Axio Imager 2
Progress Meets Performance

Trend-setting Technology for Brilliant Results in All Life Science Research Applications
Axio Imager 2 from Carl Zeiss.
Success in Series.

Always provide the best tools for the study of life – with this objective in mind, Carl Zeiss introduced Axio Imager in 2004. This objective still applies. The result: the new Axio Imager product generation. With outstanding performance. With unrivalled optics. With an unmatched range of applications. And with maximum ease of use.

Axio Imager: trailblazer in terms of performance
More flexibility for more performance: from simple observation and image acquisition to highly complex analyses there are six different stands available, which allow you to adapt the system exactly to your individual application by providing many different system components. Taken together, these are trend-setting performance characteristics and technical innovations for outstanding research results.

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- Motorization for reproducible settings and automatic procedures
- Excellent optics and uniform illumination in transmitted-light and fluorescence applications
- Highest precision due to new high-performance focus even in cases of constant load and heavy stages
- Intelligent control concept for ergonomic work and multi-user operation
- Preconfigured stand configurations for a broad application spectrum
- Assured future use supported by a modular system architecture

Respiratory epithelium cells

COS cell culture
Optics.
Brilliant Performance.

Excellent optical quality: That is what the Carl Zeiss research class stands for. Axio Imager 2 boosts this performance even further. From the transmitted-light beam path to the new motorized DIC turret or to high-performance objectives, Axio Imager provides excellent results even with extremely weak signals.

Visibly more information: the IC²S beam path
IC²S stands for Infinity Contrast & Color Corrected System. This patented beam path is based on the optimization of the proven Carl Zeiss ICS Infinity Optics. New is the transmitted-light beam path for uniform illumination. The optics of the universal and long-distance condensers have been adapted to all applications. Considerably better resolution and contrast can be achieved even at low magnifications and large working distances. Axio Imager’s optical system provides you with a remarkable performance: higher image contrast, perfect uniformity and unrivalled resolution in every contrast technique.

Simple upgrading: the freely accessible infinite space
With its freely accessible infinite space, Axio Imager allows additional components such as light sources and detectors to be added as needed. An individual system solution, that is tuned to the particular application, can be configured simply and rapidly.

Unrivalled in every respect: the objectives
For the new Axio Imager 2 product line, Carl Zeiss has extended the high-performance objectives for both fixed and Live Cell Imaging applications especially for high magnifications.

- The EC Plan-NEOFLUAR universal objectives: The consistent stray light minimization results in a definite contrast enhancement, which is critical in all microscopic techniques.
- The Plan-APOCHROMAT objectives convince through their outstanding point spread function and their unparalleled planar and chromatic correction.
- The αPlan-APOCHROMAT objectives 100x/1.46 Oil and 100x/1.57 HI Oil (available from Fall 2009) provide maximum resolution in fluorescence and transmitted-light DIC techniques because of their high numerical apertures.
- The LCI Plan-NEOFLUAR objectives 25x/0.8 and 63x/1.3 Imm. Korr. were conceived for Live Cell Imaging techniques and calibrated for specific temperature intervals as well as immersion media from water to glycerin.

Olfactory bulb (frog), image taken with DIC.
Objective: EC Plan-NEOFLUAR 20x/0.5

Olfactory bulb (frog), Multichannel Fluorescence with ApoTo-me.
Green: projections of olfactory sensory cells.
Red: cell nuclei. Objective: EC Plan-NEOFLUAR 20x/0.5.
D. Schild, Göttingen Univ., Germany

The new motorized DIC turret
See more: DIC or DIC + Fluorescence
Optimized DIC for the new generation Axio Imager: uniform interference contrast at all magnifications from 5x to 100x across the entire field of view. Particularly in Digital Imaging the shading correction becomes obsolete. You always have a uniformly illuminated DIC image. For the first time now, these advantages are also reproducible and can be adjusted via motorized control. With the new motorized DIC turret for transmitted-light DIC now you can automatically shift between high-resolution and high-contrast interference contrast. The contrast settings can be stored separately for each user and for each magnification used. You can also combine DIC imaging with fluorescence excitation extremely simple and automatically without sample-induced artifacts.

Constant color temperature: the LED illumination sources
The interesting alternative to conventional halogen illumination with compelling advantages: constant color temperature independent of brightness, low heat radiation, and long service life. LED illumination also has a filter mount for the individual setting of the color temperature. For the first time such an illumination source is also offered with a trigger input for high frequency switching. For more simple applications there is a variant available which is directly attached beneath the condenser. This is in accordance with the Fixed-Koehler principle for simple adjustment with all contrast techniques.
Fluorescence.
Strong Components for Weak Signals.

Brilliant signals for finest structures and extremely rapid processes – that is what Carl Zeiss fluorescence microscopy stands for. And all the components of the new generation of Axio Imager have been designed to meet this standard. With fast image acquisition in AxioVision and light sources such as Colibri. With filter sets for new dye combinations. And with high ease of operation.

Motorized reflector turret for rapid imaging
The investigation of rapid processes is becoming increasingly important. To this end, the motorized reflector turrets are custom-tailored. Six filter modules can be accommodated. Even for the use of more than six dyes simultaneously, for example in Multi-color FISH applications, the Axio Imager.Z2 provides the best possible results. The motorized 10-position reflector turret synchronized with the fast Colibri LED light source exhibit a wide selection of excitation wavelengths and brilliant results without pixel shift.

Reproducible settings by means of motorized diaphragms
The intelligent, motorized aperture and luminous field diaphragm automatically controls contrast and illumination in the reflected-light beam path as well as in the transmitted-light beam path. Objective-specific aperture adaptations can be saved and loaded again at any time for reliable reproducibility.

Versatile as never before: the High Efficiency filter sets
The HE fluorescence filters for Axio Imager provide an excellent signal-noise ratio and high transmission for excitation and emission for up to 50 % shorter exposure times. This protects sensitive samples to the high
possible degree. Seven new filter sets and multi-color combinations with double and triple filter sets were developed especially for the combination with new fluorescing proteins. In optimizing the range of LED options integrated into Colibri, the trend toward red dyes such as mRFP, mCherry, mPlum, mTomato has been considered. As a result, the energy of the available LEDs can be exploited completely.

**Light sources for every requirement**

For Axio Imager you can exactly select the light source which ideally meets the specific demands of your fluorescence application.

- The self-adjusting HBO lamp has been the illumination source of choice for all standard fluorescence applications since 2004. After each lamp change and each time the device is switched on, it centers itself automatically and hence uniform illumination is guaranteed.
- Metal halide lamps, such as HXP 120, exhibit an emission spectrum similar to HBO lamps. Remote coupling via liquid light guide minimizes heat transfer to the stand making it ideal for Live Cell Imaging.
- Exact intensity control and thus ideal specimen protection, specific wavelength selection, and flexible mixing of different wavelengths, long lifetime, and – above all – switching time in the microsecond range characterize the Colibri LED light source. It is ideal for complex applications at extremely high speeds.
- HXP 120 and Colibri can also be used in combination. In this way dyes for which no LED is available at present can be excited.
Applications. Infinite Diversity.

The more diverse the applications, the more flexible the imaging platform – that is what Axio Imager stands for. The modular architecture of Axio Imager 2 allows you to use a technology that optimally supports your application and grows with your performance requirements.

**Cell biology**
The investigation of subcellular compartments such as the cell nucleus, mitochondria, vesicles or dynamic processes such as motility, mobility, and cell division make special demands on the particular microscope systems. Axio Imager allows brilliant DIC, phase contrast, darkfield applications, and optical sections with ApoTome as well as fluorescence at the highest resolution. DIC and fluorescence can be combined most conveniently with the motorized Axio Imager.Z2 stand.

**Neurobiology**
The samples are as different as the diverse range of topics in neurobiology: meaningful results have to be obtained from individual cells and from thin sections to thicker brain sections up to entire brains. Axio Imager is the ideal platform for such tasks: excellent image quality in brightfield and fluorescence, high-resolution DIC for thick preparations and high-contrast DIC images for very thin sections. MosaiX provides high-resolution overview images of large specimens. The motorization of all important components and the use of the motorized DIC turret on Axio Imager.Z2 allow the storage of all important settings for reproducible imaging and subsequent image analysis tasks.

**Developmental biology**
The documentation and analysis of the processes which result in differentiation, regeneration or growth of cells, tissues, and organisms make particularly high demands on a microscope system. Regardless of the animal model used, the highest performance of color fidelity, resolution,
and contrast is critical. Axio Imager provides you with the ideal uniform illumination in the common transmitted-light contrast techniques, the best optical resolution, and with the extremely sample-protecting fluorescence illumination with optimum signal-noise ratio to ensure brilliant image quality. With Axio Imager as basis for an imaging system, the processes to be investigated can be imaged at high spatial and temporal resolutions and analyzed with different AxioVision modules. The motorization of Axio Imager.M- and Z-stands allows efficient and reproducible imaging. Beyond this, the manipulation of the sample is clearly facilitated and the sample turnover is increased with the help of the docking station and the scanning stage.

**Axio Imager.M2p**

Axio Imager.M2p is a special configuration designed specifically for diagnostics, pathology, genetics and histology.

**Pathology**

Axio Imager.M2p with LED illumination, the coded stand with Fixed-Koehler illumination, is ideal for pathology. In conjunction with EC Plan-NEOFLUAR or Plan-APOCROMAT objectives it is the standard equipment for histological evaluation. The economical LED illumination has a long service life, consumes little energy, and requires no maintenance or adjustment. It provides incredible images, for instance with the typical H.-E., DAB or Azan staining techniques. Its constant color temperature ensures uniform light quality and brilliant image presentation across the entire intensity range.

**Histological section – Red: CD61. Blue: nuclear counterstaining.**

Objective: EC Plan-NEOFLUAR 20x/0.5

**Histological section – Red: MPOX2. Blue: nuclear counterstaining.**

Objective: EC Epiplan-NEOFLUAR 10x/0.3.

A. Schmitt-Gräff, Pathology, Univ. Freiburg, Germany

**Arabidopsis root thread – DIC superimposed fluorescence.**

Green: GFP. Objective: EC Plan-NEOFLUAR 40x/0.75

**Histological section – Red: MPOX2. Blue: nuclear counterstaining.**

Objective: EC Epiplan-NEOFLUAR 10x/0.3.

A. Schmitt-Gräff, Pathology, Univ. Freiburg, Germany

**Arabidopsis root thread – DIC superimposed fluorescence.**

Green: GFP. Objective: EC Plan-NEOFLUAR 40x/0.75

**HeLa cells – multichannel image.**

Green: GFP

Red: alpha-tubulin

Blue: cellular nuclei (DAPI)

Objective: Plan-APOCROMAT 63x/1.4 Oil.

L. Pelletier and T. Hyman, MPI for Molecular Cell Biology and Genetics, Dresden, Germany
Human genetics

For the diagnosis of diseases which are due to a mutation in genetic material, genome analysis is a standard tool in human genetics. Karyograms are acquired and analyzed in transmitted-light brightfield. The Fluorescence-In-Situ-Hybridization (FISH) method identifies the gene loci on the chromosomes based on the used DNA probes and helps detect deviations from the healthy condition. In this context the Axio Imager.M2p provides complete support: The apochromatically corrected IC2S beam path uniformly illuminates the object field for all colors. The integrated light traps eliminate stray light in the illumination and imaging beam path. The 6-position reflector turret allows rapid multichannel image acquisition, the basis for FISH analyses. Control with AxioVision or MetaCyte from MetaSystems makes the use of such complex applications as simple and reliable as possible.

Histology

The requirements in histology and anatomy are optimum resolution in the image, perfect color presentation in the documentation of details and overviews, and rapid, precise relocalization of diagnostically conclusive locations in the specimen. Ideally tailored to this are the EC Plan-NEOFLUAR and Plan-APOCHROMAT objectives in conjunction with the motorized stage of Axio Imager.M2p.

Brain section (rat) – multichannel image with ApoTome. Green: GFP-labeled astrocytes. Blue: cell nuclei (DAPI). Objective: Plan-APOCHROMAT 20x/0.6. E. Fuchs, S. Bauch, DPC, Göttingen, Germany


Interphase

Imaging Systems.
From Simple Observation to Analysis.

The type of task determines the system solution. Axio Imager 2 provides the appropriate system for every requirement of Life Science research. Sophisticated modularity and a wide spectrum of perfectly coordinated components guarantee perfect results. Quickly. At any time.

Preconfigured and individual: the systems
The demands on the relevant systems are as different as the nature of the tasks in Life Science research. The modular architecture of Axio Imager 2 allows you to make an individual configuration which is exactly tuned to your requirements. For digital image documentation of 3 (x, y, z) to 6 dimensions (additionally t, λ and x, y location) Axio Imager can be expanded with highly sensitive cameras from the AxioCam family. AxioVision offers a large number of specific modules for subsequent image analysis.

Digital intelligence: AxioVision

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Proven and appreciated: the AxioCam family
Carl Zeiss offers a broad spectrum of digital cameras in different performance classes. The monochrome cameras are characterized by optimum resolution and highest sensitivity (12 or 14 bit dynamics) particularly in cases of faint fluorescent samples. The color cameras stand for the best color reproduction and highest resolution up to 12 megapixels per color channel. All the cameras have thermoelectric cooling and provide the option of rapid shutter synchronization. All AxioCam cameras are characterized by rapid live image and complete integration in the Carl Zeiss system world.

Highly stress resistant: motorized focus and high-performance focus
The Axio Imager offers you two different versions of the z-motor. The standard design with a step size of 25 nm at a reproducibility of ± 75 nm is always part of the M-stand configuration. For the highest requirements such as LSM or Z-stack imaging with small intervals, a high-performance focus is available for the Axio Imager.Z2. It has a step size of only 10 nm with a reproducibility of ± 10 nm – at a traverse rate that is three times higher. It was specifically developed for continuous use (24 hours / 7 days) and even with large stages it guarantees absolutely precise focus movements over long periods.

Optical sections with ApoTome
ApoTome has firmly established itself as the standard method in high-end research in the life sciences. For the first time it can be used with all the stands in the Axio Imager 2 family. The ApoTome slider is simply inserted in the luminous field diaphragm plane of the reflected-light beam path. Via the principle of fringe projection, precise optical sections are created online with elevated contrast and clearly increased axial resolution. This is the ideal solution for tissue sections and thicker, fixed samples.

No stray light ever again: AxioVision 3D deconvolution
Deconvolution from Carl Zeiss calculates the stray light mathematically from outside the focal plane back to its origin. In this way the object recorded in the 3D image stack is “unfolded”. The result is a first-class image quality particularly in samples with extremely weak fluorescence where a high light yield is essential.
Precisely on the spot: motorized stages and z-piezo insert
They allow a precisely accurate approach to positions and the highest degree of reproducibility. Via highly sensitive piezo or step motor every desired position can be exactly set and relocated.

- Piezo stage: step size 0.2 µm, reproducibility: +/- 0.6 µm
- Mechanical stage: step size 0.1 µm, reproducibility: +/- 0.3 µm
- New stage control for stages with DC motors for direct coupling with the motorized stages (magnification-dependent traverse rate): highest reproducibility and precision in high-end applications
- z-Piezo focusing insert with 100 µm focusing range for rapid imaging with Colibri and Z-stack images; resolution 5 nm, reproducibility: +/- 1 nm, max. additional load 2 kg, for frame size 222 x 139 mm, available mounting frames for all common preparation shapes

The scanning stages are the prerequisite for all automated imaging techniques such as MosaiX or Mark&Find.

New stimuli for your research: the LSM family
Confocal microscopy at the highest level: LSM 700, LSM 710, and LSM 7 MP belong to the seventh device generation of the Laser Scanning Microscope from Carl Zeiss. The use of the same first-class system components and the same software in the entire device class ensures outstanding performance and image quality without any compromises. The result: an excellent price-performance ratio. A novel beam path ensures excellent laser suppression as well as maximum registration of emission and results in breathtaking images. Demanding tasks such as spectral imaging, FRET, FRAP or colocalization analysis are easily managed with unprecedented image quality and high scanning speed.

LSM 710 NLO and LSM 7 MP are ideally suitable for highly sensitive deep examination of living preparations or organisms. Both systems are characterized by unrivalled sensitivity. Highly effective non-descanned detection ensures efficient depiction in deep tissue layers. These are the systems of choice for long-term developmental studies, patch-clamp and uncaging experiments.

Precision in z: the closed loop system
Axio Imager.Z2 with the focus linear sensor offers anyone who has to fulfill extremely high requirements the precision of ±1 nm in the z-direction. On the one hand, the application-independent movements of the microscope stage are detected and readjusted automatically. On the other hand, highly precise and reproducible Z-stacks are ensured with z-steps of equal size, which means maximum control and reliability.

Axio Imager is intelligent technology with a trendsetting control concept. Even the most demanding experiments and long working sessions at the microscope become simple and efficient. Automated procedures allow rapid, intuitive control with either manual or motorized components depending on the individual requirements.

Efficient, rapid, comfortable: the touchscreen
A good thing has been made even better: The control software of Axio Imager 2 collects all of the critical functions on one touch-sensitive TFT display. All motorized components are controlled with a touch of your finger, while their status is also displayed. The integrated light and contrast managers constantly adjust the light and contrast settings optimally.

- The contrast manager’s control and user guidance adhere to the logic and workflow of all applications.
- Motorized components can be optionally switched to automated or manual control.
- The favorites page allows access to frequently used functions when switching ON the microscope.

Ergonomically well-conceived: Control buttons and exchangeable fine drive
Ease of operation redefined: the control buttons which have been ergonomically arranged around the focus drive can be easily distinguished by their tactile surfaces. The two different fine drive buttons of the focus drive are exchangeable and can be optionally used for right or left. The motorized stand has ten freely assignable control buttons. The manual stand allows the simple setting of light intensity as well as switching of the motorized shutter in reflected- and transmitted-light via five preconfigured buttons.

- Individual settings can be defined for up to 10 different users.

Ergo phototube for perfect convenience
Ergonomically distributed control buttons
Ideal arrangement of the diaphragm slider and filter wheel in reflected-light
Provides mobility: the control panel
Axio Imager can also be used remote-controlled via a free positionable control panel. Among other things, this panel has a focus drive and a brightness control. Additional arbitrary functions can be programmed. The panel provides an interface for the TFT and for the x-, y-control of the motorized mechanical stage.

Error-free control with ACR
ACR (Automatic Component Recognition) stands for the innovative concept of automatic recognition of objectives and reflector modules on the Axio Imager.Z2. When changed, the replaced components are immediately registered in the system. An important advantage for ease of operation and safety: operating errors and time-consuming programming are avoided.

Absolutely stable: the Imaging Cell
The key elements of Axio Imager such as the nosepiece, z-guidance, and the stage are decoupled from the remainder of the stand as a stable cell. The entire unit has been designed to be practically vibration-free and insensitive to thermal influences. Even in the long-term it provides the highest possible stability and absolute freedom from vibration. Ideal preconditions for imaging, particularly in long-term experiments and in time lapse imaging.
Stand Design.
Flexibility Times 6.

Advanced technology assures that the user will select the appropriate system. The sophisticated stand design of Axio Imager 2 and well-conceived, preconfigured packages guarantee you an appropriate configuration that meets the most demanding applications.

**Convincing technology: the stand**
Progressive down to the smallest detail – even in the basic configuration, all stands have an interface to the control computer. The parameters of encoded or motorized components can be read out or controlled directly by AxioVision.

- **Axio Imager.A2 LED**
  Ideally appropriate for brightfield applications in transmitted-light: an LED light source ensures a constant color temperature across the entire intensity range.

- **Axio Imager.A2 and M2**
  More flexibility: interfaces for sliders in the reflected-light beam path allow convenient working with either aperture or field stop diaphragms or an attenuator in fluorescence. Optional on Axio Imager.M2: motorized filter wheels and diaphragm sliders in reflected-light (M2m) or in transmitted-light (M2).
• **Axio Imager.M2p**
  Automatic parfocality compensation, a light manager, the motorized condenser, and manual objective changing make routine work, e.g. in pathology, comfortable and efficient.

• **Axio Imager.D2**
  The manual high-end stand can be equipped with a 6x- or 10x-motorized reflector turret, which, above all, make fluorescence applications comfortable and fast.

• **Axio Imager.Z2**
  The stand has been developed to meet the most stringent requirements. A high-performance focus allows constant operation with a high sample throughput. It ensures precise focusing movements over long periods and also when using large and heavy sample stages up to 9 kg.
### Axio Imager 2 – Flexibility for all application areas

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+ = Included in stand  
O = Optionally available  
- = Not available  
* = Motorized (6x and 10x) reflector revolver can be used  
** = ACR function not possible with Axio Imager.D2 and D2m  
*** = A motorized shutter is included in every reflected-light illumination. For fluorescence applications this can optionally be replaced by a high speed shutter  
**** = For the use at the Axio Imager.A2 LED, A2, A2m, D2, D2m an USB/CAN converter 432909 is required  
***** = Only in combination with motorized objective nosepiece  
m = Optimized for materials applications
Objective nosepieces, reflector turrets, filters, prisms

Reflector module brightfield ACR P&C
for reflected light
424928-9901-000
Reflector module C-DIC/TIC ACR P&C
for reflected light
424941-9000-000
Reflector module darkfield ACR P&C
for reflected light
424922-9901-000
Reflector module Polarizer ACR P&C
for reflected light
424932-9901-000
Reflector module Pol ACR P&C for HBO 100
for reflected light
424924-9901-000
Reflector module C-DIC/TIC ACR P&C
for reflected light
424929-9903-000
Reflector module Dic/Pol red I ACR P&C
for reflected light
424938-0000-000
Reflector module Dic/Pol ACR P&C
for reflected light
424939-0000-000
Reflector module with analyzer ACR P&C
for reflected light
424941-90050-000

Analyzer module DIC ACR P&C
shift free for transmitted light
424921-90100-000
Analyzer module DIC ACR P&C
for transmitted light
424921-99010-000
Analyzer module DIC ACR P&C shift free
for transmitted light
424931-99010-000
Analyzer module Pol ACR P&C
for transmitted light
424937-99010-000

Modul Optovar 2.5x P&C
(only for transmitted light)
424936-0000-000
Optovar module 1.6x P&C
(only for transmitted light)
424935-0000-000
Optovar module 1.25x P&C
(only for transmitted light)
424934-0000-000

Filter sets for reflector modules FL
on request

4-position modulator revolver
for circular DIC/TIC
424703-0000-000
4-position modulator revolver mot.
for circular DIC/TIC
424704-0000-000

4-position modulator turret mot.
for transmitted light DIC
424707-9000-000
for use with
Analyzer module DIC ACR P&C shift free
for transmitted light
424921-90100-000
(only with 22 and 22m)

Filter sets on request

DIC prism 0, 1 and II; 5x, 10x, 20x
for modulator turret
426924-9005-000
DIC prism III 40x
for modulator turret
426928-9010-000
DIC prism III HR PA 63x/1.4
for modulator turret
426978-9010-000
DIC prism III HC 63x/1.4
for modulator turret
426928-9010-000
DIC prism III HR PA 100x/1.46
for modulator turret
426928-9010-000
DIC prism III HC 100x/1.46
for modulator turret
426928-9010-000

7-position objective nosepiece, HD M27 cod.
424501-0000-000
7-position objective nosepiece, HD M27 mot.
424502-0000-000
6-position objective nosepiece, Pol M27 cod.
424502-0000-000
6-position objective nosepiece, HD M27 mot. ACR
424567-0000-000

Objective intermediate ring ACR for cylindrical, short objective sleeve
424508-0000-000
Objective intermediate ring ACR for cylindrical, long objective sleeve
424511-0000-000
Objective intermediate ring ACR for conic, short objective sleeve
424509-0000-000
Objective intermediate ring ACR for conic, long objective sleeve
424510-0000-000
Stand, stage carriers, polarizers, sliders

Focus Linear Sensor 430703-0000-000 (to be used with stand 22 and 22m)

Holder 2 for the measuring probe of the Axio Imager 430702-0000-000

Stage carrier, detachable with condenser carrier for Axio Imager 430707-0000-000

Condenser carrier with vertical adjustment on both sides 430705-0000-000

Transmitted-light/ reflected-light stage carrier 430704-9901-000

Polarizer D, fixed removable 427701-0000-000

Polarizer D, 90° rotateable, removable 427708-0000-000

Polarizer rotateable with color filter carrier 427707-0000-000

Polarizer fixed with lambda plate rotateable 445226-0000-000

Circular polarizing equipment D ACB, with rotateable lambda/4 plate for transmitted light 427703-9901-000 including reflector module lambda/4, ACB P&C

Color filter carrier 3x for filter d=32 mm 428305-0000-000

LED illuminator for transmitted light 423904-9902-000 
Slider with polarizer for LED illumination 427708-0000-000

Mechanical stage 75x50 R for reflected light with hardcoat anodized surface 453527-9903-000

Reflected-light stage carrier, detachable for Axio Imager 430701-9901-000

Note: Useable only if no camera path deflecting system on the left side is inserted:

Quartz depolarizer d=32 mm 453653-0000-000
Analyzer slider D/A, fixed 428101-0000-000
Analyzer slider D/A with lambda-plate, 360° rotateable 428102-0000-000
Analyzer slider D/A, 360° rotateable 428103-0000-000
Analyzer slider D/A with lambda-plate, each rotateable +/- 10° 453663-9901-000
Bertrand lens slider Ph 453671-0000-000
Depolarization slider D/A 428105-0000-000

Stop slider with centerable luminous-field diaphragm 423611-0000-000
Stop slider mot. with centerable luminous-field diaphragm 423612-0000-000
Slider with variable rectangular diaphragm 423615-0000-000

Stop slider with centerable aperture stop 423617-0000-000
Stop slider mot. with centerable aperture stop 423814-0000-000 Fl attenuator, discrete 423816-0000-000 Fl attenuator, discrete, mot. 423817-0000-000

Double filter wheel, discrete, man. with neutral-density filter set d=25 with 2x4 postions 428300-8000-000

Double filter wheel, discrete, man., 2x4 positions 428350-9901-000
Double filter wheel, discrete, mot., 2x4 positions 428351-9901-000

Neutral-density filter set D/A, d=25 487931-9901-000 Filter set transmit. light with neutral-density and color filters, d=25 487935-9010-000 Neutral-density filter set for reflected light, d=25 487935-9020-000
Tubes, eyepieces, tube lens turrets, multidiscussion

Binocular tube 30°/23, reversed image, Axio Imager
425520-9060-000

Binocular phototube 30°/23 (50/50), reversed image, Axio Imager
425520-9070-000

Binocular Ergotube 20°/23, reversed variable, continuous vertical adjustment 44 mm
425511-2000-000

Binocular Ergotubotube 20°/23 (100/0/0/100), upright image variable, continuous vertical adjustment 44 mm
425514-2000-000

Binocular phototube Pol 15°/23 (100/0/0/100), upright image including quartz depolarizer
425517-2000-000

Binocular phototube Pol

20°/23 MAT (100/0/0/100), upright image variable, continuous vertical adjustment 44 mm
425514-2000-000

Binocular phototube 30°/25, reversed image
425500-0000-000

Binocular phototube 30°/25 (30vds/70doc), reversed image
425501-0000-000

Binocular phototube 30°/25 (100v/30/70v/100), reversed image
425502-0000-000

Binocular phototube 30°/25 mot, (100v/30/70v/100), with two camera ports, reversed image
425504-0000-000

Binocular phototube 30°/25 (100v/30/70v/100), reversed image with motorized eyepiece shutter,
425506-0000-000

Binocular phototube 15°/23 (100/0/0/100), upright image, adjustable stop
425503-9901-000

Comfortable binocular Ergophototube

15°/23 (50/50), upright image variable, continuous horizontal and vertical adjustment of the binocular component
425515-0000-000

Note:
The tubes
425500-0000-000
425502-0000-000
425503-9901-000
425506-0000-000
and
425515-0000-000
can be combined with a tube lens turret or the center component for multidiscussion equipment.

Note:
For tube lens turrets the eyepieces Pl. 10x/25 Br. foc or Pl. 10x/23 Br. foc have to be used.

Center component for multidiscussion, for tube carrier left and right
425141-9901-000
with Filters grey
425141-8032-000

Tube carrier multidiscussion for 2 tubes, connect linear left/right
425145-9020-000
Tube carrier multidiscussion for 1 tube, arm left deflection, connect
425145-9030-000
Tube carrier multidiscussion for 1 tube, arm right deflection, connect
425145-9040-000
Tube carrier multidiscussion for 2 tubes, end panel linear, l/r
425145-9050-000
Tube carrier for 1 Co-observer, light-intensive, end panel, left
425145-9060-000

Tube lens 1.25x
425903-0000-000
Tube lens 1.6x
425304-0000-000
Tube lens 2.5x
425305-0000-000
Tube lens 4.0x
425307-0000-000

Note:
To be equipped at most with three tube lenses.
5-position tube lens turret, cod., with Bertrand system
425309-9901-000
with tube-lens 1.0x
5-position tube lens turret mot., with Bertrand system
425302-9901-000
with tube-lens 1.0x

Auxiliary microscope,
d=30 mm
444830-9902-000

Okulareinlegeplatten
on request
Axio Imager 2.
Even More Highlights.

The optics
- IC²S beam path for high contrast
- Highest possible resolution through high-performance objectives

The fluorescence
- Combination of DIC and fluorescence with the motorized DIC turret
- Excellent image quality due to the optimized beam path
- Triggerable LED light source
- Several light sources for uniform illumination

The stands
- Preconfigured packages for the most common applications
- Coded and motorized components
- Modular and individually upgradable

The imaging
- Motorized DIC turret: Combination of fluorescence and DIC for absolute artifact-free images
- Rapid image acquisition in up to 6 dimensions
- Motorized scanning stages, motorized z-focus and high-performance focus (Axio Imager.Z2) for the highest precision and positioning accuracy