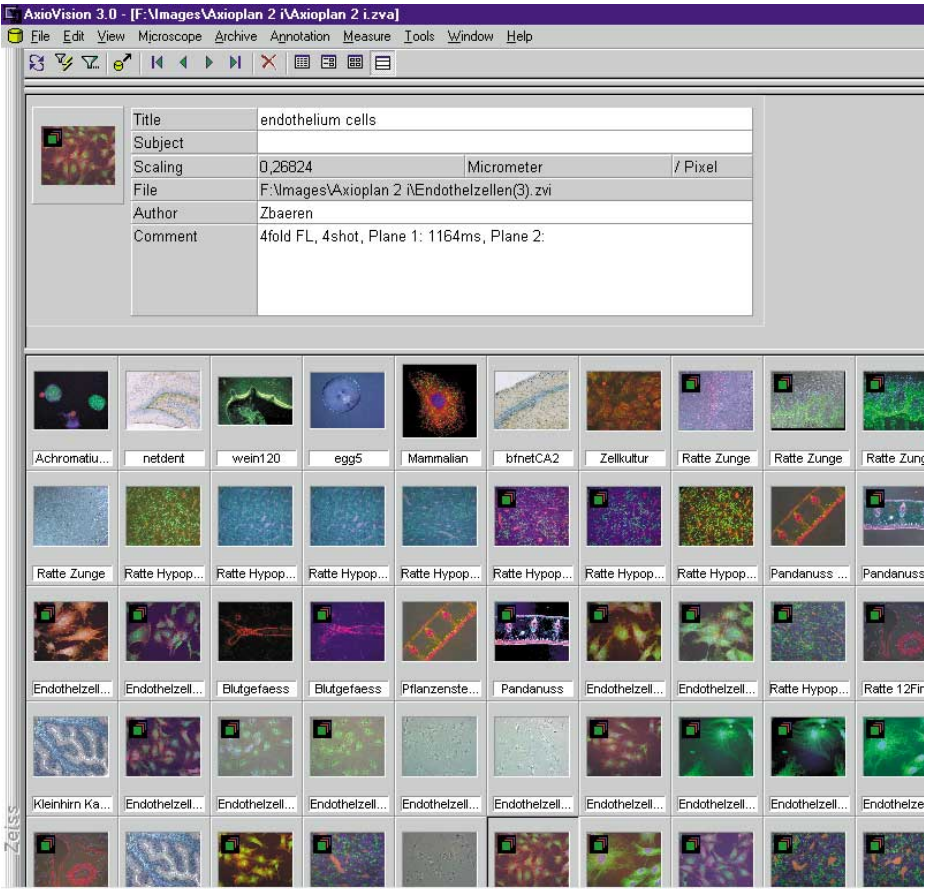
Computer-assisted work in microscopy has become a matter of course. In fact, many applications are inconceivable without digital help.

Carl Zeiss has developed a package of solutions tailored to specific applications. The solutions comprise software and hardware modules, including a digital camera. Used in conjunction with **Axioplan 2 imaging**, the package is among the best tools available to digital microscopy today.

Perfection the digital way: AxioVision

Precise image acquisition easily controlled: This is what AxioVision, the Carl Zeiss imaging software system, does for you. From exposure via processing, annotation and archiving to the report – AxioVision reliably controls the camera and the microscope, including the automatic storing of magnifications and calibration of the scaling bar when you change objectives. The graphical user interface is easy to handle and clearly laid out, with the main window split into a working and a document area. Configurable menus allow you to adapt AxioVision optimally to your application. Its functionality can be expanded easily and quickly. Supplementary modules enable added capabilities for automatic image acquisition techniques, thereby providing you with the full performance spectrum of a motorized microscope – for example: fully automatic control in taking 3D image stacks with motorized focusing, in multichannel fluorescence work, time-resolved series, or deconvolution.

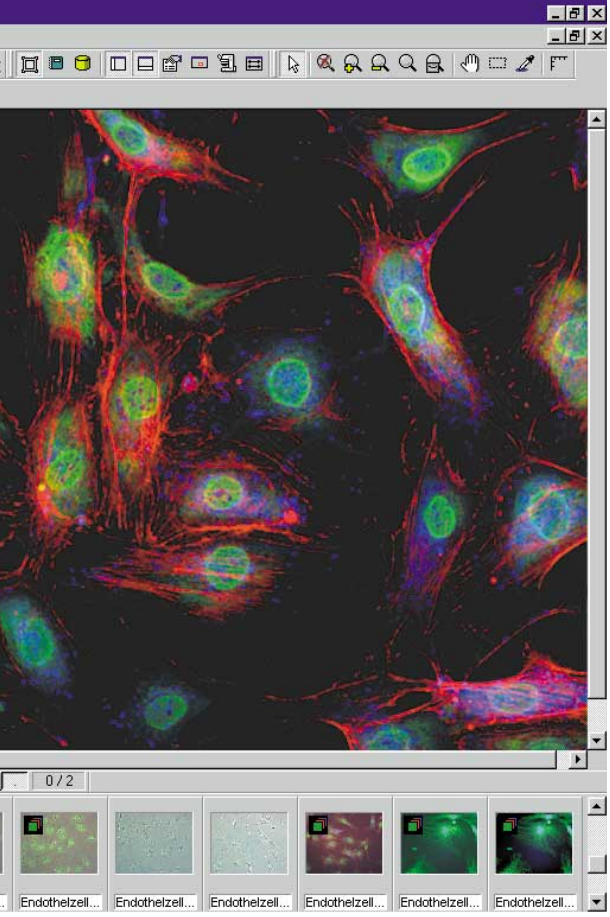




Division of a CHO cell.

Bottom left: Original data.

Top right: Result after deconvolution



Intelligence in Microscopy

Open-end system: Zeiss & partners

When special software is needed for specific research assignments, your partners are our partners. The open architecture of **Axioplan 2 imaging** allows for easy linking of software packages from other suppliers, making this microscope the ideal workstation for a great variety of special, software-controlled applications in many fields.

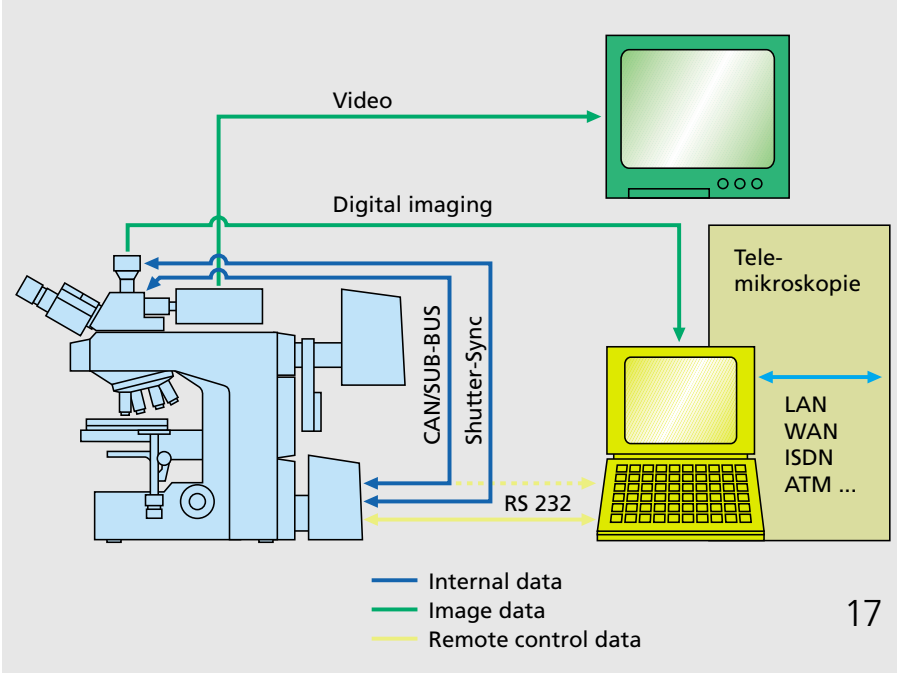
Software tailored to Axioplan applications

- FISH and M-FISH image analysis
- Telepathology and telemicroscopy
- Stereometric microscopy
- Automated 3D, 4D and 6D imaging
- Automated assay scanning systems (e.g. ELISPOT)
- General image acquisition in varied fields

Optimized fluorescence: Carl Zeiss deconvolution software

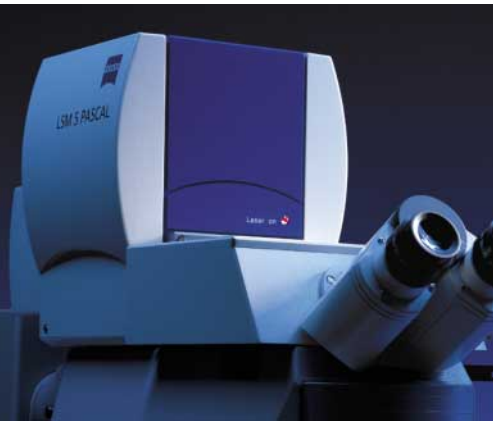
Stray light from above or below the focal plane is a familiar problem in fluorescence microscopy. In extreme cases, it completely outshines the fluorescence-labeled structures. Carl Zeiss has solved the problem for you: An efficient 3D deconvolution software mathematically traces the disturbing stray light back to its origin and thus "deconvolutes" the distorted structure. As a result, you get a noise-free image of high resolution and quality.

Offering many interfaces for the individual control of all motorized components, the Axioplan 2 imaging Mot integrates easily into any system.



Laser Scanning Microscopy

Its exceptional capabilities make **Axioplan 2 imaging** a perfect mate to the high-performance laser scanning systems of Carl Zeiss. Where the ultimate in resolution in four or more dimensions is absolutely vital, LSM 510 and its "little brother", LSM 5 PASCAL, are the ideal tools. Designed strictly along confocal principles, they deliver first-grade optical slices of cells and tissues and thus guarantee high-contrast, 3D multiple fluorescence images.



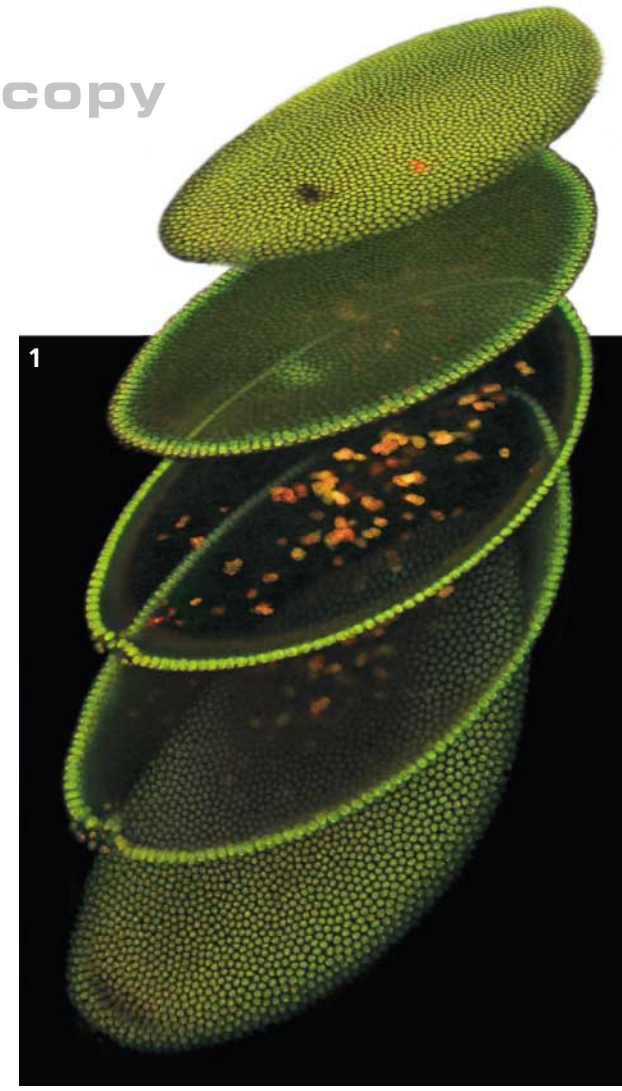
Your entry into confocal microscopy: LSM 5 PASCAL

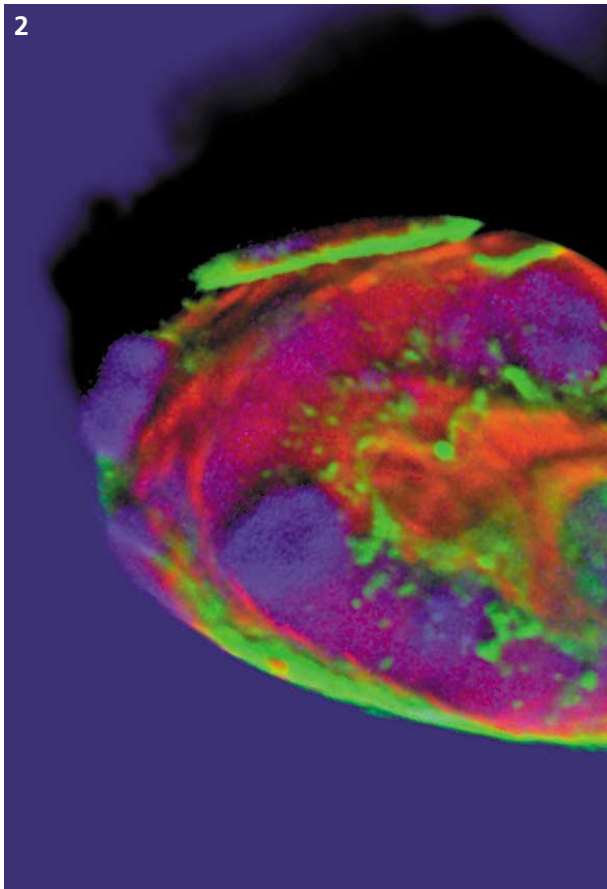
Maximum comfort with minimum effort

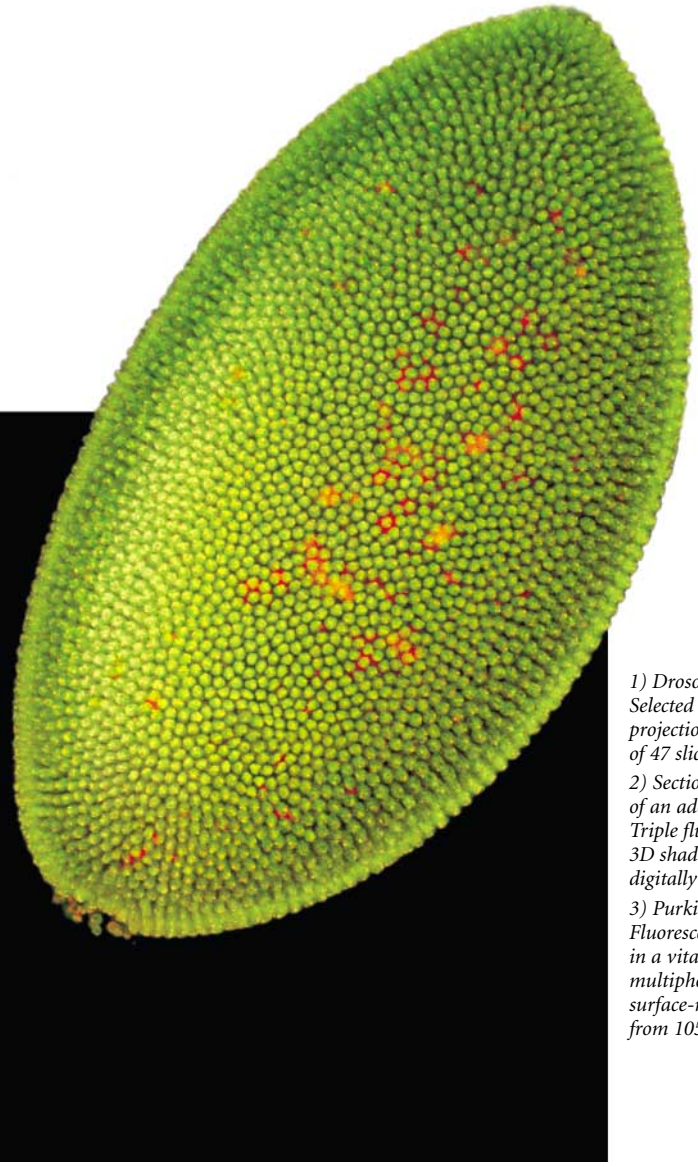
The Carl Zeiss LSM devices based on **Axioplan 2 imaging** are complete, advanced high-tech systems – and yet they are very easy and convenient to use. Thanks to their complete motorization, a high-capability image database and the re-use concept, you can set the desired system configuration with a single mouse click and start your experiment – no matter whether you use the system for one or several applications. Flexibility combined with reproducibility!

High functionality and freedom of choice

Carl Zeiss LSM devices are unequalled for flexibility with regard to scanning with 360° field rotation, scanning zoom, offset and such standard and special scanning modes as spline scan or real region of interest (rROI) scan. Short beam paths and detectors picked for performance make the system extremely sensitive. In conjunction with the precisely adjustable laser power, this guarantees best results, even with long-time experiments. Moreover, the LSM multitracking technique yields multichannel fluorescence images free from emission crosstalk, which are ideal for co-localization measurements of, for example, GFP-labeled proteins.





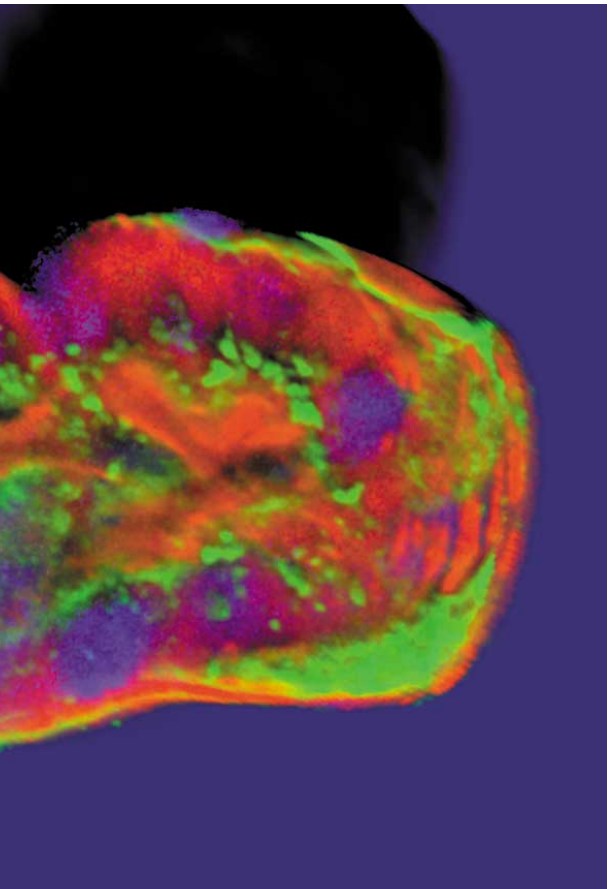


See More, Identify More

1) Drosophila embryo. Selected optical slices and projection of the entire stack of 47 slices

2) Section through the kidney of an adolescent mouse. Triple fluorescence. 3D shadow projection of a digitally extracted renal tubule

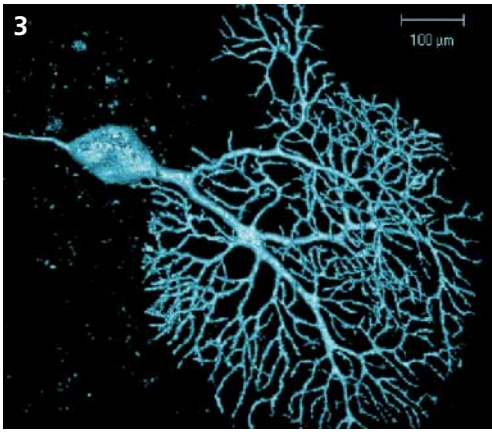
3) Purkinje cell. Fluorescence (Lucifer yellow) in a vital brain section with multiphoton excitation at 805 nm, surface-rendered 3D projection from 105 optical slices



Large or small: The LSM family

If you are looking for a cost-effective entry into confocal microscopy that doesn't compromise on image quality, LSM 5 PASCAL from Carl Zeiss is the system of choice for both single users or small teams. It is versatile in use, with an emphasis on GFP applications. At the high end of the family, LSM 510 permits the use of lasers – from UV to the visible region to the near infrared. A special model, LSM 510 NLO, is prepared for multiphoton imaging and can be used for examining thicker tissue samples and observing live specimens in vitro and in vivo for prolonged times.

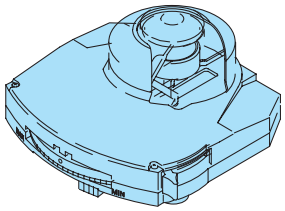
The powerful software is constantly upgraded. Installed on a high-end PC ready for use, it offers a host of functions for data acquisition in one to five or more dimensions. In addition, varied image processing functions allow you to master almost all applications in cell, developmental and molecular biology, physiology, genetics and other fields of research – no matter whether you're studying fixed or living specimens.



In combination with **Axioplan 2 imaging**, the LSM family comprises a perfect system focused on your success.

Axioplan 2 imaging

Condensers

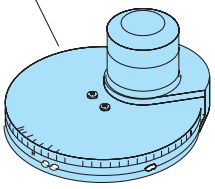


Achromatic-aplanatic universal condenser 0.9 H
(000000-1035-632)
Achromatic-aplanatic universal condenser 0.9 H D Ph
(445436-0000-000)
Achromatic-aplanatic universal condenser 0.9 H D Ph DIC
(445439-0000-000)
Polarizer for condensers
(000000-1028-973)

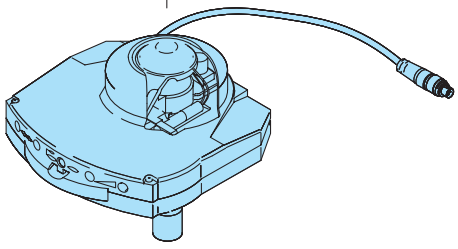
DIC-Prism I / 0.9 (with polarizer)
(000000-1005-002)
DIC-Prism II / 0.9 (with polarizer)
(000000-1005-003)
DIC-Prism III / 0.9 (with polarizer)
(000000-1005-004)

DIC-Prism I / 0.9
(000000-1004-901)
DIC-Prism II / 0.9
(000000-1004-902)
DIC-Prism III / 0.9
(000000-1004-903)

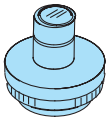
DIC-Prism II/1.4
(445375-0000-000)
DIC-Prism III/1.4
(445376-0000-000)



Achromatic-aplanatic condenser 1.4 H Ph DIC
(445453-0000-000)

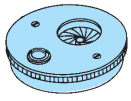


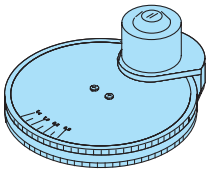
Achromatic-aplanatic universal condenser 0.9 H MOT
(445437-0000-000)
Achromatic-aplanatic universal condenser 0.9 H D Ph MOT
(445438-0000-000)
Achromatic-aplanatic universal condenser 0.9 H D Ph DIC MOT
(445440-0000-000)
Polarizer for condensers
(000000-1028-973)



Achromatic condenser 0.8 H DIC
(000000-1087-444)
DIC-Prism III / 0.8
(000000-1087-445)

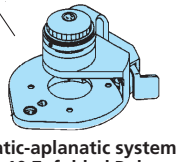
Brightfield insert
(445467-0000-000)



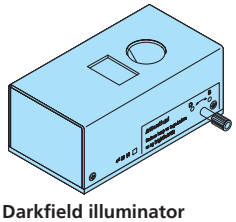


Achromatic condenser 0.8 H D Ph DIC
(445445-9901-000)
DIC-Prism III / 0.8
(445485-0000-000)

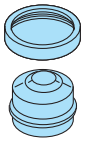
Front optics 0.9 / dia. 2.9 Pol
(445331-0000-000)



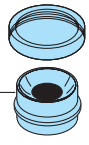
Achromatic-aplanatic system condenser
0.24/dia. 10.7, folded Pol
(445325-9901-000)



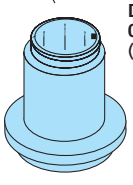
Darkfield illuminator
(445314-9901-000)



Ultra condenser
1.2/1.4 (0.75-1.0)
(465500-0000-000)

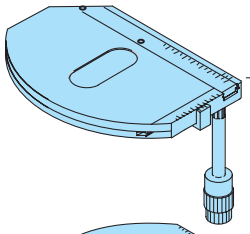


Dry darkfield condenser
0.8 / 0.95 (0.6 - 0.75)
(465505-0000-000)

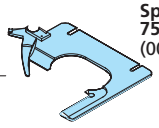


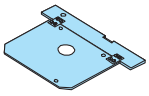
Condenser holder Z
(445323-0000-000)

Mechanical stage 75 x 50 / 240° R with ceramic coating
(000000-1067-325)

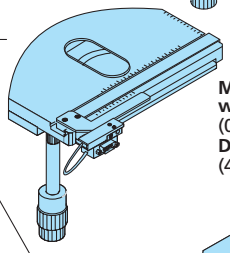


Specimen holder for mechanical stage 75 x 50, suitable for one-hand operation
(000000-1067-330)

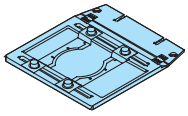




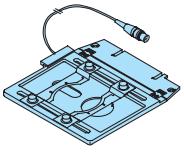
Specimen holder, reflected light
(000000-1070-588)



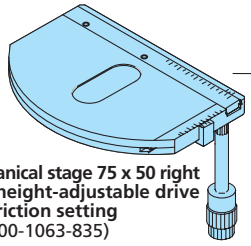
Mechanical stage 75 x 50 R with electric vernier scale
(000000-1046-520)
Display unit SCD
(413507-9001-000)



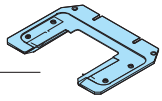
Universal mounting frame for Petri dishes and specimen holder
(000000-1100-843)



Heatable universal mounting frame A-H
(000000-1116-055)
Tempocontrol 37 (1-channel)
(000000-1116-057)



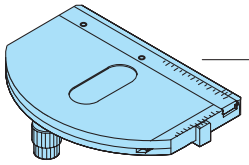
Mechanical stage 75 x 50 right with height-adjustable drive and friction setting
(000000-1063-835)



Specimen holder, special (particularly for immersion objectives)
(000000-1070-589)

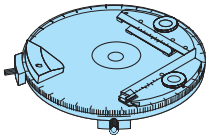
Specimen holder D Pol
(45363-0000-000)

Specimen holder A Pol
(453564-0000-000)

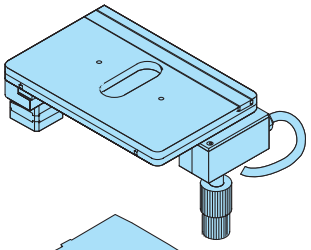


Kreuztisch 75 x 50 L mit Ergonomietrieb
(000000-1063-836)

Mounting frame for heating and cooling devices
(000000-1107-544)



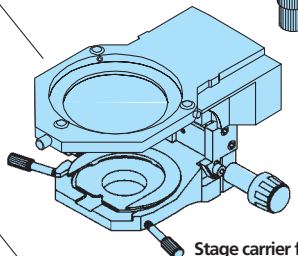
Rotary stage Pol
(453550-0000-000)
with object guide Pol
(453560-0000-000)



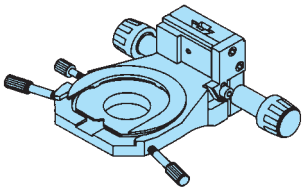
Mechanical stage 75 x 50 mot with control unit
(000000-1025-145)

Specimen holder
(acc. Price list)

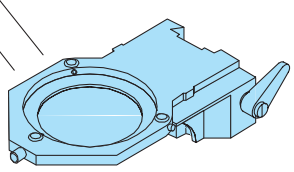
optional
Joystick for 2 axes
(000000-1033-996)
or
Coaxial electronic drive
(000000-1034-960)



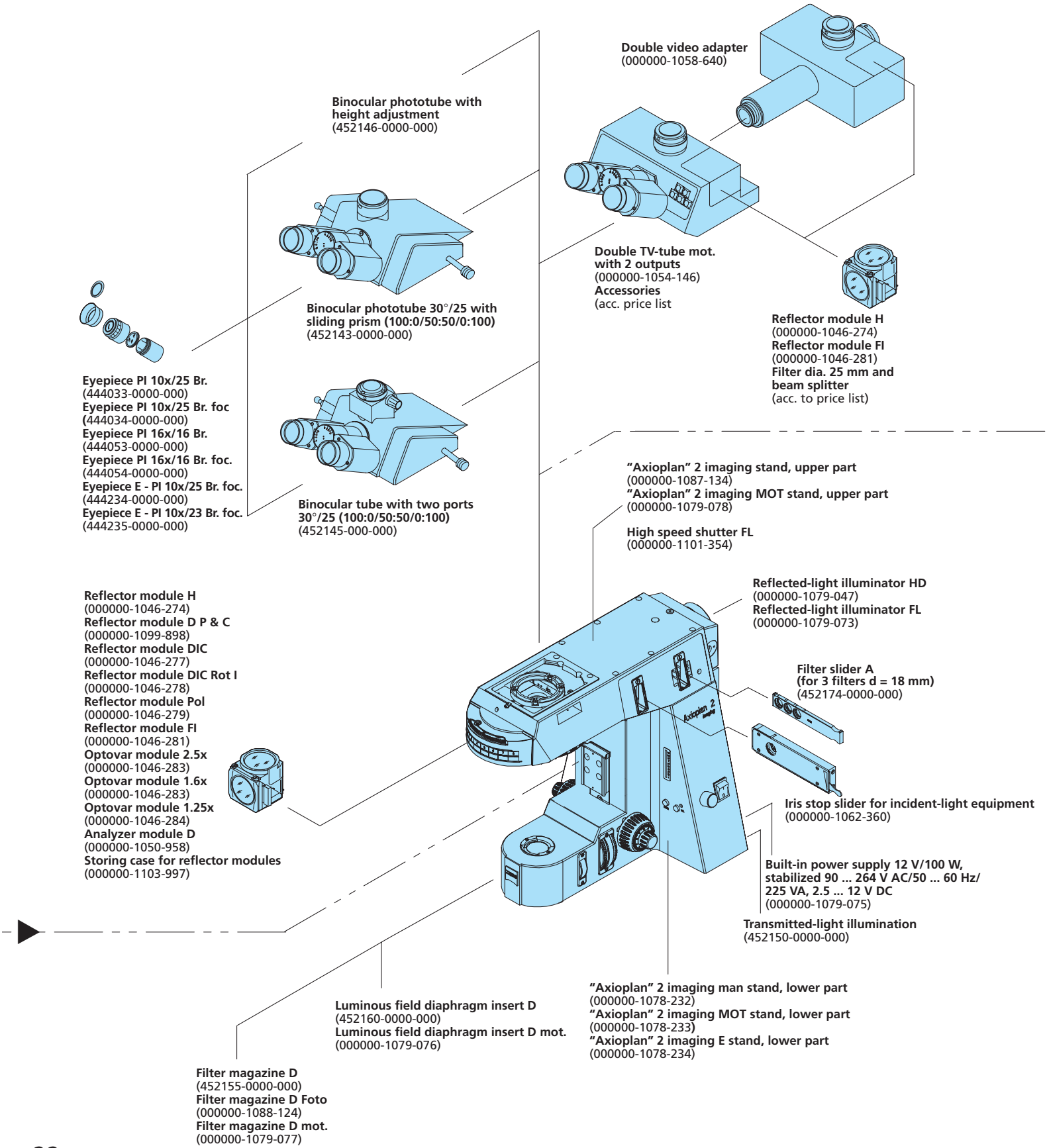
Stage carrier fixed with condenser carrier "Axioplan" 2 imaging
(000000-1062-273)

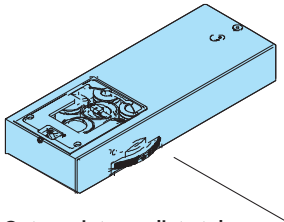


Condenser carrier with left and right hand controls for vertical adjustment
(000000-1101-554)

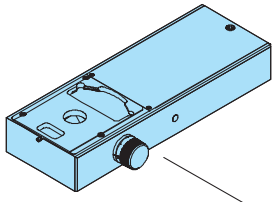


Stage carrier, lowerable and detachable
(000000-1062-274)

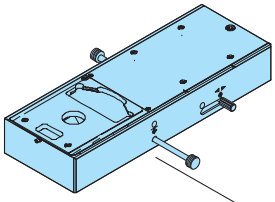

Double video adapter
(000000-1058-640)
Binocular phototube with height adjustment
(452146-0000-000)
Double TV-tube mot. with 2 outputs
(000000-1054-146)
Accessories
(acc. price list
Reflector module H
(000000-1046-274)
Reflector module FI
(000000-1046-281)
Filter dia. 25 mm and beam splitter
(acc. to price list)
Binocular phototube 30°/25 with sliding prism (100:0/50:50/0:100)
(452143-0000-000)
Eyepiece PI 10x/25 Br.
(444033-0000-000)
Eyepiece PI 10x/25 Br. foc
(444034-0000-000)
Eyepiece PI 16x/16 Br.
(444053-0000-000)
Eyepiece PI 16x/16 Br. foc.
(444054-0000-000)
Eyepiece E - PI 10x/25 Br. foc.
(444234-0000-000)
Eyepiece E - PI 10x/23 Br. foc.
(444235-0000-000)
Binocular tube with two ports 30°/25 (100:0/50:50/0:100)
(452145-000-000)
"Axioplan" 2 imaging stand, upper part
(000000-1087-134)
"Axioplan" 2 imaging MOT stand, upper part
(000000-1079-078)
High speed shutter FL
(000000-1101-354)
Reflected-light illuminator HD
(000000-1079-047)
Reflected-light illuminator FL
(000000-1079-073)
Filter slider A
(for 3 filters d = 18 mm)
(452174-0000-000)
Iris stop slider for incident-light equipment
(000000-1062-360)
Built-in power supply 12 V/100 W, stabilized 90 ... 264 V AC/50 ... 60 Hz/ 225 VA, 2.5 ... 12 V DC
(000000-1079-075)
Transmitted-light illumination
(452150-0000-000)
Reflector module H
(000000-1046-274)
Reflector module D P & C
(000000-1099-898)
Reflector module DIC
(000000-1046-277)
Reflector module DIC Rot I
(000000-1046-278)
Reflector module Pol
(000000-1046-279)
Reflector module FI
(000000-1046-281)
Optovar module 2.5x
(000000-1046-283)
Optovar module 1.6x
(000000-1046-283)
Optovar module 1.25x
(000000-1046-284)
Analyzer module D
(000000-1050-958)
Storing case for reflector modules
(000000-1103-997)
"Axioplan" 2 imaging man stand, lower part
(000000-1078-232)
"Axioplan" 2 imaging MOT stand, lower part
(000000-1078-233)
"Axioplan" 2 imaging E stand, lower part
(000000-1078-234)
Luminous field diaphragm insert D
(452160-0000-000)
Luminous field diaphragm insert D mot.
(000000-1079-076)
Filter magazine D
(452155-0000-000)
Filter magazine D Foto
(000000-1088-124)
Filter magazine D mot.
(000000-1079-077)



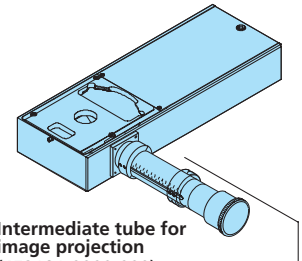
Optovar intermediate tube 1.0x/1.25x/1.6x/2.0x/2.5x cod.
(452175-0000-000)



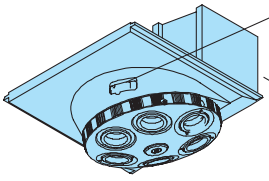
Intermediate zoom tube 1.0x ... 2.5x cod.
(452180-0000-000)

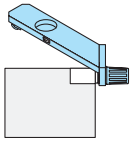


Intermediate tube Pol (with quartz depolarizer)
(452184-0000-000)



Intermediate tube for image projection
(452181-0000-000)

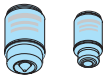




Antiglare screen
(452163-000-000)

- **Objective nosepiece 7x H W 0.8**
  (452130-0000-000)
- **Objective nosepiece 6x H DIC W 0.8**
  (452131-0000-000)
- **Objective nosepiece 6x H D DIC M27 cod.**
  (452136-0000-000)
- **Objective nosepiece 7x H W 0.8 mot.**
  (452137-0000-000)
- **Objective nosepiece 6x H DIC M27 mot.**
  (452138-0000-000)
- **Objective nosepiece 6x H DIC W 0.8 mot.**
  (000000-1067-351)
- **Objective nosepiece 6x Pol W 0.8 cod.**
  (412139-0000-000)

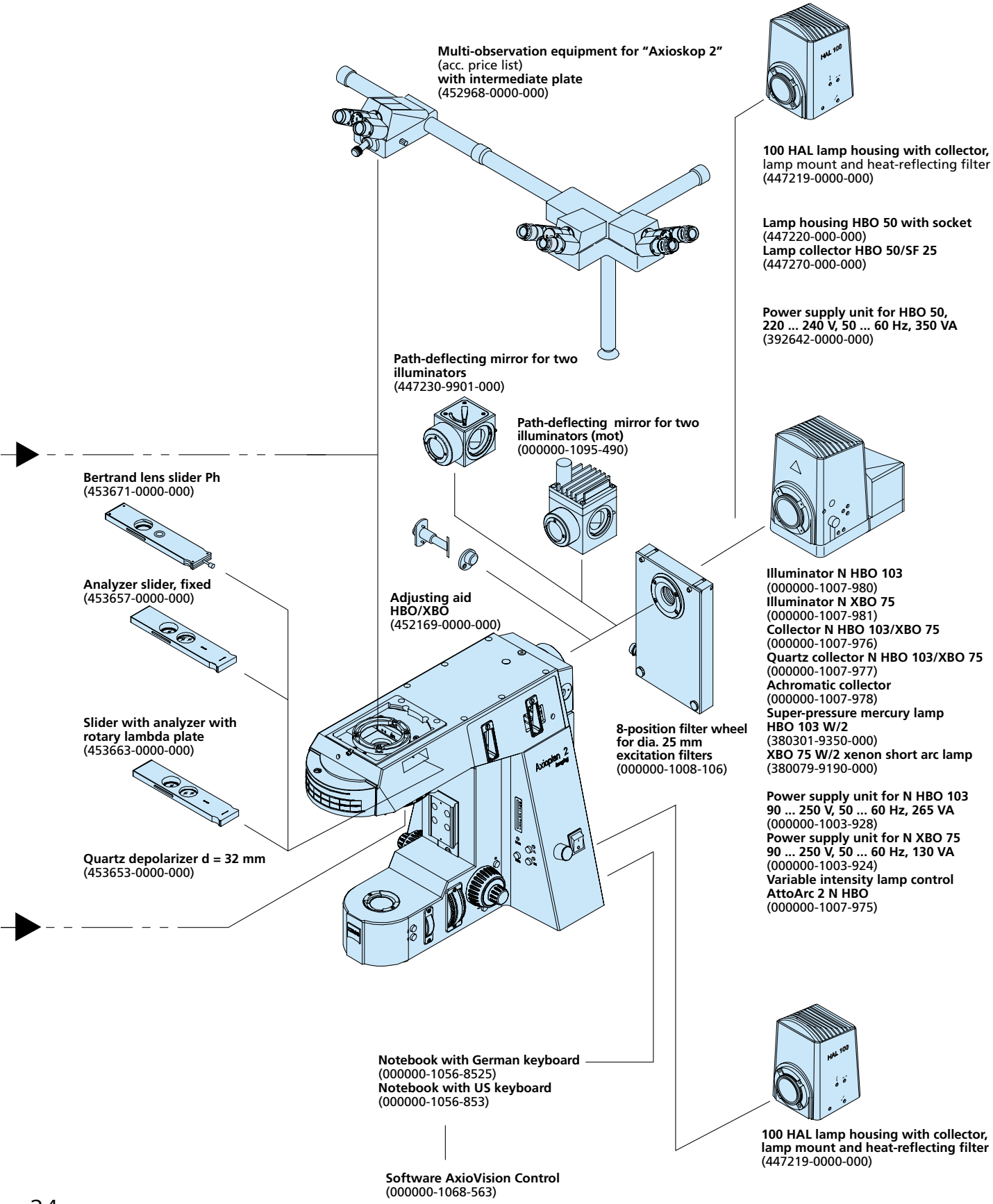
DIC slider
(acc. price list)



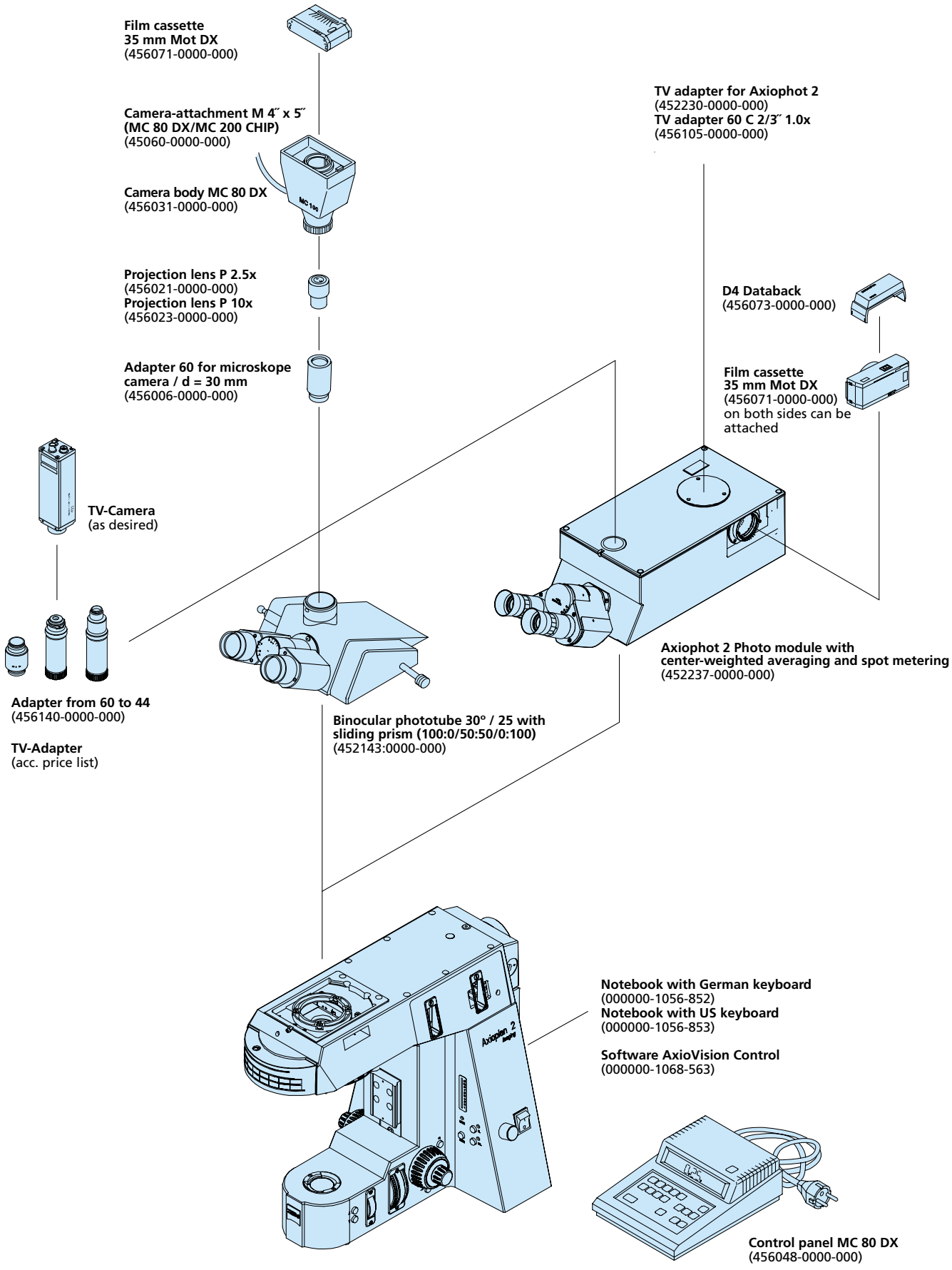
Objectives
(ICS-Objectives acc. price list)

Antiflexcap for Epiplan-Neofluar 1.25
(44921-0000-000)
Antiflexcap for Epiplan-Neofluar 2.5
(4444922-0000-000)

Intermediate ring M 27 on W 0.8 H = 0.94
(444911)-0000-000)
Intermediate ring H "0" M 27 on W 0.8
(000000-1095-168)


Multi-observation equipment for "Axioskop 2"
(acc. price list)
with intermediate plate
(452968-0000-000)
100 HAL lamp housing with collector,
lamp mount and heat-reflecting filter
(447219-0000-000)
Lamp housing HBO 50 with socket
(447220-000-000)
Lamp collector HBO 50/SF 25
(447270-000-000)
Power supply unit for HBO 50,
220 ... 240 V, 50 ... 60 Hz, 350 VA
(392642-0000-000)
Path-deflecting mirror for two
illuminators
(447230-9901-000)
Path-deflecting mirror for two
illuminators (mot)
(000000-1095-490)
Bertrand lens slider Ph
(453671-0000-000)
Analyzer slider, fixed
(453657-0000-000)
Adjusting aid
HBO/XBO
(452169-0000-000)
Illuminator N HBO 103
(000000-1007-980)
Illuminator N XBO 75
(000000-1007-981)
Collector N HBO 103/XBO 75
(000000-1007-976)
Quartz collector N HBO 103/XBO 75
(000000-1007-977)
Achromatic collector
(000000-1007-978)
Super-pressure mercury lamp
HBO 103 W/2
(380301-9350-000)
XBO 75 W/2 xenon short arc lamp
(380079-9190-000)
Slider with analyzer with
rotary lambda plate
(453663-0000-000)
8-position filter wheel
for dia. 25 mm
excitation filters
(000000-1008-106)
Quartz depolarizer d = 32 mm
(453653-0000-000)
Power supply unit for N HBO 103
90 ... 250 V, 50 ... 60 Hz, 265 VA
(000000-1003-928)
Power supply unit for N XBO 75
90 ... 250 V, 50 ... 60 Hz, 130 VA
(000000-1003-924)
Variable intensity lamp control
AttoArc 2 N HBO
(000000-1007-975)
Notebook with German keyboard
(000000-1056-8525)
Notebook with US keyboard
(000000-1056-853)
Software AxioVision Control
(000000-1068-563)
100 HAL lamp housing with collector,
lamp mount and heat-reflecting filter
(447219-0000-000)

Equipment for Documentation



Axioplan 2 imaging

Your Partner for the Future

The decision you make for a microscope, one equipped with the components you need, is as complex as the requirements it must meet.

A skilled team of consultants will help you with making the right choice and with budget planning. And all of our consultants possess impressive know-how and experience as well as extensive knowledge of the entire microscope market. Thus you benefit from much more than our skill in developing microscopes. You will be able to draw upon the enormous wealth of experience that Zeiss has accumulated in decades of practice in research and routine. You will profit from specific assistance in your microscopy methods – and above all from innovative methods which will enable you to make great progress in your work. As a matter of fact, you often can't really appreciate the full range of Zeiss service until after you have made your purchase – in practice, which is what counts.

Our local consultants and technicians and the Carl Zeiss customer service all support you in your research with technical and applications aid, whenever you need it. Fast and reliably. Moreover, Carl Zeiss training courses and workshops provide you with added insights into practical areas of microscopy and imaging techniques.

In fact, when you add together all the services and support that you get with **Axioplan 2 imaging**, you'll see that it is more than a high-power microscope: **Axioplan 2 imaging** is your ticket to a powerhouse of knowledge in microscopy that has been built up over the past 150 years.

Convincing – from A(bbe)* to Z(eiss)**

Accessible:	the diaphragm planes
Clearly laid out:	the AxioVisionControl software
Complete:	system solutions from a single source
Convenient:	the Push&Click filter cubes
Customized:	the modular system
Efficient:	the motorized features
Flexible:	the dual video adapter
Highly resolved:	DIC (even with Sénarmont)
Individual:	the macro function keys
Infinite:	the ICS optics
More contrast:	the Light Trap
Motorized:	the multi-imaging tube
Open-end:	the system architecture
Powerful:	the optics
Precise:	the dual-guidance stage
Retrofittable:	the confocal systems
Sturdy:	the mechanisms
Time-saving:	the Smart Contrast feature
Versatile:	8 filter positions with 25 mm field of view
Vibration-free:	the SoftStop function
Zappy:	the high-speed shutter

** Ernst Abbe (1840–1905), physicist and ingenious researcher, associate of Carl Zeiss, became sole owner in 1889.*

*** Carl Zeiss (1816–1888), mechanic, opened an optical workshop in 1846, which grew into a global player in optics.*

Axioplan 2 imaging

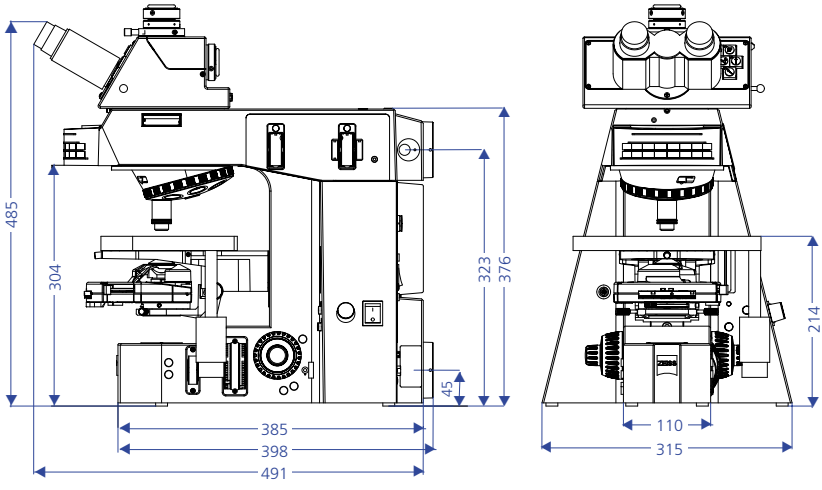
Stand, lower part
- Manual version
- Coded version
- Motorized version

Stand, upper part
- Manual version
- Motorized version

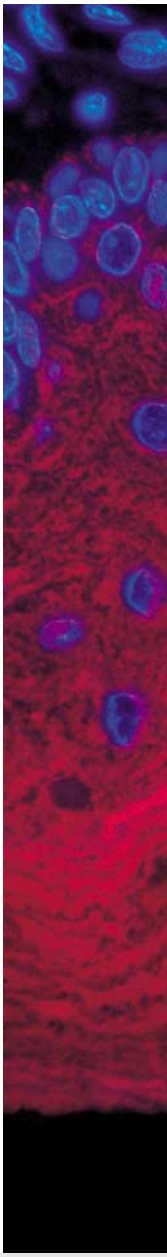
Fluorescence
- 25 mm field of view
- Light Trap
- High-speed shutter (< 20 ms)
- 8-place reflector turret
- Push&Click filter cubes
- Exchangeable field diaphragm
- Adjusting aid
- AttoArc 2

Motorization
- Multi-imaging tube
- Reflector turret
- Revolving nosepiece
- Condensers
- Z motion with 25 nm increments
- Filter wheels & field diaphragm
- High-speed shutter
- External 8-place filter wheel
- Deflecting mirror for 2 lamps

Documentation
- Trinocular tube
- Binocular tube with 2 TV ports
- Binocular tube with 2 TV ports, motorized version
- Dual video adapter
- Axiophot 2 photomodule




AxioCam
ZEISS
ZEISS



Rat tongue.
Double fluorescence
(Alexa 594, DAPI).
Plan-Apochromat 40x/1.0 oil.
J. Zbaeren, Insel Hospital, Bern

For further details, please contact:

Carl Zeiss
Light Microscopy

P.O.B. 40 41
37030 Göttingen
GERMANY
Phone: ++49 5 51 50 60 660
Telefax: ++49 5 51 50 60 464
E-Mail: micro@zeiss.de

www.zeiss.de/micro

40-086 e/02.01