

OLYMPUS®

SZH10

Zoom Stereo Microscope System



The leading-edge of zoom stereo microscope technology. The new SZH10 with advanced 10:1 zoom

What do experts in high-tech industrial research demand from a zoom stereo microscope? What functions can really satisfy the requirements of professional research scientists? Olympus now provides the answer to these questions with the new SZH10 Zoom Stereo Microscope System. A dynamic 10:1 zoom range permits high-magnification observation, while the new D.F. PlanAPO 1x objective delivers crisp, faithful images completely free of distortion. The outstanding

operational versatility of the SZH10 provides more comfort for research work. And it can be combined with various photomicrography systems for advanced documentation and presentation applications. That's not all. The system is easily expandable with a host of optional accessories. The ultimate combination of Olympus' leading-edge technologies and expertise in microscope manufacturing the SZH10 is every researcher's dream come true.



S U P E R S T I



SZH10
RESEARCH STEREO

OLYMPUS DF PLANAPO IX

REOZOOM

The Latest Superb Optics Combined with Outstanding Performance Make the SZH10 More Functional and User Friendly Than



A click-stop function is incorporated into the zoom handle.

The click-stops make it easy to repeat particular magnifications along the zoom range and for tasks such as inspection processing in the IC industry for instance, this can result in a significant improvement in operator efficiency. Also, because the click-stop can be released, smooth, continuous change of magnifications is possible.



Coaxial coarse and fine focusing knobs for quick, clear focusing.

Along with the extended zoom ratio, a fine focusing mechanism has been added. Moveable over the entire 50mm focusing range, this function is particularly effective for obtaining precise focusing at high magnifications.



recision,
n Ever

**Top-of-the-line distortion-free
1X Apochromat objective.**

Thanks to the newly designed distortion-free Apochromatic objective (D.F. PlanAPO 1X), the SZH10 provides extra-clear images that are free from barrel and pincushion distortion, as well as from chromatic and other aberrations. The use of ultra-low dispersion glass for the zoom lens assembly heightens the contrast of the image and minimizes color shift. Specimen shape and color are reproduced faithfully, especially powerful qualities for photomicrography, which has become an essential part of research documentation and presentation work.

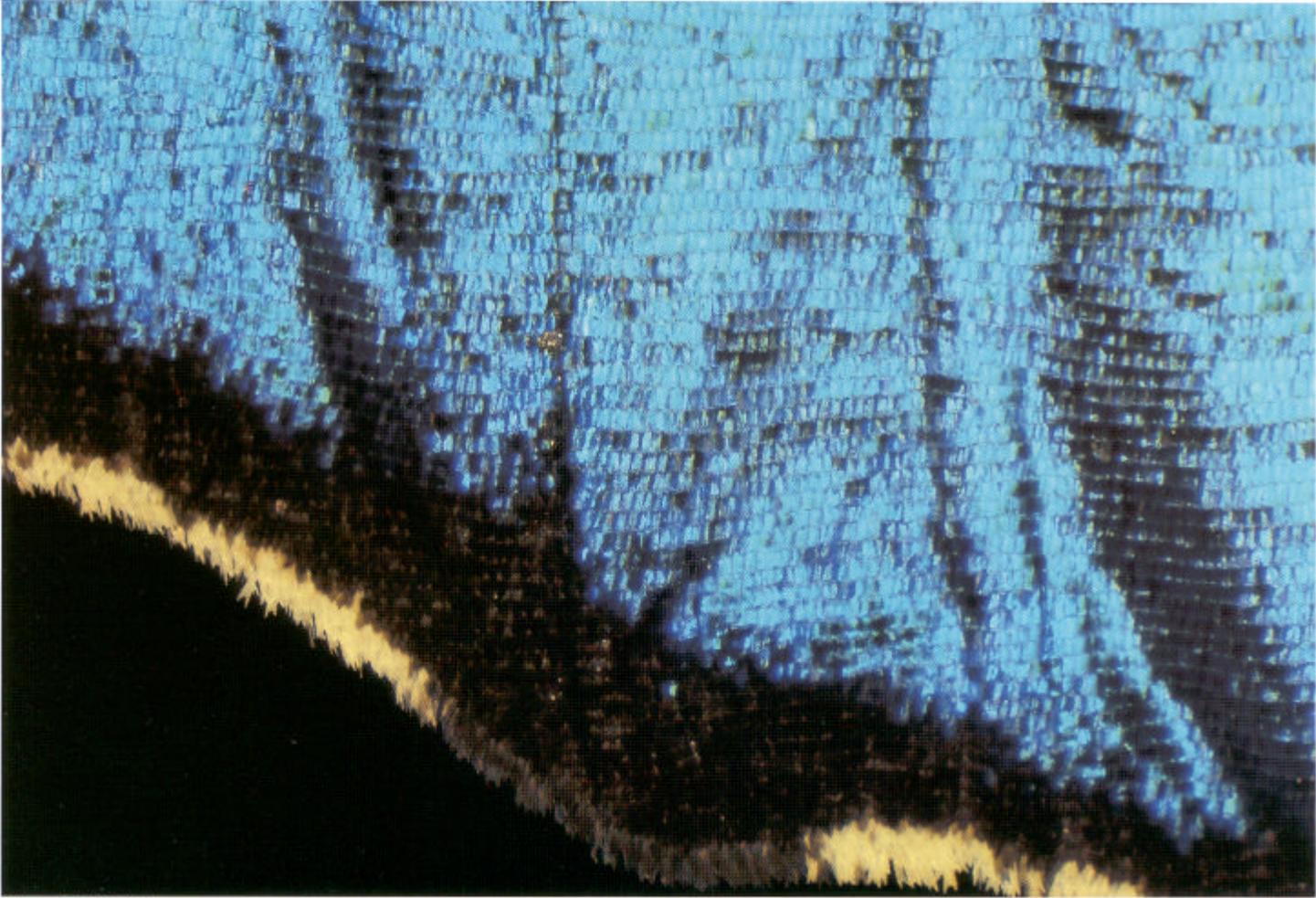


**Ergonomic, user-friendly
design contributes to greater
operational comfort.**

The low-eyepoint design of the binocular tube ensures fatigue-free observation even during long hours of research work. Mounted on both sides of the body, the zoom magnification controls can be operated effortlessly, at the same time providing an easy display of magnification factors. A built-in counter-balance mechanism allows quick, smooth focusing, even when heavy photomicrographic equipment is attached. Olympus' attention to detail is also reflected in the design and location of the controls which have been positioned for ease of use and for maximum contamination control.



Standard Version

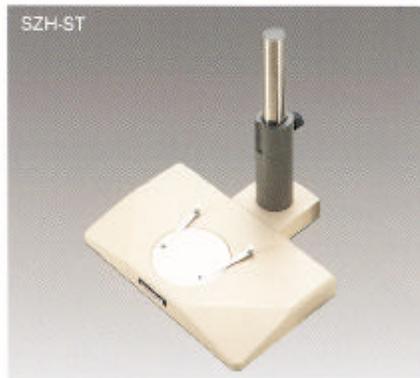


Wing of Butterfly

Easy-to-use and cost-effective, this handy model accommodates any application not requiring transmitted light illumination. Applications include general microscopic examinations in mineralogy, metallurgy, semiconductors and biology, especially observation of minute living creatures such as insects or plankton.

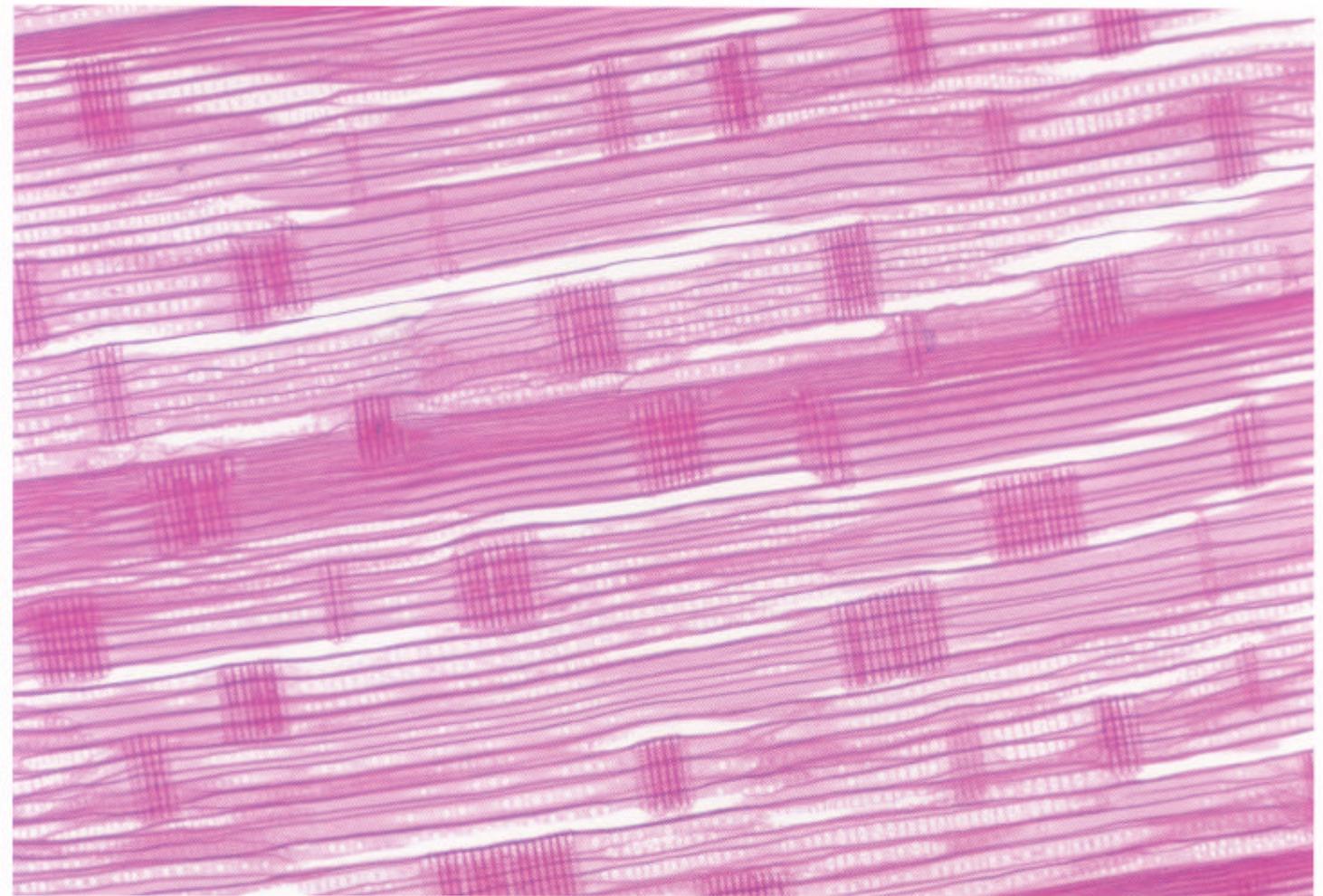
- In addition to its expanded working space, the unique configuration eliminates the need for a hand rest, thus minimizing installation space requirements.
- Various stages, pillars, and accessories can be adapted.
- The space-saving design contributes to operator convenience.
- The rigid and sturdy microscope stand maintains sufficient stability even with photomicrographic equipment attached.

Weight: 7.3kg



SZH10-111

Transmitted Light Version



Trackeid

A unique optical system provides previously unachievable uniform, ultrabright illumination. The stand features excellent heat dispersion properties and is ideal for frequently repeated observation and biological research.

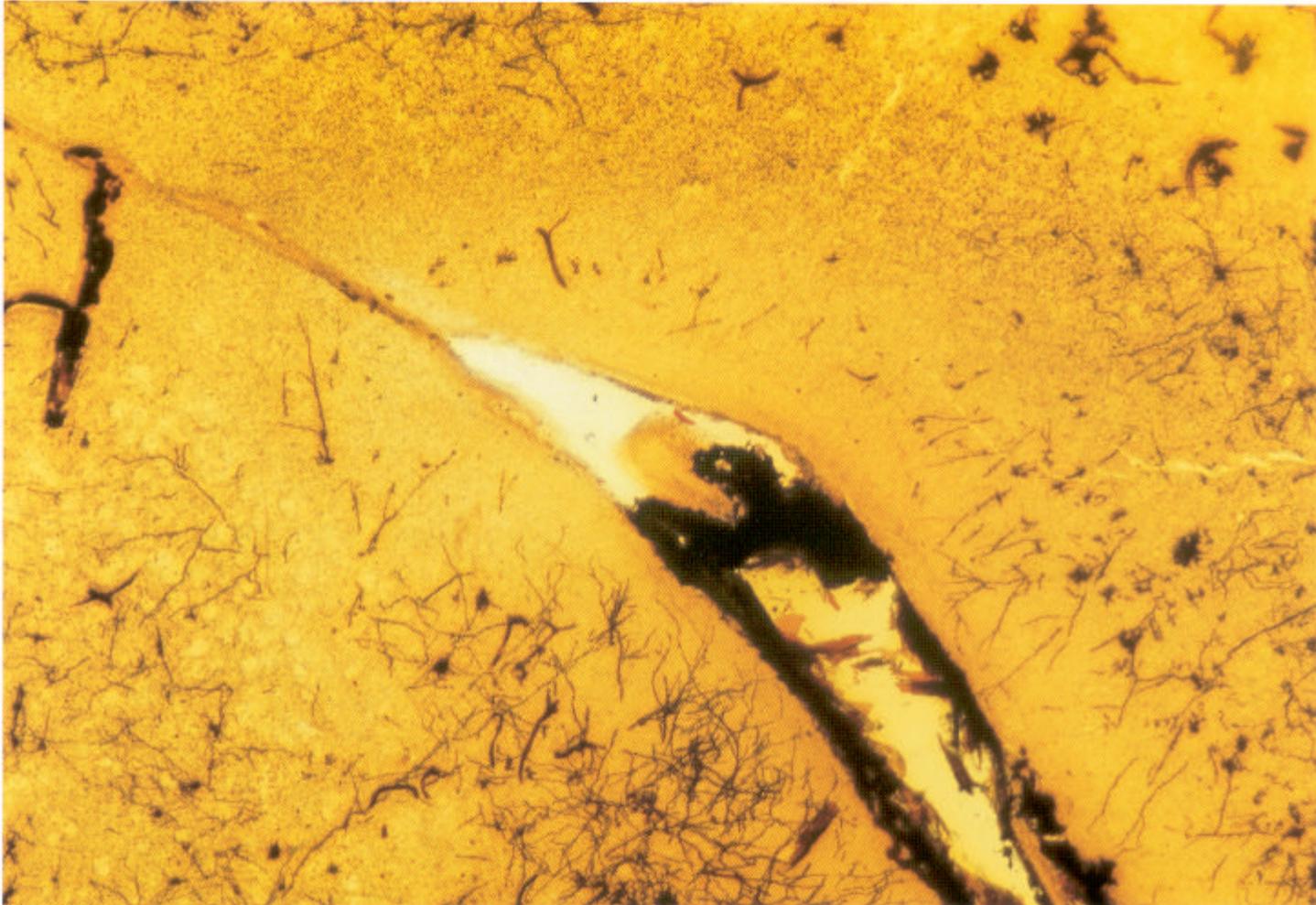
- Filters (45φmm) can be mounted below the glass stage to tint the illuminating light or correct the color temperature of the illuminator.
- Oblique illumination can be achieved by simply turning a knob.
- Accepts a simple polarizing attachment.
- The illumination base is equipped with a pre-centered 6V 20W halogen bulb which facilitates easy bulb replacement.
- The water resistant base protects against accidental spills and occasional exposure to moisture.

Weight: 11.1kg. Power requirements: 40VA.



Transmitted Light Photomicrography Version

(With Built-in Koehler Illuminator)



Nerve cells

Built-in light source delivers uniform Koehler illumination many magnitudes brighter than conventional light sources. Special illumination techniques are available, including high contrast, low contrast and oblique illumination. This is especially effective for photomicrography.

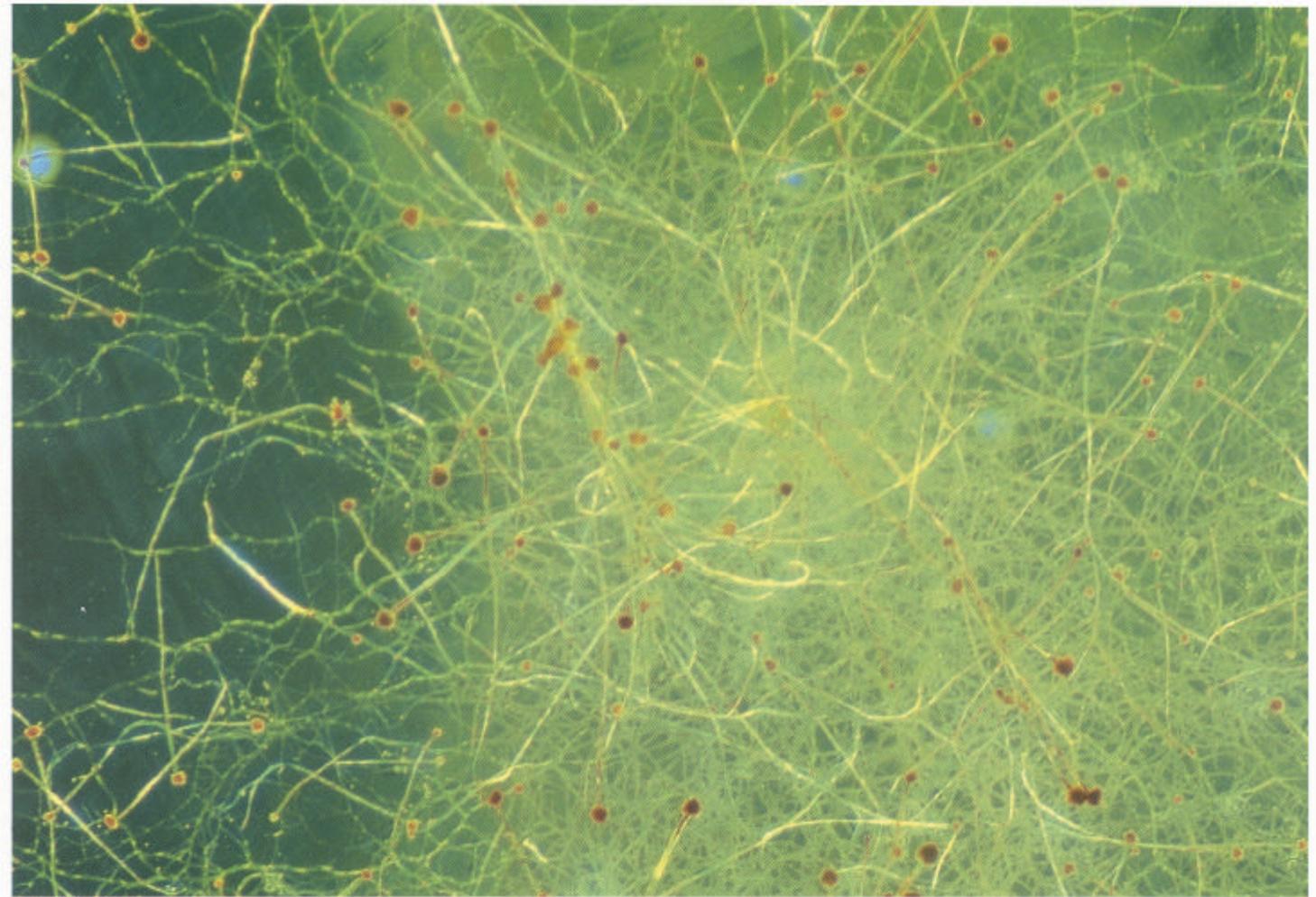
- Filters (45φmm) can easily be inserted into and removed from the illumination base.
- Changeover from one illumination technique to another is a simple, convenient operation.
- To save space, the illumination base houses the transformer. An auxiliary output is also built in, allowing simultaneous use of a reflected light source.
- A simple polarizing attachment can be adapted.
- A pre-centered 6V 20W halogen bulb makes bulb replacement easy.
- The water resistant base ensures extra durability.

Weight: 13.4kg. Power Requirements: 70VA.



SZH10-131

Brightfield/Darkfield Version



Aspergillus

Switch-over between brightfield and darkfield observation modes is achieved easily by the simple turn of a lever. This is especially effective for detecting striae and scratches on translucent substances such as glass, as well as for observing plankton in solution.

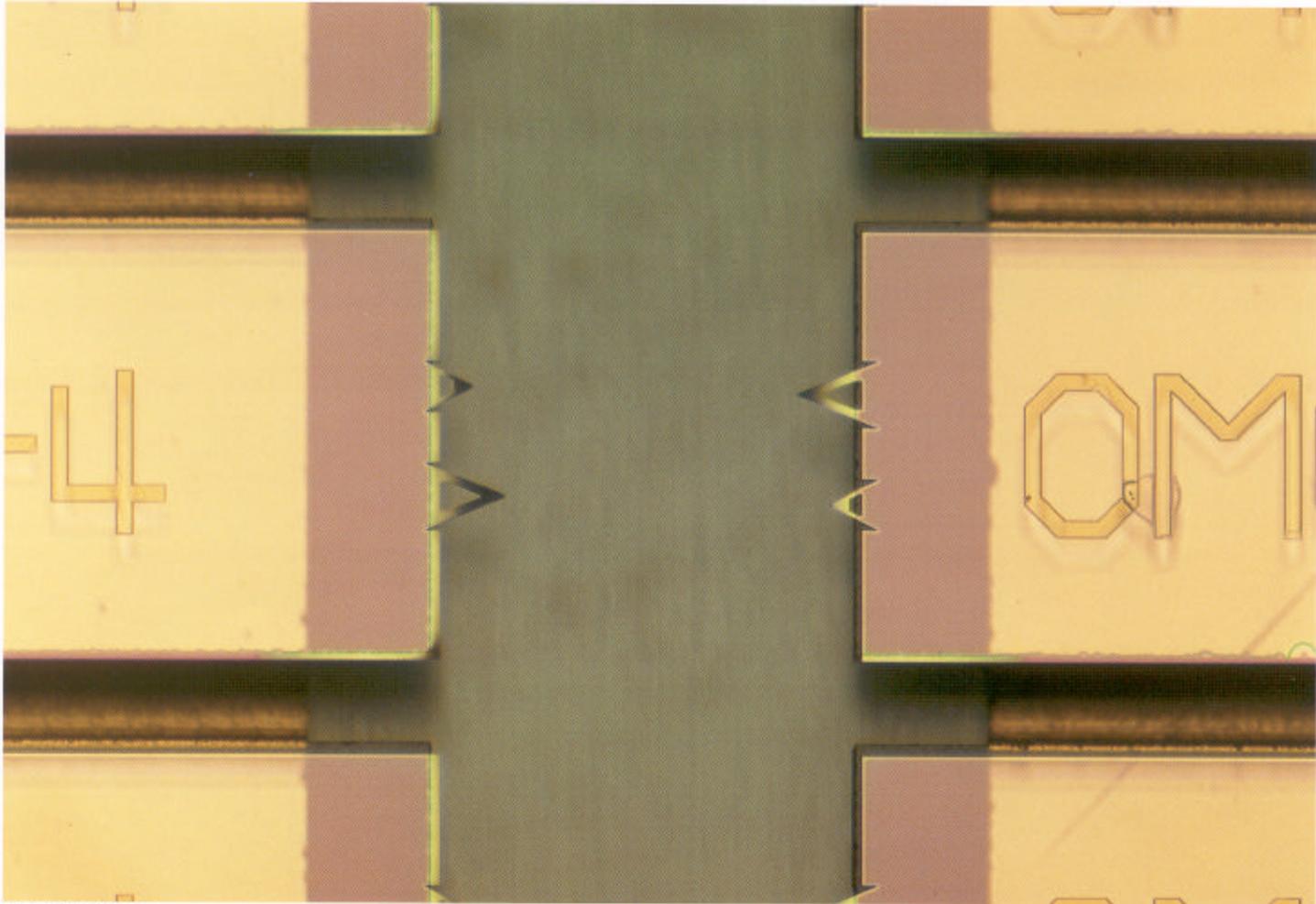
- A cylindrical darkfield mirror ensures the reproduction of the actual shape of the specimen under darkfield observation.
- The transformer is housed in the illumination base to save desktop space. An auxiliary output is also incorporated, allowing combination with a reflected light illuminator.
- A simple polarizing attachment can also be mounted.
- An easy-to-replace, pre-centered 12V, 50W halogen bulb acts as the light source.
- The water resistant base is highly resistant to spills and moisture.

Weight: 12.5kg. Power requirements: 120VA.



SZH10-141

Coaxial Vertical Illumination, Version



Micro Cantilever

This version is ideal for observing scratches on metal surfaces, IC chips, liquid crystal patterns and other objects difficult to examine under oblique incident-light illumination.

- The coaxial vertical illuminator combines a polarizer and a $1/4\lambda$ plate for easier observation of objects which are difficult to see under oblique incident-light illumination.
- Brings out the interference colors of thin films on IC wafers for high-contrast observation of circuit pattern structures.
- Birefringent materials such as minerals can be observed in simple polarized light.
- Filters can be inserted into the illuminator to allow observation in light that suits the specimen, as well as for color temperature compensation during photomicrography.

*0.5X and 2X objectives cannot be used with coaxial vertical illumination.

Weight: 8.1kg. Power requirements: 30VA.



SZH10-151

Standard Outfits/Specification

		Module	SZH10-111	SZH10-121	SZH10-131	SZH10-141	SZH10-151
Zoom Microscope body	SZH-ZB10	Zoom ratio = 10:1 Focusing range 50mm, with counter balance system. Click stop function incorporated.	○	○	○	○	○
Observation Tube	SZH-Bi45N	Low eyepoint binocular inclined 45°, interpupillary distance adjustment 50 – 76mm.	○	○	○	○	○
Objective	SZH-D.F. Plan Apo 1X	Distortion-free plan Apochromat 1X: N.A. 0.087 W.D. 81mm	○	○	○	○	○
Eyepiece	GWH10X-D	Widefield, high eyepoint, F.N. 24, diopter lock mechanism.	○	○	○	○	○
	GWH10X-CD	Widefield, high eyepoint, F.N. 24, diopter lock mechanism. Built-in double cross line	○	○	○	○	○
Standard Base	SZH-ST	Dimensions: 300 (W)X260 (D)X30mm (H). Pillar height 250mm.	○				○
	SP-BW-2	Black/White	○				○
Stage Plate	SP-C	Transparent		○	○	○	
Transmitted Light Illumination Base	SZH-ILLK	Illumination mode: brightfield and oblique illumination. Illuminating area: 40mmφ, 6V20W halogen bulb.		○			
Transmitted Light Illumination Base	SZH-ILLB	Koehler illumination system base. Illuminating mode: high contrast, low contrast and oblique illumination. Illuminating area 40mmφ, 6V20W halogen bulb. Built-in filter slider. 6V20W max. auxiliary output.			○		
Brightfield/Darkfield Transmitted Light Illumination Base	SZH-ILLD	Illuminating mode: brightfield and darkfield. 12V50W halogen bulb, 6V20W max. auxiliary output. Illuminating area 34mmφ				○	
Bulb Socket	LS20HM	For SZH-ILLK and SZH-ILLB		○	○		
Power Cord	UYCP			○	○	○	
Coaxial Vertical Illuminator	SZH-ILLC-2	Magnification factor 1.25X. 6V20W halogen bulb.					○
Transformer	TL2						○
6V20W Halogen Bulb	6V20WHAL	For SZH-ILLK, -ILLB, ILLC (2 pcs.)		○	○		○
12V50W Halogen Bulb	JC12V50WHAL-L	For SZH-ILLD (2 pcs.)				○	
Photo Tube	SZH-PT	Two step light path selector.			○		
Photo Eyepiece	NFK2.5XLD			○			

Total magnifications and actual field-of-view diameters

Objective	Magnification	0.5X	0.75X	1X	1.5X	2X
	Eyepiece	W.D. (mm)	198	113	81	49
GWH10X-D (Field Number 24)	Total magnification	3.5X ~ 35X	5.3X ~ 53X	7.0X ~ 70X	10.5X ~ 105X	14X ~ 140X
	Field of view (mm)	69 ~ 6.9	46 ~ 4.6	34 ~ 3.4	22.9 ~ 2.3	17.1 ~ 1.7
GWH15X-D (Field Number 16)	Total magnification	5.3X ~ 53X	8.0X ~ 80X	10.5X ~ 105X	15.8X ~ 158X	21X ~ 210X
	Field of view (mm)	46 ~ 4.6	30 ~ 3.0	22.9 ~ 2.3	15.2 ~ 1.5	11.4 ~ 1.1
G20X (Field Number 12)	Total magnification	7X ~ 70X	10.5X ~ 105X	14X ~ 140X	21X ~ 210X	28X ~ 280X
	Field of view (mm)	34 ~ 3.4	23 ~ 2.3	17.1 ~ 1.7	11.4 ~ 1.1	8.6 ~ 0.9
GWH30X-H (Field Number 6.5)	Total magnification	10.5X ~ 105X	15.8X ~ 158X	21X ~ 210X	31.5X ~ 315X	42X ~ 420X
	Field of view (mm)	19 ~ 1.9	12.3 ~ 1.2	9.3 ~ 0.9	6.2 ~ 0.6	4.6 ~ 0.5

Objectives

	N.A.	W.D. (mm)
SZH-D.F. Plan 0.5X	0.042	198
SZH-D.F. Plan 0.75X	0.063	113
SZH-D.F. Plan Apo 1X	0.087	81
SZH-D.F. Plan 1.5X	0.125	48
SZH-D.F. Plan 2X	0.167	39

Accessories

SZH-PT Photo Tube

The SZH-PT accepts both 35mm SLR photomicrography adapter (SZH-PT35) and the PM-10 System Cameras for 35mm or large-format Polaroid[®] cameras, simultaneously. A video camera can also be attached via MTV-W C-mount adapter. 100% light transmission for observation is also possible.

SZH-AS Aperture Iris Diaphragm Attachment

Only 11mm thick, this accessory allows the contrast of the image to be increased by reducing the diaphragm aperture. The SZH-AS is especially effective for photomicrography.

SZH-PT35 35mm Camera Adapter

When used in combination with the SZH-PT photo tube, this adapter accepts an Olympus OM Series 35mm SLR camera. The entire observation field can be photographed at the same magnification. The use of 2X A teleconverter permits full-frame photography.

PM10-AK3 Automatic Exposure Photomicrographic System

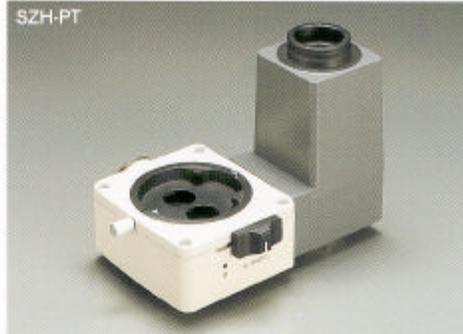
Featuring a lightweight, compact design plus automatic exposure and film advance, the PM10-AK photomicrographic system allows faithful reproduction of microscopic images onto the film plane.

SZH-KPO Simple Polarizing Attachment

The SZH-KPO's polarizer is attached to the transmitted illumination base and its analyzer to the objective. This attachment facilitates transmitted light polarization for the examination of minerals or thin rock slices, the detection of birefringent materials under crossed filters, and other observation methods that are impossible with normal illumination.



SZH-PT



SZH-AS



SZH-PT35 + PM-CAMS



SC 35



PM10-AK3



SZH-KPO



SZH-FO



SZH-SC Cup Stage

The SZH-SC can be adjusted to any desired angle, facilitating free specimen positioning.

SZH-SG Gliding Stage

The SZH-SG enables smooth, free specimen manipulation over a 40mm horizontal range. The SZH-SG can be used for observation in transmitted light.

SZ-FO Focusing Stage

The SZ-FO stage can be moved vertically to bring the specimen into focus, thus enabling observation and photography of specimens of different thicknesses without changing the eyepoint. This stage can be used in combination with the cup stage or gliding stage.

SZH-STAD-1 Stage Adapter

This adapter is used to attach a circular rotatable stage or mechanical stage to various SZH bases. The SZH-STAD-1 can be used for both reflected and transmitted light observations.

*SZH-AUX LENS auxiliary lens is required when SZH-STAD-1 is used with SZH-ILLB base.

SZH-STAD-2 Stage Adapter

The SZH-STAD-2 connects a large mechanical stage to the standard SZH-ST and large SZH-STL microscope stands. It can be used with simple transmitted light illumination via an external illuminator or polarized light illumination through adjustment of the mirror.

SZH-BRG Bridge-Type Microscope Stand

The SZH-BRG handles specimens too large, too thick or too wide to be placed on standard or large stands. This stand permits horizontal movement of the microscope body, significantly expanding the range of applications.



SZH-SC

SZH-SG

BH2-SH

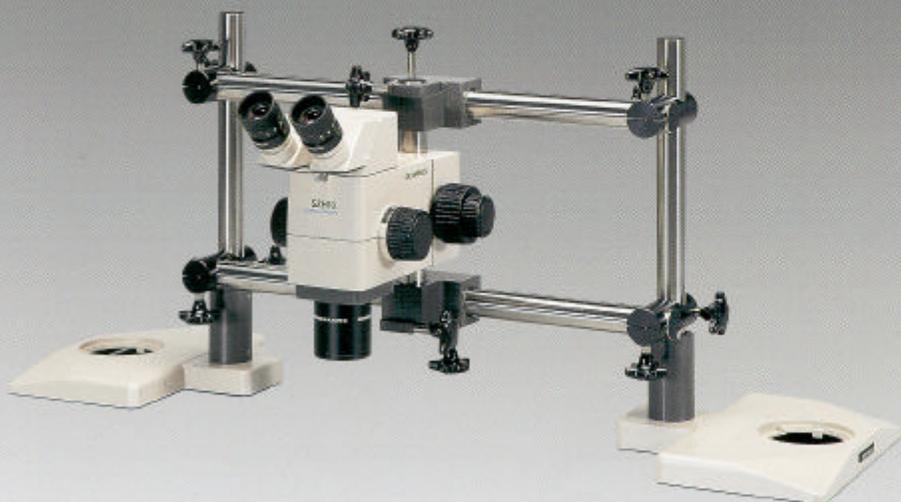
BH2-SRG

SZH-STAD-1

BH2-SIC

SZH-STAD-2

SZH-BRG



SZH-DO Dual-Viewing Attachment

The SZH-DO dual-viewing attachment permits two observers to simultaneously view the same specimen. Although the image direction is reversed for the second observer, image magnification, brightness, and eyepoint level are identical for both.

*GWH10X-D20 and GWH10-CD20 eyepieces should be used when 10X eyepieces are used.

LSGA Incident Light Illuminator

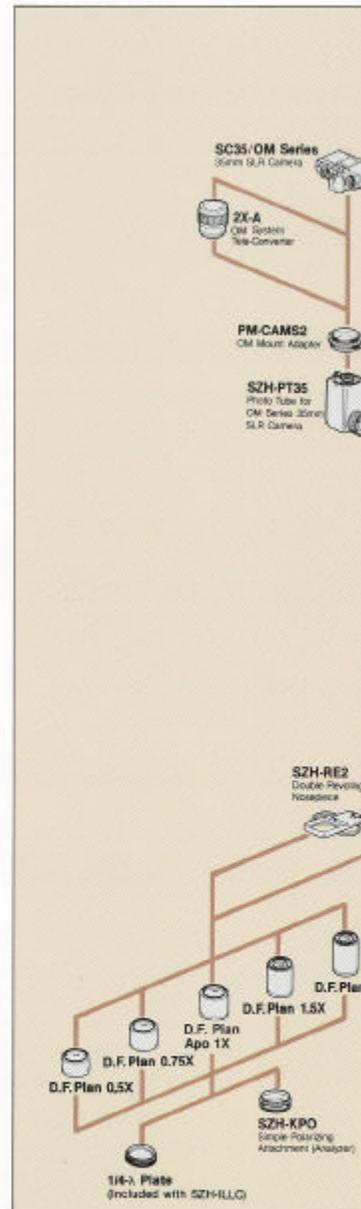
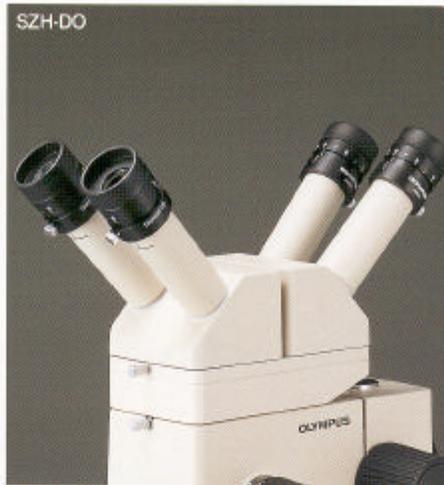
The LSGA is equipped with a high-intensity 6V, 15W halogen bulb. A heat-absorbing filter is incorporated into the lamp housing to protect the specimen from heat damage. Various 32.5mm-diameter filters can be used with the LSGA. It can be conveniently attached to the microscope body, pillar and transformer using an adapter.

SZH-RE2 Double Revolving Nosepiece

This attachment accommodates two objectives. It permits one-touch switching between two different objectives, without interfering with observation or manipulation.

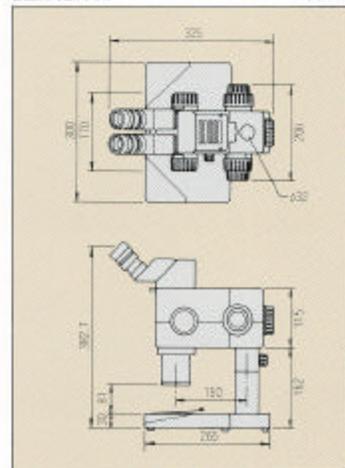
SZH-DA Drawing Attachment

The SZH-DA allows simple and accurate tracing of specimen images, ensuring that the specimen image and the drawn image conform exactly.

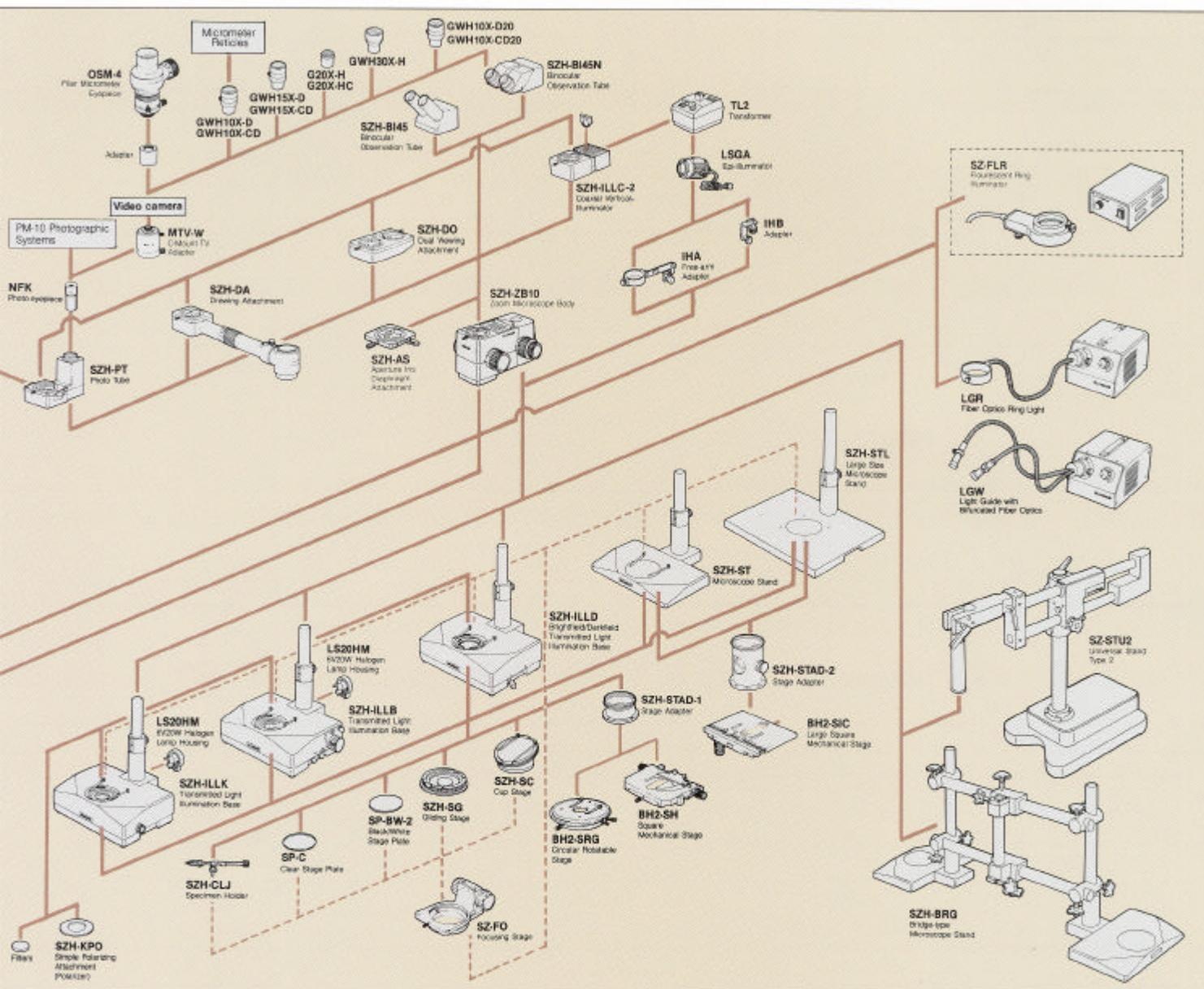


SZH10-111

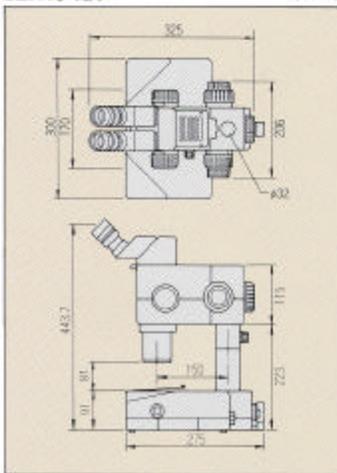
(mm)



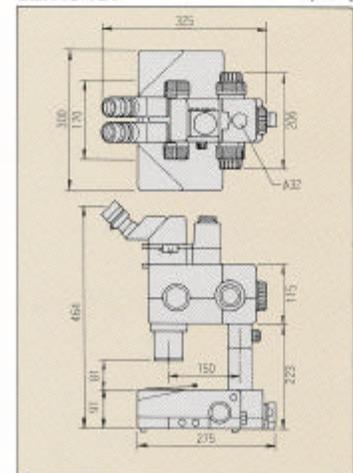
Diagram



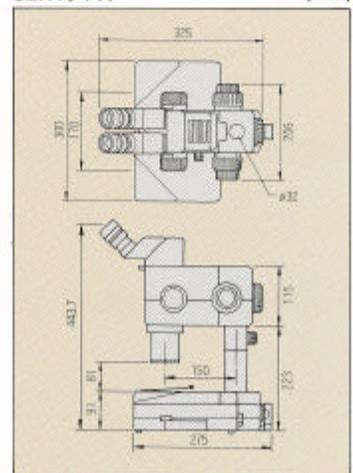
SZH10-121 (mm)



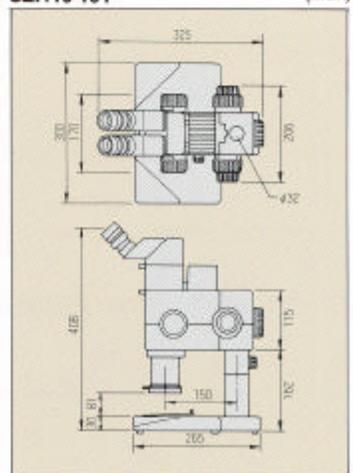
SZH10-131 (mm)

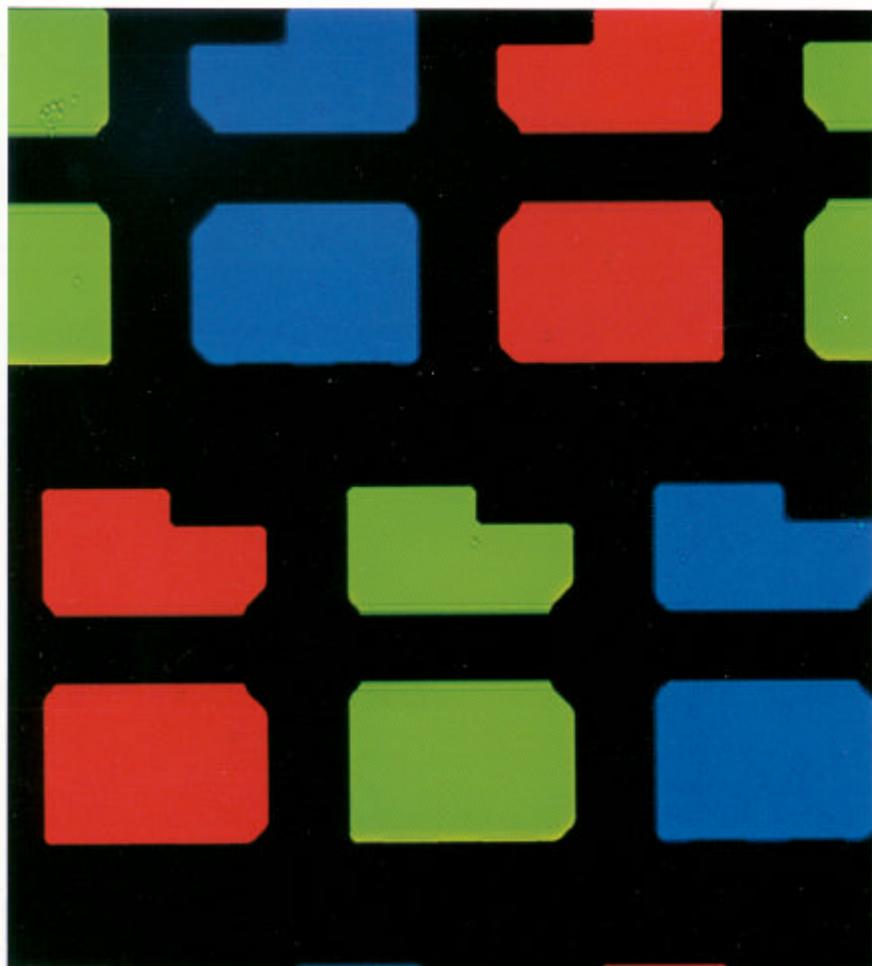


SZH10-141 (mm)



SZH10-151 (mm)



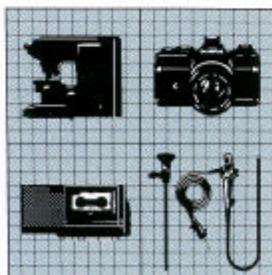


SZH-LF *(custom-made product)*

LCD Panel Inspection Zoom Stereo Microscope

The SZH-LF is available with a variety of easy-to-use stages. When a 14" x 10" stage is used, this microscope permits the inspection of specimens as large as a 17" LCD panel. To assure a stable, blur-free image, the SZH-LF features an extra sturdy structure. The SZH-LF's advanced optics allows quick changeover between the transmitted light illuminator and coaxial vertical illuminator, an essential feature for LCD panel inspection.

Specifications are subject to change without any obligation on the part of the manufacturer.



Photographic,
Medical,
Microscopic,
Industrial & Business Equipment

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