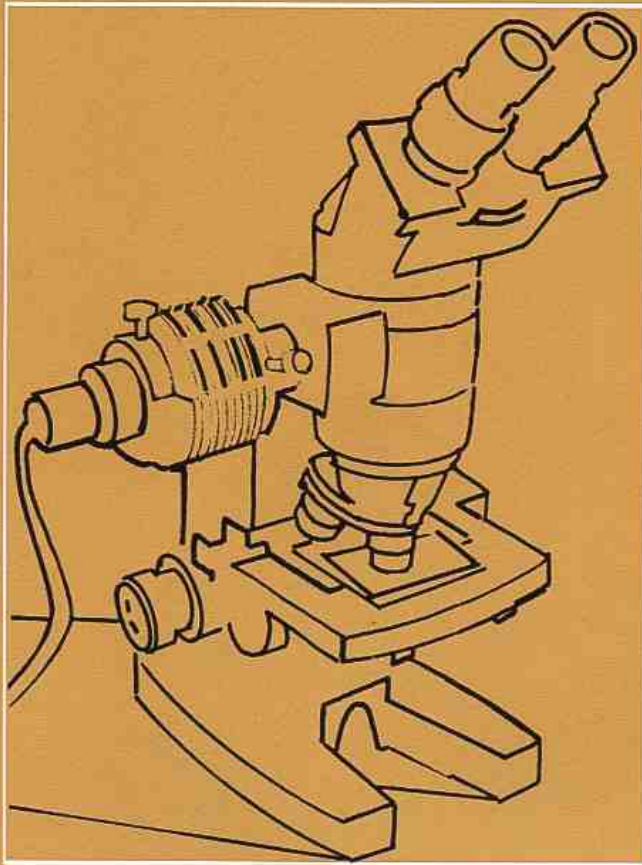
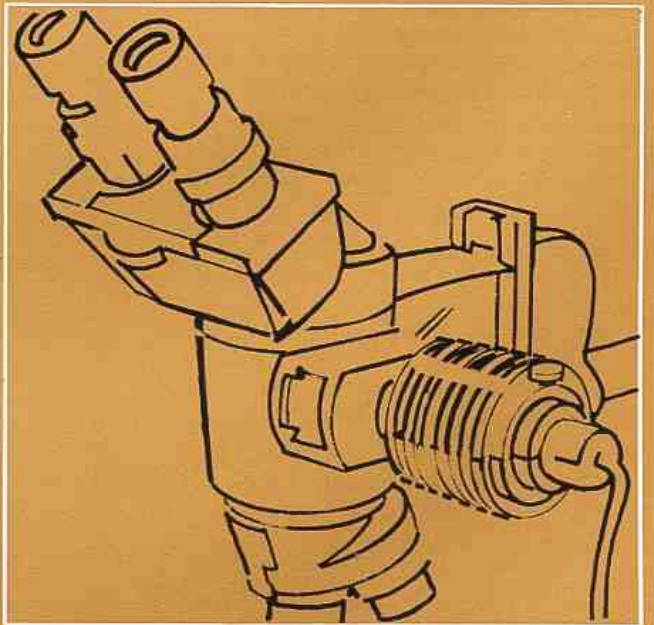
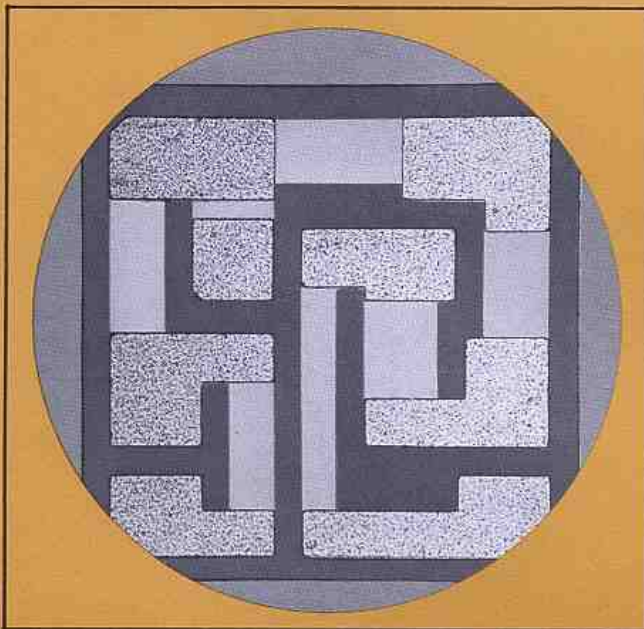
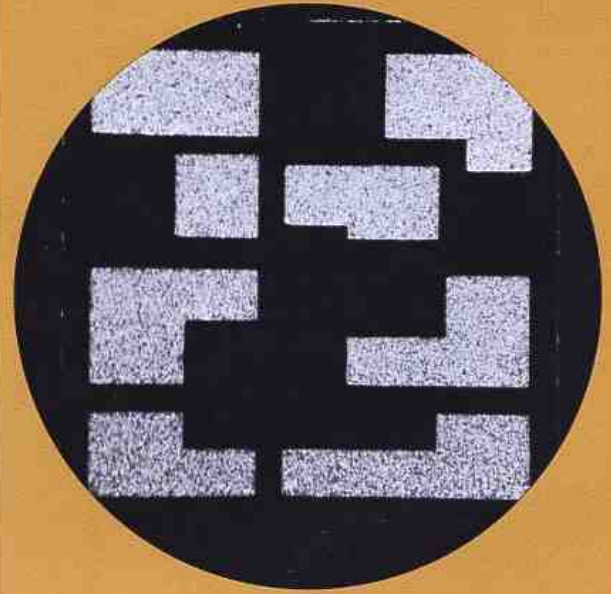


AO EP-TUM



for both Darkfield and
Brightfield Incident Illumination
of Opaque Specimens



AO American Optical
SCIENTIFIC INSTRUMENT DIVISION
BUFFALO, NY 14215

EPI-LUME[®] Vertical Illuminators offer:

- Exceptional ease of use. Movable slide instantly converts between darkfield and brightfield use.
- 10X, 20X, 40X infinity-corrected planachromat objectives, common to both darkfield and brightfield applications, produce large, flat fields of view.
- Field and aperture iris diaphragms for critical illumination control.

The AO EPI-LUME Microscope is basically a Series 10 MICROSTAR[®] Microscope Stand equipped with #3020 EPI-LUME Vertical Illuminator and 10X, 20X, 40X epi-objectives. Both the illuminator and the epi-objectives supplied are easily attached to the microscope without special tools. High intensity illumination is provided by an 18 watt lamp and Variable Transformer for 115V, 60 Hz.

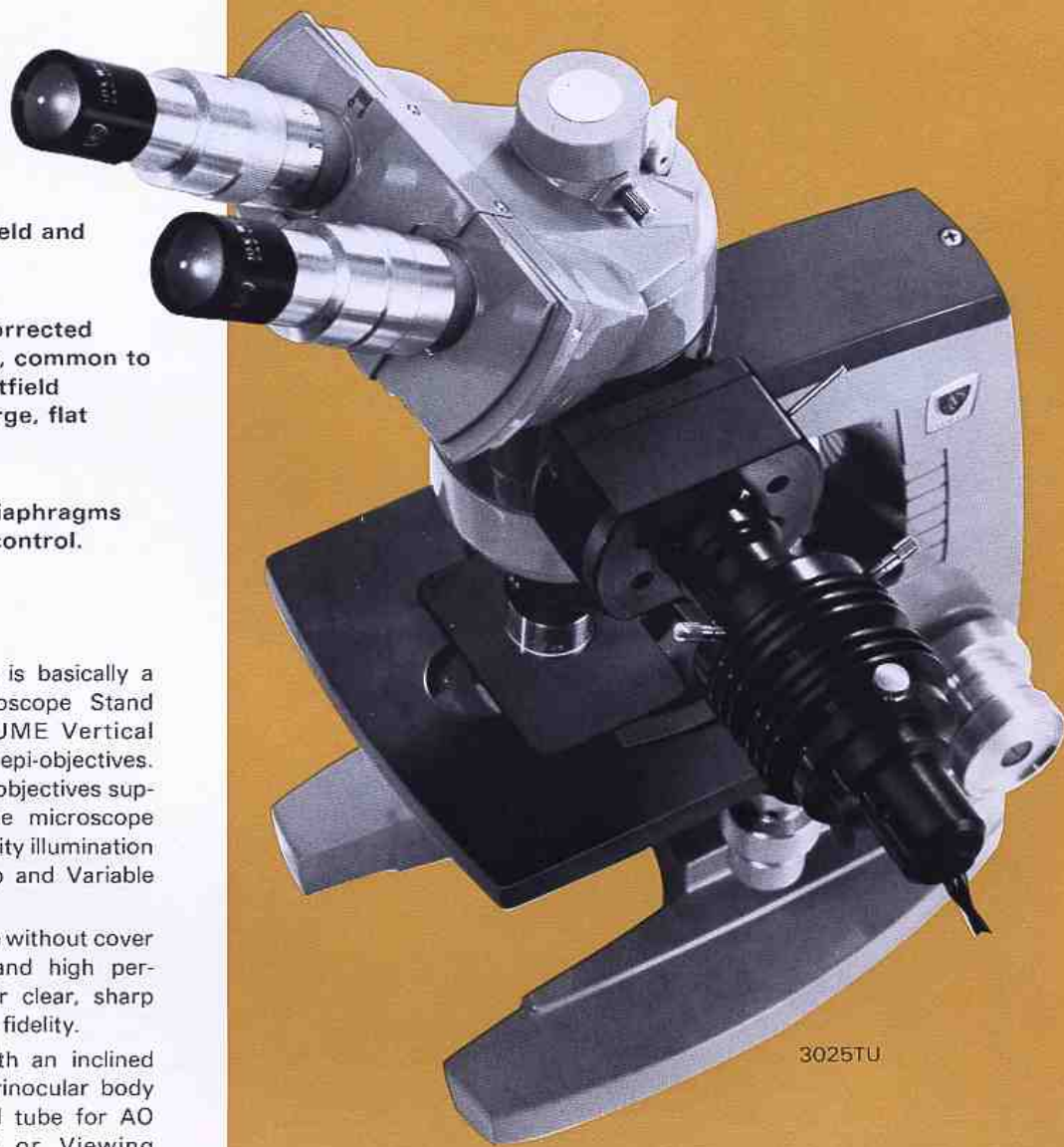
Objectives are designed for use without cover glass. Quality optical system and high performance optical coatings offer clear, sharp image detail and excellent color fidelity.

Microscopes are supplied with an inclined binocular or trinocular body. Trinocular body has the convenience of a third tube for AO Photomicrographic Cameras or Viewing Screen. A monocular body with either inclined or vertical tube is also available.

The 10X high-eyepoint wide field eyepieces supplied provide comfortable viewing. 15X wide field eyepieces of comparable style are available if greater magnification is desired.

Transmitted light accessories can be added to models 3025BU and 3025TU EPI-LUME Microscopes. Transparent specimens are then viewed using transmitted illumination, and combined, if desired, with incident darkfield or brightfield illumination. See price list.

Cover Photomicrographs: Microcircuits—Darkfield, Brightfield—100X



3025TU

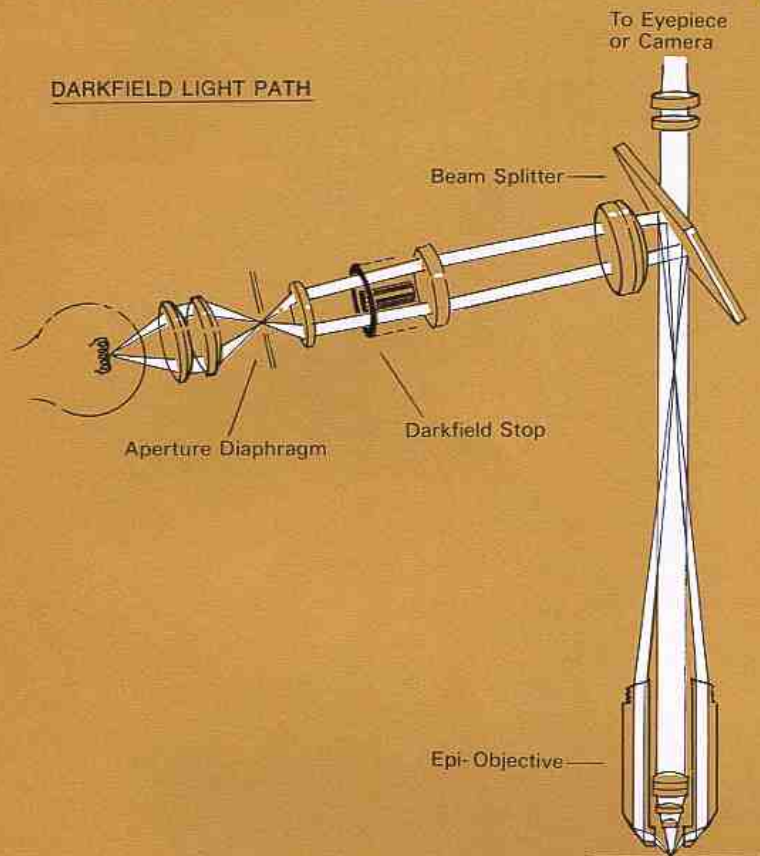
EPI-LUME[®] MICROSCOPES for Darkfield and Brightfield Incident Illumination

Model #3025BU Equipment includes standard AO Series 10 MICROSTAR[®] Microscope Stand; #1042 Binocular body; #3020 EPI-LUME Vertical Illuminator with lamphouse, socket and cord, 2.75 amp, 6.5V lamp; field and aperture iris diaphragms; green filter; 5% neutral density filter; triple revolving nosepiece; infinity-corrected 10X, 20X, and 40X epi-objectives; pair of 10X wide field eyepieces; ungraduated mechanical stage with substage fork mount; specimen support plate; variable transformer 115V 60 Hz, and dust cover.

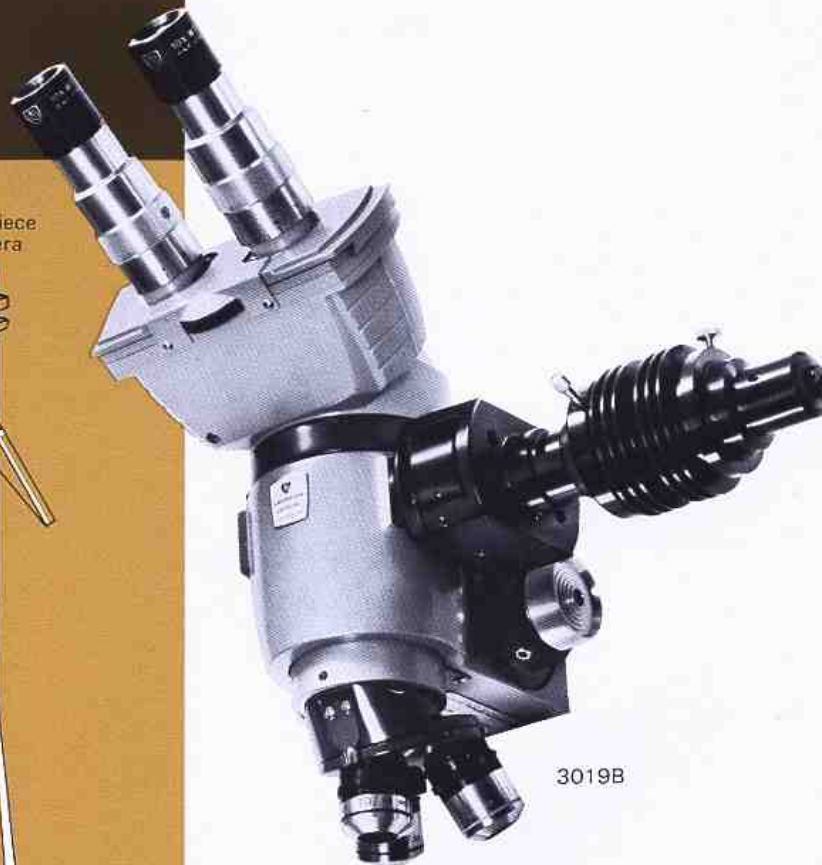
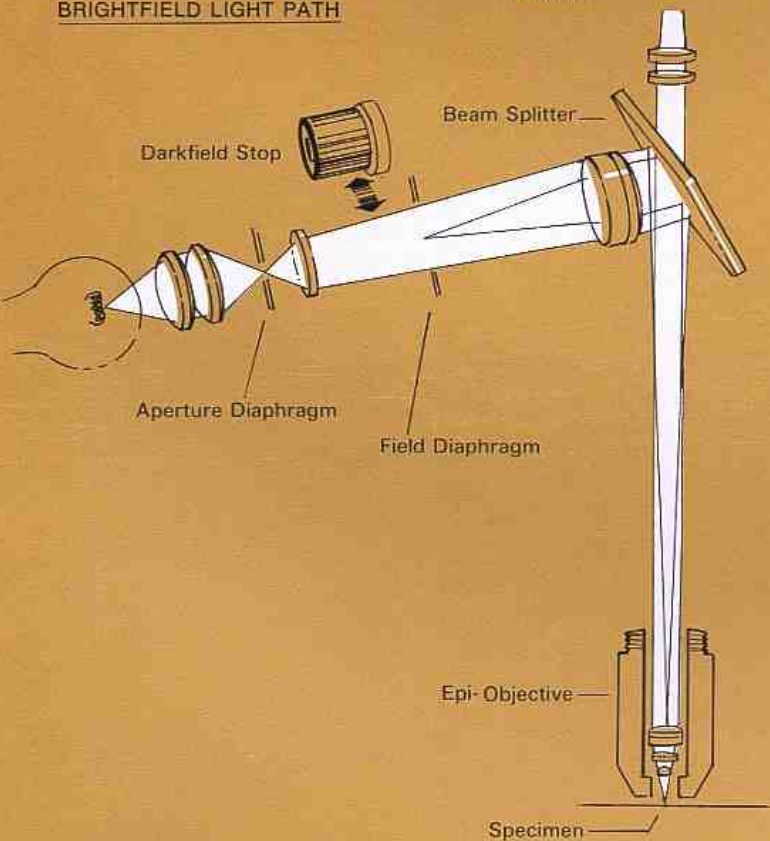
Model #3025TU Same as above Model #3025BU, except with #1043 Trinocular body in place of #1042 Binocular body.

MICROSCOPES

DARKFIELD LIGHT PATH



BRIGHTFIELD LIGHT PATH



3019B

EPI-LUME®

Industrial Microscope

The AO EPI-LUME Industrial Microscope is a Series 3000 Custom Industrial Microscope equipped with No. 3018 EPI-LUME Vertical Illuminator and epi-objectives. The fidelity of color rendition makes coating colors or layer colors easily distinguishable—particularly important in the manufacture of semi-conductor integrated micro circuits.

The EPI-LUME Industrial Microscope is easily adaptable to a wide variety of shop stands and fixtures. EPI-LUME Illuminator is attached to either side of Modular Focusing Unit which has concentric coarse and fine focusing adjustments on both sides.

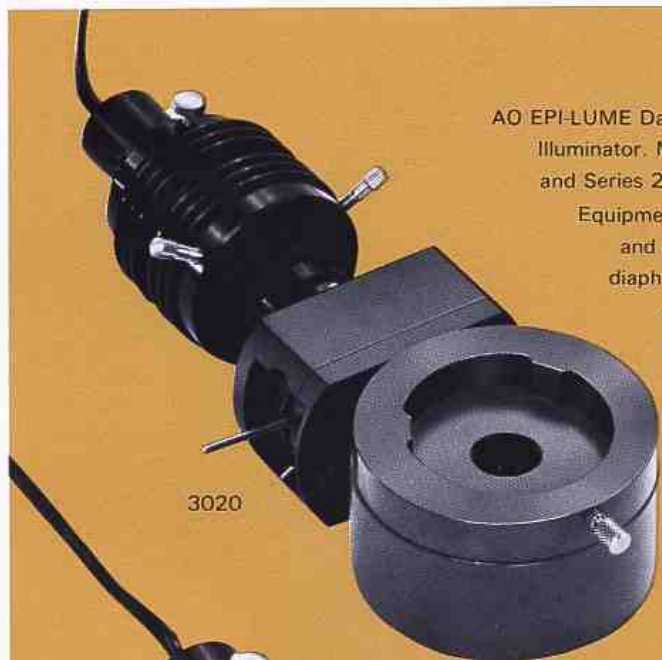
Model #3019B Equipment includes #3003 Modular Focusing Unit; #1042 Binocular body; #3018 EPI-LUME Vertical Illuminator with lamphouse, socket and cord, 2.75 amp., 6.5V lamp; field and aperture diaphragms; green filter and neutral density filters; triple revolving nosepiece; infinity-corrected 10X, 20X, 40X epi-objectives; pair of 10X wide field eyepieces; variable transformer 115V, 60 Hz.



#3002 Image Erector (optional) provides an erect, unreversed image, and also adds 1.5X (50%) magnification to the system without changing the working distance.

EPI-LUME VERTICAL ILLUMINATORS

For adapting to AO Series 10, 20 and 3000 Microscopes



3020

#3020
AO EPI-LUME Darkfield and Brightfield Vertical Illuminator. May be added to AO Series 10 and Series 20 MICROSTAR® Microscopes:

Equipment includes Vertical Illuminator and adapter; field and aperture iris diaphragms; lamphouse, socket and cord, 6.5V 2.75A lamp; green filter; 5% transmission neutral density filter; and Variable Transformer 115V 60 Hz. (Epi-objectives not included, choose from list below.)



3018

#3018
AO EPI-LUME Darkfield and Brightfield Vertical Illuminator. May be added to AO Series 3000 Custom Industrial Microscopes (replacing existing Vertical Illuminator). Equipment includes Vertical Illuminator, field and aperture iris diaphragms, lamphouse, socket and cord, and 6.5V 2.75A lamp. (Epi-objectives not included, choose from list below.)



NOTE: AO Epi-objectives *must* be used with EPI-LUME Vertical Illuminator to obtain darkfield.



Epi-objectives, infinity-corrected, for use without cover glass—

3022 10X Epi-objective, N.A. 0.25, *W.D. 6.4 mm

3023 20X Epi-objective, N.A. 0.50, W.D. 1.3 mm

3024 40X Epi-objective, N.A. 0.66, W.D. 0.5 mm

*Working Distance

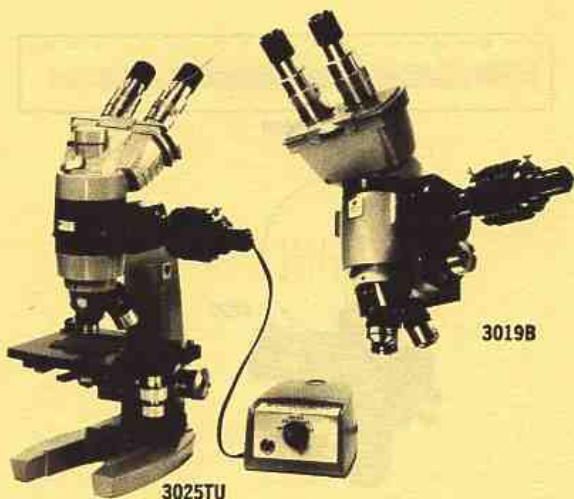
PRICE LIST

EPI-LUME MICROSCOPES

Effective March 1, 1975

Catalog Number	Description	Consumer Price	
		1 - 4	5 or more
3025BU	Epi-Lume Microscope	\$1919.00	\$1727.10
*3025BS	Epi-Lume Microscope	1820.00	1638.00
3025TU	Epi-Lume Microscope	1987.00	1788.30
3019B	Epi-Lume Industrial Microscope	1746.00	1571.40
3018	Epi-Lume Vertical Illuminator	303.00	272.70
3020	Epi-Lume Vertical Illuminator	534.00	480.60
3022	Epi-objective, 10X	109.00	98.10
3023	Epi-objective, 20X	166.00	149.40
3024	Epi-objective, 40X	218.00	196.20

*Model #3025BS is similar to Model #3025BU but equipped with #1060 Simple Stage "S" instead of #1062 Mechanical Stage "U".



Miscellaneous Accessories

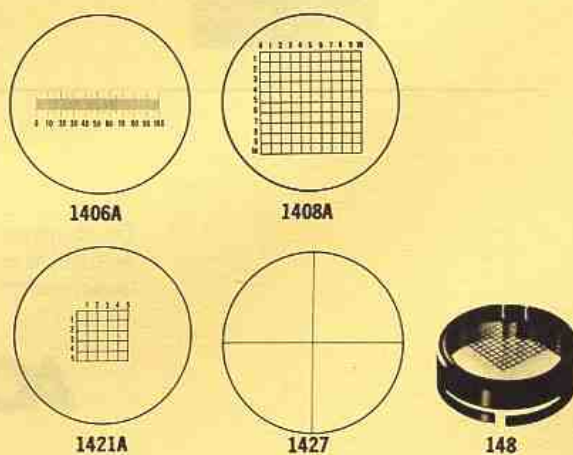
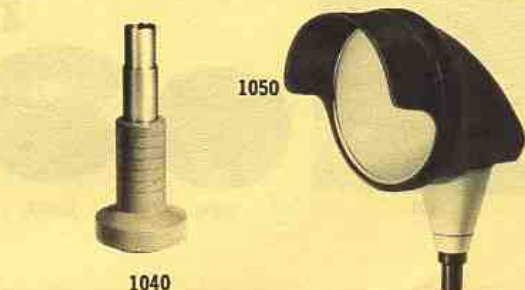
1040	Monocular body, vertical	\$ 44.00	\$ 39.60
1041	Monocular body, inclined	44.00	39.60
1042	Binocular body, inclined	461.00	414.90
*1043	Trinocular body, inclined	529.00	476.10
1044	Vertical Tube for 1043	18.00	16.20
1050	Viewing Screen for 1043	223.00	200.70
1051	Variable Transformer, 115V 60Hz	36.00	32.40
1051A	Variable Transformer, 230V 50Hz	61.00	54.90
1060	Simple Stage "S" with Clips	108.00	97.20
1062	Mechanical Stage "U"	207.00	186.30
1176	Pair 10X Wide Field eyepieces	70.00	63.00
1184	Pair 15X Wide Field eyepieces	70.00	63.00
2511	Green filter	14.00	12.60
3002	Image Erector, 1.5X magnification factor	173.00	155.70
3008	Neutral density filter, 5% transmission	14.00	12.60
K2271	Specimen support plate	3.00	2.70

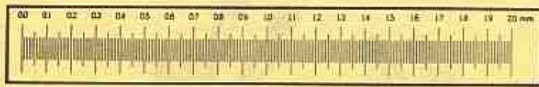
*Note: #1043 does not include #1044.
Add for non-integral camera.

Measuring and Counting Accessories

MICROMETER DISCS (20mm Diameter) FOR WIDE FIELD EYEPIECES

1405A	Micrometer Disc. 5mm scale divided into 50 units.	\$ 13.00	\$ 11.70
1406A	Micrometer Disc. 10mm scale divided into 100 units.	14.00	12.60
1407A	Micrometer Disc. 10mm scale divided into 200 units.	14.00	12.60
1408A	Net Micrometer Disc 10mm square subdivided into 100 squares.	25.00	22.50
1421A	Net Micrometer Disc 5mm square subdivided into 25 squares.	25.00	22.50
1427	Cross-Hair Disc.	14.00	12.60
148	Micrometer Disc Mount for Wide Field Eyepieces Nos. 147 15X, 157 20X, and 176 10X.	1.10	.99





400



426C



1031



1084



1093A

Catalog Number	Description	Consumer Price	
		1 - 4	5 or more

STAGE MICROMETER, MICROMETER EYEPIECE, FOCUSABLE EYEPIECE

400	Stage Micrometer 2mm scale divided into 200 .01mm units. Mounted on 25mm x 75mm slide for calibration of eyepiece micrometer discs and fields of view.	\$ 42.00	\$ 37.80
426C	Filar Micrometer Eyepiece 10X with Metric Scale and Magnification Compensator.	237.00	213.30
426B	Filar Micrometer Eyepiece . . . same as above without Magnification Compensator but with plain eyepiece tube adapter. (See literature SB424 for further details).	200.00	180.00
437	10X Wide Field Eyepiece with focusable eyelens. Accepts 20mm diameter micrometer discs.	58.00	52.20
K1848	15X Wide Field eyepiece with focusable eyelens. Accepts 20 mm diameter micrometer discs	115.00	103.50

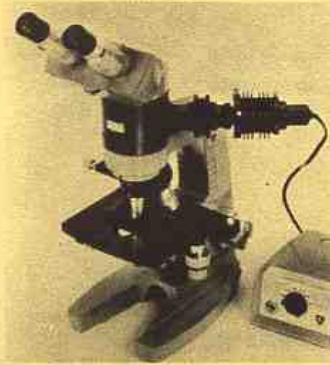
Transmitted Light Accessories —

(may be added to Models 3025BU, 3025BS and 3025TU Epi-Lume Microscopes)

1031	In-Base Transformer & Tungsten Halogen Illuminator. 115V.	\$219.00	\$197.10
1120	Replacement Lamp 20W 6V Tungsten Halogen for 1031	5.35	5.35
1084	Substage condenser, Abbe N.A. 1.25	35.00	31.50
1093A	Condenser mount with iris diaphragm	21.00	18.90
1085	Auxiliary swing-in condenser for use with low-power scanning objectives	18.00	16.20



For Photomicrographic Cameras and related accessories, refer to AO brochures SB1066, SB1190.



For Differential Interference Contrast Microscopes and related accessories, refer to AO brochure SB10DICV.

The equipment supplied may not agree in all details with the descriptions or illustrations shown, as instruments are subject to modification and improvement.

AO[®] American Optical
 SCIENTIFIC INSTRUMENT DIVISION
 BUFFALO, NY 14215