SYNTEST F
Horizontal
Immersion Microscopy

SYSTEM® EICKHORST

Made in Germany

Information

SYN F

Horizontal immersion microscope base for examination of coloured stones in immersion liquids of corresponding refractive index. The exclusive access to the "Internal World of Gemstones".
The traditional European gem microscopy following the famous design of Prof. Schloßmacher, Idar-Oberstein.

Trinocular ZEISS Optical System

StereoZOOM optical system totally magnifying 6.5x – 50x or 10x – 80x , max. 250x at **SYNTEST** horizontal microscope base, ready for DIGITAL photomicrography.

Extension Options for Vertical Microscopes

By a corresponding adaption ring, most StereoZOOM optical systems, used with vertical darkfield microscopes, can easily be mounted onto the SYNTEST base, such as GIA's BAUSCH & LOMB, AMERICAN OPTICAL, LEICA or OLYMPUS; MEIJI, KYOWA, MOTIC and more.

Light Source

High intensity LED lamp for powerful 6,000 Kelvin daylight illumination:
Choice of transmission, incident and darkfield mode of light.
Illuminator rotatable around the gemstone for variation of light incidence.

DIM

Control for electronic dimming of light source.

Stoneholder & Mounting

MAGNETIC CLICK stoneholder system with magnetic socket.
Possibility of mounting for right- as well as for lefthand use.

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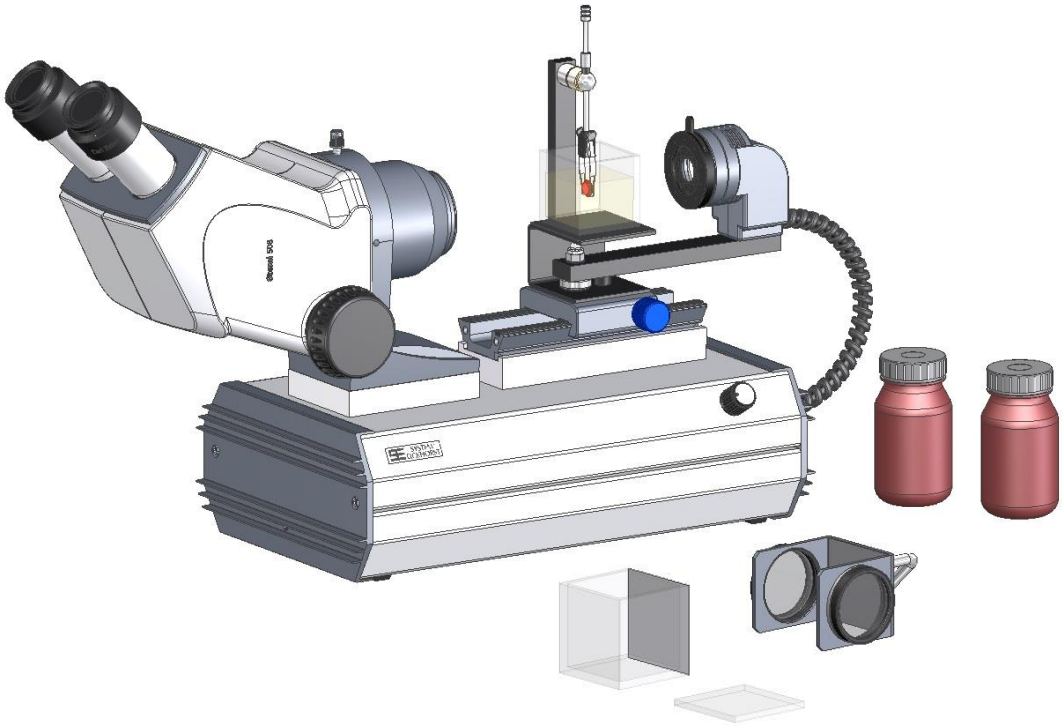
Immersion Cells and Liquids	Two immersion cells of 45 x 45 x 45 mm (1.8” x 1.8” x 1.8”) size with magnetic device for secure hold on stage. Immersion liquids of nD 1.57 and nD 1.66 each 100 ml
Polarisation	U-type polarization unit around the cell, both filters rotatable. Magnetic hold at cell holder.



SYNTEST horizontal Microscope Base with Polarizer Unit, second Immersion Cell and Liquids. Stage shown for left hand use of stoneholder, but mountable for right hand use as well.

Microscope Base Design	Solid steel of rugged consistency. Resistant grey epoxy coating of distinguished elegance.
Dimensions	Base / case 330 x 185 x 95 mm (13” x 7 3/8 x 3 3/4”) Vertical max. height 300 mm (11 7/8”)
Weight	Base without optical system approx. 5,000 g (11.03 lbs)
Power	220 – 240V / 50 – 60Hz 100 – 120V / 50 – 60Hz by optional voltage converter. Power cord 3-wire grounded, 1,800 mm (6'), adaptors for CH, IT and GB sockets Degree/class of protection: IP 20/I Electromagnetic compatibility following the EU norms.

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ZEISS

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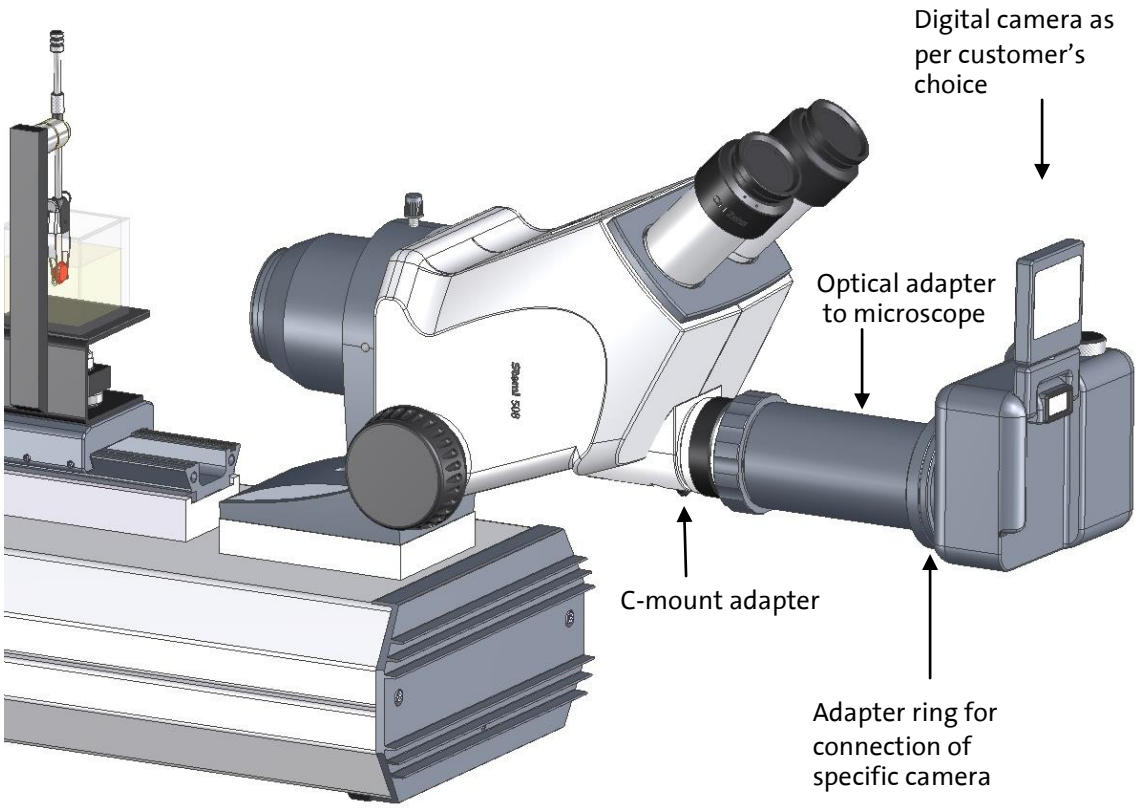
ZEISS trinocular StereoZOOM Optical System

The high-quality ZEISS optical system provides an outstanding imaging quality in terms of contrast and resolution. The trinocular system included in this package is equipped with 16x eyepieces for a total ZOOM magnification of 10x - 80x next to the 10x ones magnifying 6.5x – 50x.

Outstanding optics design

- apochromatic corrected ZOOM optics of ZEISS manufacturing
- sharp, distortion-free 3D image over the whole visual field
- mechanical corrected ZOOM curve for largest ZOOM range 8 : 1
- sharp 3D image in each ZOOM position
- distortion-free 10x and 16x eyepieces
- wide field of view 25 mm at 10x
- individual diopter correction at each eyepiece
- eyepiece adjustment 55-75mm
- c-mount adapter 0.5x
- working distance 92mm

Digital Adapter



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ZEISS Stereo ZOOM-optics binocular

ZEISS

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SYNTEST F StereoZOOM Features
Table for ZEISS Optical Systems

Features	ZEISS 508 Optical System
Objective ZOOM Range [1)]	0.65x - 5x
Eyepieces	10x / 16x / 25x
Total Magnifications [1)] with:	
Eyepieces 10x	6.5x - 50x
Eyepieces 16x	10x - 80x
Eyepieces 20x	./.
Eyepieces 25x	16x –125x
Field at 10x magnification with 10x Eyepieces (mm) [2)]	23
Field at 10x magnification with 16x Eyepieces (mm) [2)]	25
Eyepiece Distances (mm)	55-75
Eyepiece Diopter Adjustment	both
Working Distance (mm)	92
Optional front lenses	0.63x / 1.6x / 2.0x

1) (16x eyepieces) x (0.63x – 4.0x objectives) = 10x – 64x. In Gemmology the figure of 10x of the total microscope magnification is used for diamond grading. Therefore most optical systems are equipped with 16x eyepieces. It's a simple intention if starting with 10x total magnification to get a higher magnification at the end of typical 64x (instead of 6.3x – 40x with 10x eyepieces).
2) The field at 10x total magnification is the diameter in mm of the microscope picture viewed by the observer. It's a quality feature of the eyepieces and the objectives. Typical range is 20 – 25 mm at 10x depending on the manufacturer of the optical systems. Of course, at 6.3x the field is much wider, e.g. 36 mm and consequently much smaller at 64x of only 4 mm.
3) Figures shown are without any front lenses!

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