

Primo Star

Greatness is a Question of Opportunities.



Power. Performance. Value.
Invest in the Best in Education, the
Laboratory, Practice and the Field.



We make it visible.

Primo Star. High Performance for Education and the Laboratory.

They have to be robust, easy to operate, equipped with good optics and, above all, reasonably priced: the demands placed on educational microscopes are very specific. The constant assembly, disassembly, and handling by inexperienced microscope users as an everyday course element requires the microscope to be extremely durable and its operation to be straightforward.

Carl Zeiss has responded to these demands and, with Primo Star, is presenting a new generation of instruments in educational microscopy – a microscope that has been developed with long-term use and great durability in mind. Robust, with a fresh design and ergonomic viewing. Primo Star incorporates all the experience gathered by Carl Zeiss in the field of light microscopy, adapted specifically for educational purposes.

- Easy to operate
- Robust and durable
- Quality optics from Carl Zeiss
- Numerous innovative solutions
- Flexible through its modularity
- Excellent price/performance ratio

Primo Star is available in ten different variants. The right version for every set of requirements. This microscope – together with its many practical accessories – can be used for education, in the laboratory, doctors' practice and in the field. Genuine Zeiss.



Primo Star



Incredibly Practical. Innovative Solutions in Their Most Attractive Form.

Primo Star is more than just an educational microscope: behind its stunning design lies an intelligent functionality. In close cooperation with teaching institutions, Carl Zeiss has developed unique components specifically for Primo Star. From the modular illumination concept and ergonomic Siedentopf tube through to the illumination intensity display, Primo Star impresses with its numerous well thought-out details. For your students this means maximum convenience as they learn to use a microscope. And, for you, that wonderful feeling of having a "genuine Zeiss" right from the start.

Modular illumination: cost-efficient or standard?

- Three illuminations for educational and lab work
- 30 Watt halogen light
- LED with stable color temperature and higher efficiency as the most economical solution, and for long-term usage
- Tilting mirror for operation without electrical power

Carrying handle: safe and secure

- Maximum safety for the microscope: integrated carrying handle
- Plastic-coated on the inside
- Once dismantled, convenient and safe transport in microscopy course rooms and laboratories

Comfort for all users: the Siedentopf tube

- Unique and comfortable in the laboratory and for educational use: swiveling Siedentopf tube
- Ergonomic viewing angle of 30°
- Ability to adjust viewing height to users' height
- Wide adjustment range for individual interocular distance (48 mm to 75 mm)

No untidy cables: the external power supply unit

- Special rear panel with external power supply unit and cable
- Adapter for conversion to a table-top power supply unit
- In the event of repair, just the power supply unit is replaced

Modular illumination



Performance

Swiveling Siedentopf tube

Total control: the light display

- Blue light intensity display on both sides of the stand
- Important control function allowing lecturers to check all microscopes in the course room, even from a distance
- Quick control of light intensity by the user

Practical: stages with right-hand or left-hand drive operation

- For laboratory and educational practice: right-hand and left-hand stage drive operation
- Operation of stage drive using the right hand and focus drive using the left hand, or vice versa
- Individual set-up of the laboratory or course room

Form follows function: the design

- Innovative design: combination of aesthetics with maximum functionality
- Quality and high standards with regard to the choice of materials: mostly metal, minimum use of plastic
- Functional and stable

Carrying handle



Power supply unit with plug adapters



Quality Prevails. Worldwide.

Wherever you are – you are never far from Carl Zeiss. When it comes to service and sales, the Carl Zeiss network is unequalled worldwide. Our comprehensive technical support network guarantees rapid help and maximum availability in numerous countries across the world. The advantage for you: your personal partner can reach you quickly, when it matters. Whether you are in Asia, Europe or the USA, and whether it's for education, laboratory or field work – Carl Zeiss microscopes are held in high esteem the world over. Like Primo Star. With fresh ideas and the latest technology.

Global presence

The Carl Zeiss network – your guarantee for outstanding service. Besides a speedy spare part and repair service, this also means support with regard to all microscopy-related issues from an experienced international team of experts. Via the inter-

net, hotline or your own personal contact, you will encounter specialist advice and always find the right solution for your special application in education, the laboratory or doctors' practice.

Primo Star – used internationally

Primo Star is a versatile microscope that can be used for anything that is relevant to education and laboratory operation. All the functions and operation can be quickly learned. The ergonomic adjustment of the viewing height, country-specific plugs and option of use in the field have been designed for international usage. For this reason, it is suitable for education and routine work in all areas of microscopy, in all corners of the globe.



International

Learning microscopy made easy

Designed specifically for education, Primo Star covers the various educational stages of microscope use. Starting from useful magnification through to a perfectly adjusted microscope according to Koehler – Primo Star makes learning how to use a microscope as simple as can be. Thanks to its easy operation and robustness, Primo Star is particularly suitable for use in schools.

Even sophisticated work flows like those at schools for cytology assistants can be quickly explained and learned with Primo Star. Special packages are also available for training facilities at higher education institutions for medical occupations and at medical and biological university faculties. This way, even the Koehler method becomes an easy exercise.

For the required contrast methods and preparations

Using Primo Star, it is possible to use all the applications and contrasting methods that are relevant to education.

- Stained tissue sections in medicine
- Unstained cells in phase contrast in medicine and biology
- Plant stem cross sections in botany
- Extremely fine structures such as diatoms in darkfield in biology
- Examination and analysis of germs and bacteria in field work





More Possibilities. The Right Primo Star for Every Requirement.

Carl Zeiss has developed ten packages for Primo Star which are geared entirely toward the everyday routine work of education and laboratory practice. The high Carl Zeiss standard of quality is common to all variants. The difference lies in the detail: depending on the level of education and requirement profile, the individual packages differ slightly in what they offer. This means that you get exactly what your daily practice calls for.

Fixed-Koehler versions for standard education

Primo Star packages 1-3 – these microscopes mark the new standard in education. They have all the important functions and are very simple to operate. In addition, we offer the stage with left-hand operation for all those who wish to use the microscope with their left hand and write or draw with their right hand. The most economical solution in the

long-term in this area is variant 3 with LED illumination. If a constant color temperature is important to you and you intend to use Primo Star for a long time, then this is the instrument to choose – primarily because of its extremely long service life and low operating costs.

For standard microscope work at the highest level: the Full-Koehler versions

Packages 4-8, which are used to teach the classic Koehler method, are suitable for higher level education. These Primo Star packages also have a somewhat larger field of view, the option of left-hand operation and a phototube for connection to a digital or video camera. They are also available with the cost-efficient LED illumination as an option.

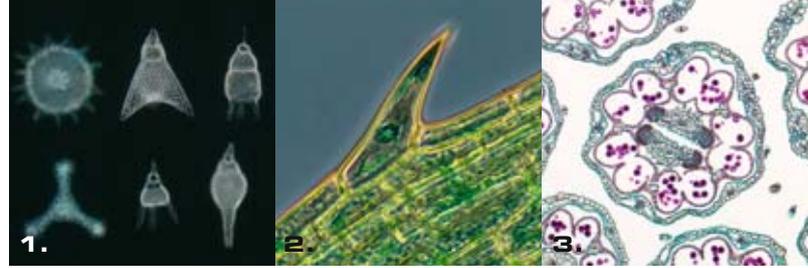
Fixed-Koehler package

Variant with phototube

- a. Sliders and filters
- b. AxioCam HR
- c. Digital camera

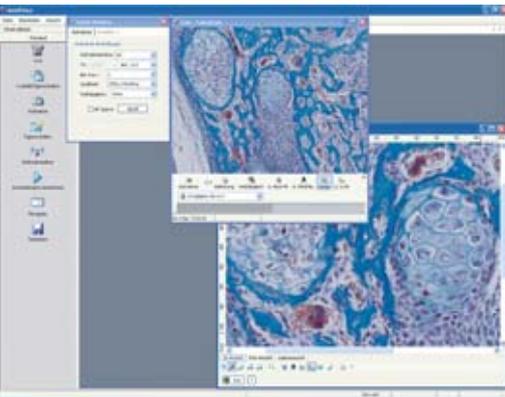


1. Fossil foraminifera, annular-diaphragm darkfield
Objective: Plan-Achromat 40x
2. Waterweed (Elodea), phase contrast
Objective: Plan-Achromat 40x
3. Flower umbel of the daisy (Bellis perennis)
Brightfield view
Objective: Plan-Achromat 10x



With the help of AxioVision microscope software, the whole world of camera technology is open to you: TV cameras, digital cameras and the special AxioCam microscope cameras from Carl Zeiss. Using the AxioVision LE software, an extremely good value solution, immediately presents itself with regard to digital, interactive image analysis and documentation for select digital cameras from Canon. This solution is available specifically for education and simple laboratory applications.

AxioVision

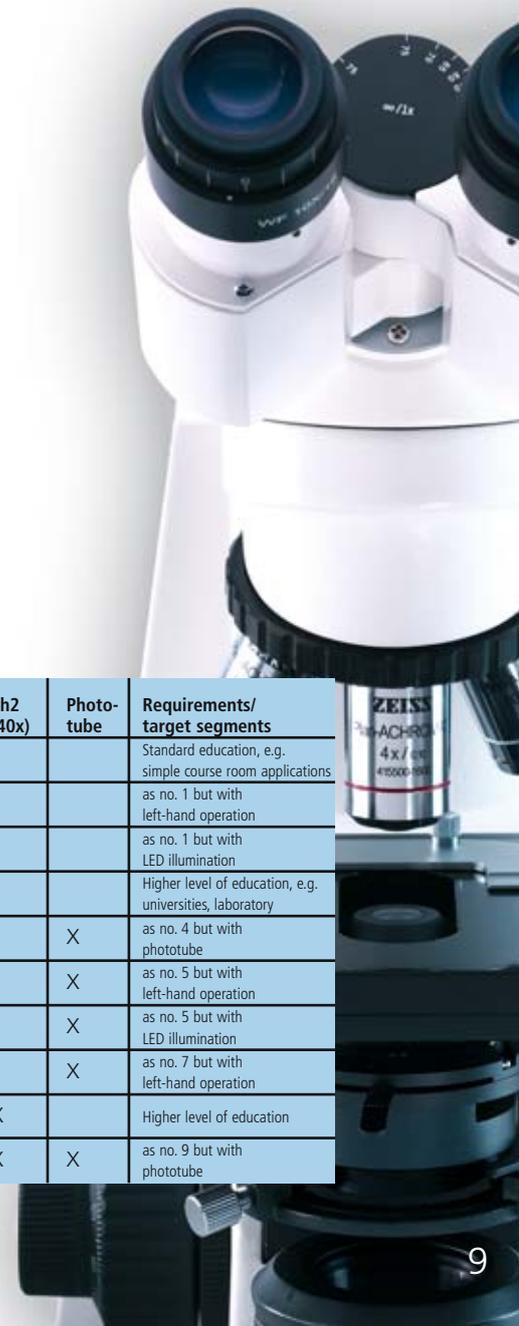


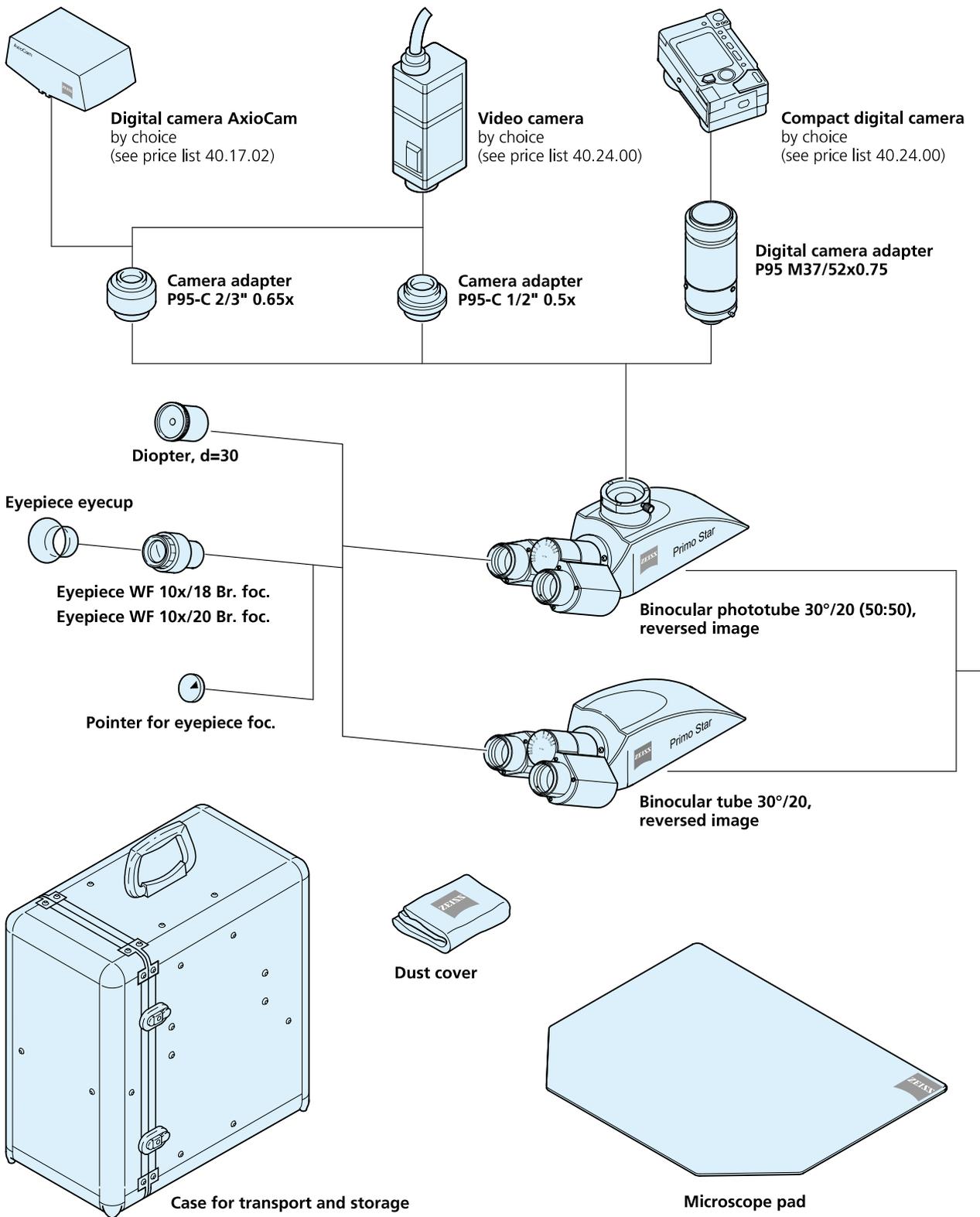
Primo Star with phase contrast

Primo Star packages 9-10 – In biology in particular, phase contrast is frequently used in education in order to make the finest structures of unstained cells visible. This is a particular challenge for educational microscopes. For Primo Star, however, it is a matter of course. As an option even with darkfield contrast, to make the smallest structures visible.

Primo Star packages

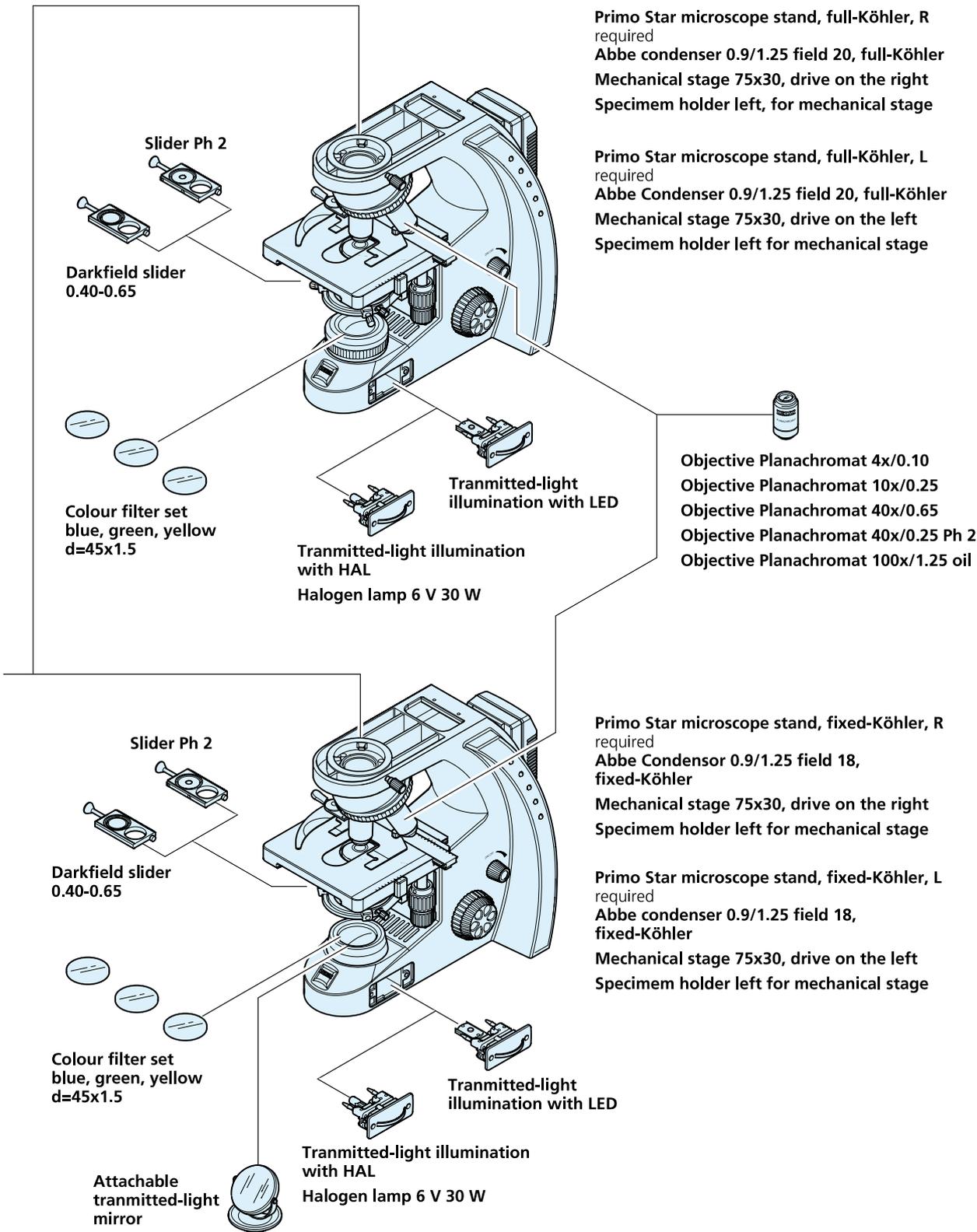
Package no.	Stage drive right	Stage drive left	Field of view 18 mm	Field of view 20 mm	Fixed-Koehler	Full-Koehler	HAL	LED	Ph2 (40x)	Photo-tube	Requirements/target segments
1	X		X		X		X				Standard education, e.g. simple course room applications
2		X	X		X		X				as no. 1 but with left-hand operation
3	X		X		X			X			as no. 1 but with LED illumination
4	X			X		X	X				Higher level of education, e.g. universities, laboratory
5	X			X		X	X			X	as no. 4 but with phototube
6		X		X		X	X			X	as no. 5 but with left-hand operation
7	X			X		X		X		X	as no. 5 but with LED illumination
8		X		X		X		X		X	as no. 7 but with left-hand operation
9	X			X		X	X		X		Higher level of education
10	X			X		X	X		X	X	as no. 9 but with phototube



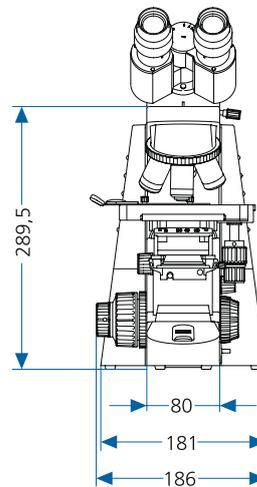
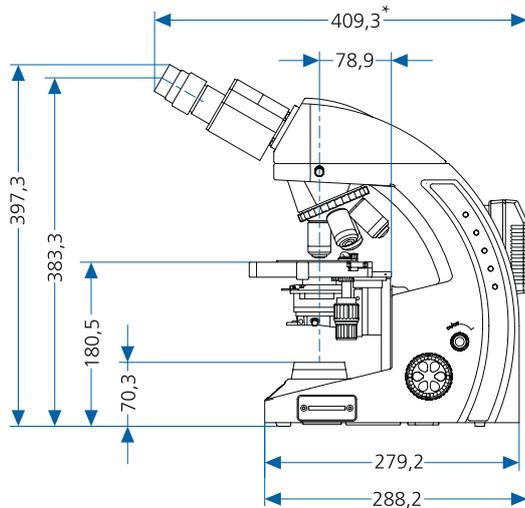


Please refer to the current national price lists for the order numbers and prices for accessories.

System Overview



Performance in Detail.



*only 359,3 mm in the rotated position

Technical Data

Optical system:	Color-corrected infinity optics
Parfocal distance:	45 mm
Tube length:	180 mm
Two stand variants:	Full-Koehler and Fixed-Koehler
Magnifications:	40x to 1000x for visual observation 4x to 100x for camera observation
Eyepiece tubes:	Swiveling Siedentopf tube with upper and lower position: upper position offers approx. 40 mm extra viewing height Adjustable interpupillary distance: 48 mm-75 mm Tube can be rotated 360° 30° viewing angle (ergonomic angle) Binocular tube and binocular phototube 50%:50% (vis:doc) Several photo adapters available for phototube
Eyepieces:	WF 10x/18 Br. foc. WF 10x/20 Br. foc. Eyepiece pointer can be retrofitted, all eyepieces anti-fungus treated
Nosepiece:	4x, inclined backwards 4x, reversed

Objectives:	Plan-Achromat 4x/0.1	WD: 6.50 mm
	Plan-Achromat 10x/0.25	WD: 4.39 mm
	Plan-Achromat 40x/0.65	WD: 0.48 mm
	Plan-Achromat 100x/1.25	WD: 0.13 mm
	Plan-Achromat 40x/0.65 Ph2	WD: 0.48 mm
Condenser:	Abbe condenser 0.9/1.25 Holder for phase contrast and darkfield sliders Two variants for fields of view 18 mm (Fixed-Koehler) and 20 mm (Full-Koehler)	
Illumination:	Modular illumination concept with drawer HAL (30 W/6 V), LED (3 W/6 V, roughly corresponding to brightness of 20 W HAL)	
Stage:	Stages available with either right-hand or left-hand operation	
Area of stage:	w x d: 140 mm x 135 mm	
Travel range:	w x d: 75 mm x 30 mm	
Z-drives:	Fine drive: 0.3 mm/rot. Coarse drive: 4 mm/rot. Total travel range: 15 mm	

Accessories

Carrying case, microscope mat, eyepiece pointer
Tilting mirror (only for Fixed-Koehler stand variant)
Phase contrast equipment (Plan-Achromat 40x/0.65 Ph2 + Ph2 slider)
Darkfield equipment (DF slider 0.65)
Camera adapters: C-mount adapter 1/2"; C-mount adapter 2/3"; digital camera adapter
AxioVision LE with Canon camera driver

Norms and standards met: CE, CSA, UL, ICC, ISO 9001, IVD
All optical components are anti-fungus treated

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