



AO Series 10 MICROStar[®]

MICROSCOPE

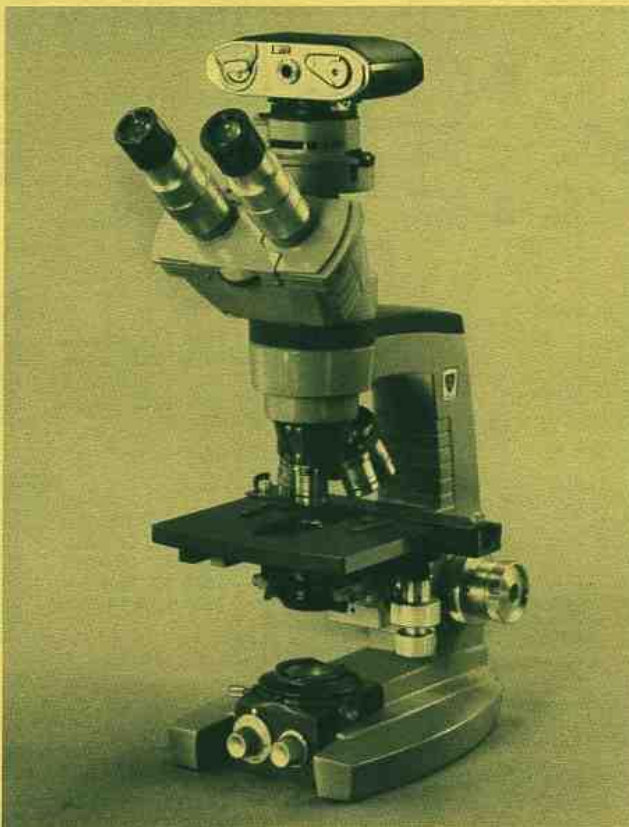
AO
American Optical

PRICE LIST

FOR SERIES H10 MICROSTAR

Equipped with Infinity Corrected Planachromatic
& Achromatic Objectives

Effective March 1, 1975












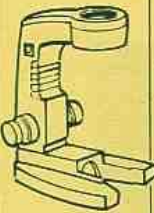


XH10TU-JW with 1053A Camera

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, N. Y. 14215

Code for Models 10T Trinocular and 10B Binocular Microstar Microscopes

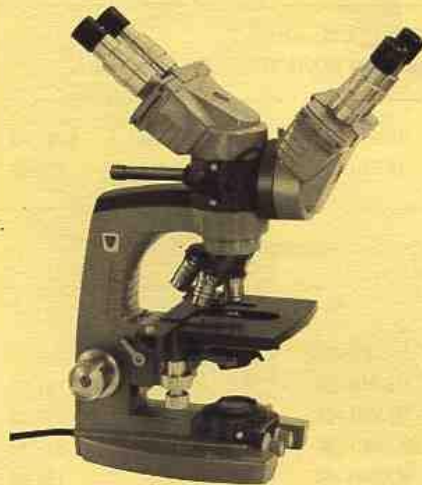
PREFIX	STAND	BODY	STAGE	HYPHEN	PLANACHROMATIC OBJECTIVES NOSEPIECE - CONDENSER	EYEPIECES
		 T 1043 Trinocular	 U 1062 Ungraduated Mechanical		  E 1019 10X Objective 1023 40X Objective 1024 100X Objective	
 X 1085 Auxiliary Swing-In Condenser	 H 1031 In-Base Transformer & Illuminator 406 Filter	 B 1042 Binocular	 G 1064 Graduated Mechanical		1017 4X Objective 1019 10X Objective 1023 40X Objective 1024 100X Objective	 W 1176 10X Wide Field
	 10				J 1017 4X Objective 1019 10X Objective 1022 20X Objective 1023 40X Objective 1024 100X Objective	
	 M 1038 Mirror Assembly 406 Filter				K 1028 2.5X Objective 1019 10X Objective 1023 40X Objective 1024 100X Objective	
 N 1037 On-Base Illuminator					L 1028 2.5X Objective 1019 10X Objective 1022 20X Objective 1023 40X Objective 1024 100X Objective	
<p>1085 Auxiliary Swing-In Condenser "X" is supplied with prefix "H10", "M10" catalog outfits combined with suffix "F", "J", "K", "L", "Q" catalog outfits.</p> <p>1088 Abbe Condenser N.A. 1.25 supplied with "N", "M", "XM" outfits instead of 1084.</p> <p>1093 Condenser Mount is supplied with "M", "XM" outfits instead of 1093A.</p>					ACHROMATIC OBJECTIVES NOSEPIECE - CONDENSER	
					Q 1017 4X Objective 1019 10X Objective 1116 45X Objective 1079 100X Objective	1074 Quadruple Nosepiece 1084 N.A. 1.25 Condenser 1093A Condenser Mount



XH10TU-JW



XH10BU-FW



DXH10BU-FW

Catalog Number	Unit Net Consumer Price	
	Quantity 1-4 List	Quantity 5 or more
Trinocular and Binocular Models equipped with PLANACHROMATIC Objectives		
TRINOCULAR		
H10TU-EW	\$1580.00	\$1422.00
XH10TU-FW	1659.00	1493.10
XH10TU-JW	1750.00	1575.00
XH10TU-LW	1788.00	1609.20
XH10TG-FW	1695.00	1525.50
BINOCULAR		
H10BU-EW	1512.00	1360.80
XH10BU-FW	1591.00	1431.90
XH10BU-JW	1682.00	1513.80
XH10BU-KW	1629.00	1466.10
XH10BU-LW	1720.00	1548.00
XH10BG-FW	1627.00	1464.30
N10BU-EW	1318.00	1186.20
N10BU-FW	1379.00	1241.10
*DUAL VIEWING		
CXH10TU-FW	2707.00	2436.20
DXH10TU-FW	2475.00	2227.50
DXH10TU-JW	2566.00	2309.40
CXH10BU-FW	2639.00	2375.10
DXH10BU-FW	2407.00	2166.30
DXH10BU-JW	2498.00	2248.20
Models equipped with ACHROMATIC Objectives		
TRINOCULAR		
H10TU-HW	1510.00	1359.00
XH10TU-QW	1589.00	1430.10
XH10TG-QW	1625.00	1462.50
BINOCULAR		
H10BU-HW	1442.00	1297.80
XH10BU-QW	1521.00	1368.90
XH10BG-QW	1557.00	1401.30
N10BU-HW	1248.00	1123.20
N10BU-QW	1309.00	1178.10
M10BU-HW	1242.00	1117.80
XM10BU-QW	1321.00	1188.90
*DUAL VIEWING		
CXH10BU-QW	2569.00	2312.10
DXH10BU-QW	2337.00	2103.30
DXH10TU-QW	2405.00	2164.50

NOTE:

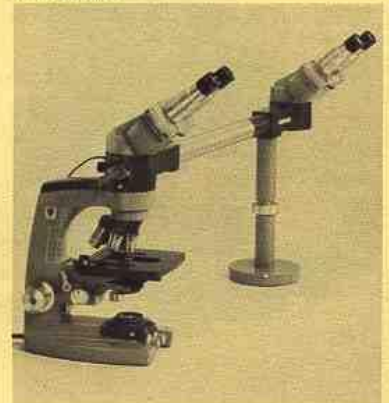
The following models may be grouped with all AO Series 10 and 20 Microscopes in quantity of five or more to qualify for 10% maximum discount in second column.

Microscope cabinets are not included; if desired see # 1610, # 1611.


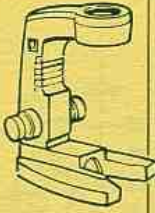






*Prefix "C" denotes inclusion of #1049B Dual Viewing Outfit. See page 6.

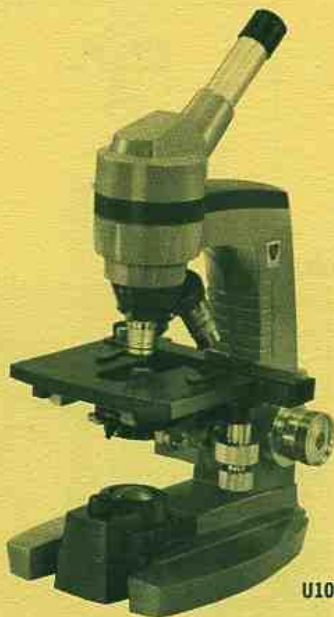
Prefix "D" denotes inclusion of #1039B Dual Viewing Outfit. See page 6.

CXH10BU-FW



Code for Model 10M Monocular Microstar Microscopes

PREFIX	STAND	BODY	STAGE	HYPHEN	PLANACHROMATIC OBJECTIVES NOSEPIECE · CONDENSER	EYEPIECE
 U 1034 On-Base Illuminator	 10	 M 1041 Monocular	 U 1062 Ungraduated Mechanical	E 1019 10X Objective 1073 Triple Nosepiece 1023 40X Objective 1088 N.A. 1.25 Condenser 1024 100X Objective 1093A Condenser Mount F 1017 4X Objective 1074 Quadruple Nosepiece 1019 10X Objective 1088 N.A. 1.25 Condenser 1023 40X Objective 1093A Condenser Mount 1024 100X Objective	 W 176 10X Wide Field	
 X 1085 Auxiliary Swing-In Condenser						 M 1038 Mirror Assembly 406 Filter
<div style="border: 1px solid black; padding: 5px;"> 1085 Auxiliary Swing-In Condenser "X" is supplied with "XM10M" outfits combined with suffix "F", "Q". 1093 Condenser Mount is supplied with "M", "XM" outfits. </div>					ACHROMATIC OBJECTIVES NOSEPIECE · CONDENSER H 1019 10X Objective 1073 Triple Nosepiece 1116 45X Objective 1088 N.A. 1.25 Condenser 1079 100X Objective 1093A Condenser Mount Q 1017 4X Objective 1074 Quadruple Nosepiece 1019 10X Objective 1088 N.A. 1.25 Condenser 1116 45X Objective 1093A Condenser Mount 1079 100X Objective	 H 177 10X Huygenian



U10MU-EW

NOTE:

The following models may be grouped with all AO Series 10 and 20 Microscopes in quantity of five or more to qualify for 10% maximum discount in second column.

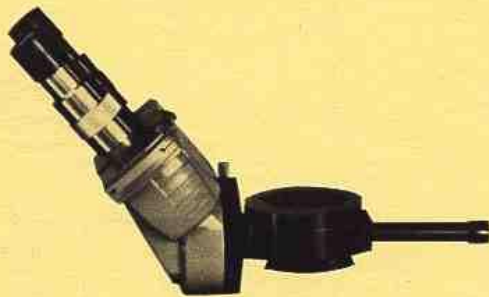
Microscope cabinets are not included; if desired see # 1610, # 1611.

Catalog Number	Unit Net Consumer Price	
	Quantity 1-4 List	Quantity 5 or more
MONOCULAR Models		
Equipped with PLANACHROMATIC Objectives		
U10MU-EW	\$884.00	\$795.60
U10MU-FW	945.00	850.50
Equipped with ACHROMATIC Objectives		
U10MU-HW	814.00	732.60
U10MU-QW	875.00	787.50
U10MU-HH	798.00	718.20
XM10MU-QW	893.00	803.70
M10MU-HW	814.00	732.60

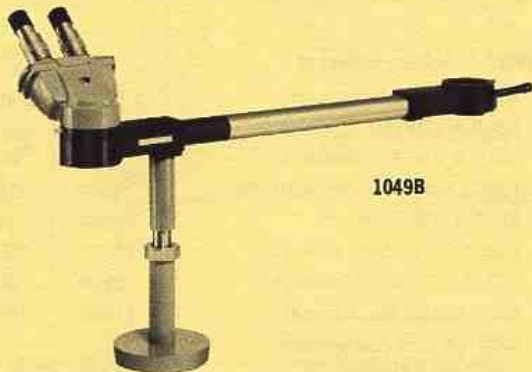
Alternate Parts and Accessories

All essential optical surfaces of MICROSTAR Series 10 as well as alternate parts and accessories are AMERICOTE . . . to decrease internal reflection, increase light transmission and improve image contrast.

		Unit Net Consumer Price	
		Quantity 1-4 List	Quantity 5 or more 10%
			
1028	1017		
			
1019	1022		
			
1023	1024		
			
1016			
			
1074	1105		
			
1041	1040		
			
1042	1043	1044	
CATALOG NUMBER	DESCRIPTION		
OBJECTIVES — Infinity corrected			
1017	4X N.A. 0.12 Plan Achromat	\$ 51.00	\$ 45.90
1019	10X N.A. 0.25 Plan Achromat	51.00	45.90
1022	20X N.A. 0.50 Plan Achromat	73.00	65.70
1024	100X N.A. 1.25 Plan Achromat. Oil.	176.00	158.40
1116	45X N.A. 0.66 Achromatic	83.00	74.70
1079	100X N.A. 1.25 Achromatic. Oil.	141.00	126.90
1028	2.5X N.A. 0.07 Plan Achromat	89.00	80.10
1023	40X N.A. 0.66 Plan Achromat	118.00	106.20
1014	100X N.A. 1.25 Plan Achromat with Iris Diaphragm. Oil.	208.00	187.20
1016	50X N.A. 0.80 Plan Achromat with Iris Diaphragm. Oil.	195.00	175.50
 NOTE: Specify Objectives #1014, 1016 or 1079 for use with #214F Dark Field Condenser.			
NOSEPIECES			
1073	Triple Nosepiece	42.00	37.80
1074	Quadruple Nosepiece	52.00	46.80
1105	Quintuple Nosepiece	70.00	63.00
BODIES			
1040	Vertical Monocular. Fixed Eyetube.	44.00	39.60
1041	Inclined Monocular "M"	44.00	39.60
1042	Binocular "B". Converging Eyetubes.	461.00	414.90
1042B	Binocular having both eyetubes focusable. For 1039, 1049 Dual View Adapter.	461.00	414.90
*1043	Trinocular "T". Converging Eyetubes.	529.00	476.10
1044	Vertical Tube for 1043, 1047.	18.00	16.20
1046	Binocular. Parallel Eyetubes.	461.00	414.90
*1047	Trinocular. Parallel Eyetubes.	529.00	476.10
Note: #1043, 1047 do not include #1044 Vertical Tube. Add for non-integral camera.			



1039B



1049B



1051



1050



176

184



157



133

177

Unit Net Consumer
Price

Quantity
1-4 List
Quantity
5 or more
10%

CATALOG
NUMBER DESCRIPTION

DUAL VIEWING

1039	Dual Viewing Adapter (body and eye-pieces not included).	\$285.00	\$256.50
1039B	Dual Viewing Outfit. Consists of 1039, 1042B, 1176.	816.00	734.40
1042B	Binocular Body with both eyetubes focusable for 1049.	461.00	414.90
1049	Dual Viewing Adapter (body and eye-pieces not included).	517.00	465.30
1049B	Dual Viewing Outfit. Consists of 1049, 1042B, 1176.	1048.00	943.20
1051	Transformer 115V, 60Hz.	36.00	32.40
1032	Replacement Lamps, package of five (selected) for D/V Adapter illuminated pointer. NET	5.52	5.52

NOTE:
Illumination cord of #1039 or #1049 plugs into pig-tail connector of #1031 Illuminator "H" or #1051 Transformer.

Triple, quadruple or quintuple viewing body versions of #1049 available through Special Product Dept.

VIEWING SCREEN

1050	Viewing Screen for Series H10T.	223.00	200.70
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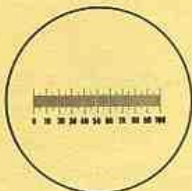
EYEPIECES

WIDE FIELD

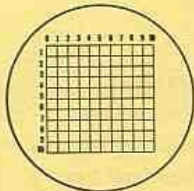
176	10X Americote, single.	35.00	31.50
1176	10X Americote, pair.	70.00	63.00
184	15X Americote, single.	35.00	31.50
1184	15X Americote, pair.	70.00	63.00
157	20X Americote, single.	35.00	31.50
1157	20X Americote, pair.	70.00	63.00
187	Eyeshield for 176.	1.10	.99

HUYGENIAN

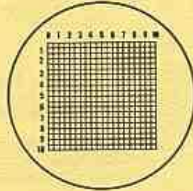
C133	5X Americote, single.	19.00	17.10
C1133	5X Americote, pair.	38.00	34.20
177	10X Americote, single.	19.00	17.10
1177	10X Americote, pair.	38.00	34.20



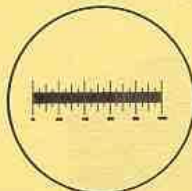
1406A



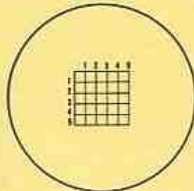
1408A



1409A



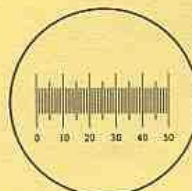
1410A



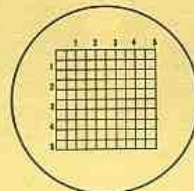
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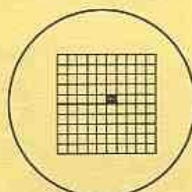
148



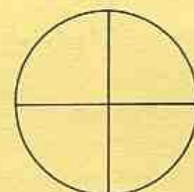
405



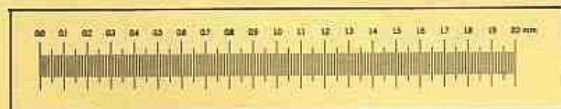
422



416



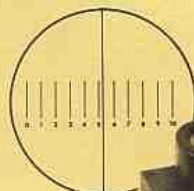
427



400



437



426C



CATALOG
NUMBER

DESCRIPTION

Unit Net Consumer
Price

Quantity
1-4 List

Quantity
5 or more
10%

**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
1409A	Net Micrometer Disc 10mm square subdivided into 400 squares.	25.00	22.50
1410A	Micrometer Disc 5mm scale divided into 100 units.	13.00	11.70
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
K1282	Miller Disc for Reticulocyte Count.	12.00	10.80

**MICROMETER DISCS (21mm Diameter)
FOR HUYGENIAN EYEPIECES**

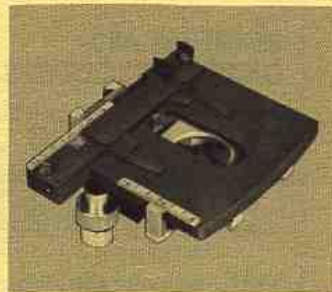
405	Micrometer Disc 5mm scale divided into 50 units.	13.00	11.70
410	Micrometer Disc 5mm scale divided into 100 units.	13.00	11.70
416	Whipple Net Micrometer Disc 7.5mm square subdivided into 100 squares. Center square further subdivided into 25 squares.	28.00	25.20
422	Net Micrometer Disc 5mm square subdivided into 100 squares.	24.00	21.60
427	Cross-Hair Disc.	14.00	12.60

**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 Mag. Compensator but with plain eyepiece tube adapter. (See literature SB424 for further details).	200.00	180.00
437	10X W.F. Eyepiece with focusable eyepiece. Accepts above 20mm diameter eyepiece discs.	58.00	52.20



1062



1065



1060



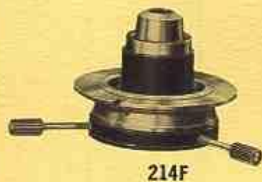
1061



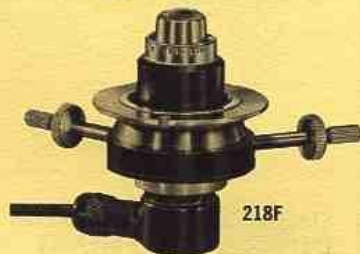
1610



1611



214F



218F



1088



1085



1093

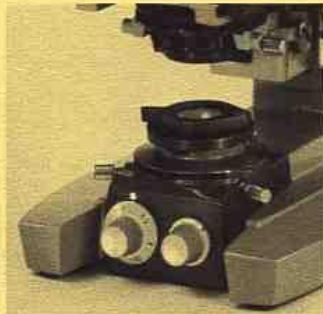


1095



1051

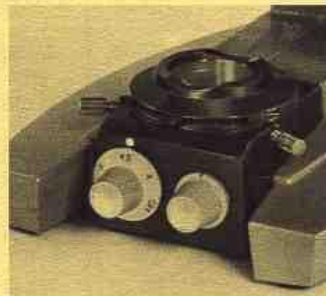
CATALOG NUMBER	DESCRIPTION	Unit Net Consumer Price	
		Quantity 1-4 List	Quantity 5 or more 10%
STAGES			
1060	Simple Stage with clips.	\$108.00	\$ 97.20
1061	MICRO GLIDE Stage with clips.	132.00	118.80
1062	Ungraduated Mechanical Stage "U". RH.	207.00	186.30
1063	Ungraduated Mechanical Stage "U". LH.	207.00	186.30
1064	Graduated Mechanical Stage "G". RH.	243.00	218.70
1065	Graduated Mechanical Stage "G". LH.	243.00	218.70
CABINETS			
1610	Cabinet for 10.	51.00	45.90
1611	Deluxe Cabinet for 10.	66.00	59.40
CONDENSERS AND CONDENSER MOUNTS			
1084	N.A. 1.25 ASPHERIC Condenser for use with #1031, 1036A Illuminator.	35.00	31.50
1088	N.A. 1.25 Abbe Condenser for use with #1034, 1037 Illuminators; #1038 Mirror.	35.00	31.50
1085	Auxiliary Swing-In Condenser "X".	18.00	16.20
1093	Condenser Mount. Fixed, with filter holder.	21.00	18.90
1093A	Condenser Mount. Fixed.	21.00	18.90
1095	Condenser Mount. Centerable.	68.00	61.20
214F*	Dark Field Condenser. Centerable.	150.00	135.00
218F*	Dark Field Condenser. Centerable. Built-in 6.5V 1.7 amp. illuminator, without transformer.	233.00	209.70
1051	Variable Transformer, 115V for 218F.	36.00	32.40
406	Clear blue filter; 31mm diameter.	1.70	1.53
*NOTE: Specify #1079, 1016 or 1014 for use with #214F, 218F Dark-Field Condenser.			



1114



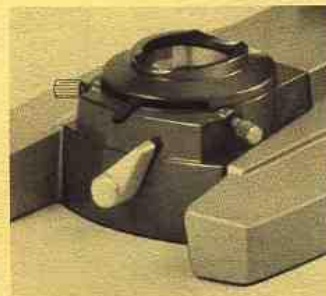
1113



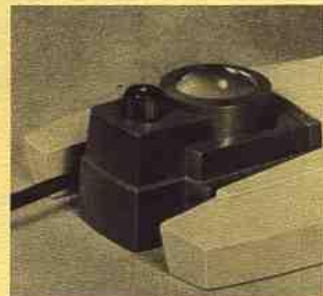
1031



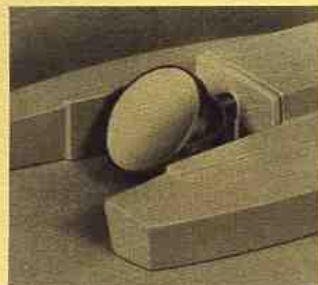
1034



1036A



1037



1038

CATALOG
NUMBER

DESCRIPTION

Unit Net Consumer
Price

Quantity
1-4 List

Quantity
5 or more
10%

POLARIZING ACCESSORIES

1113	Polarizer Unit, consists of swing-in polarizing disc, rotatable, for 1031, 1036A.	\$ 35.00	\$ 31.50
1114	Analyzer Turret Unit; has three apertures, one contains Polaroid disc.	87.00	78.30
1114B	Consists of 1113, 1114.	122.00	109.80
K1824	Full Wave Retardation Plate for 1114 with instructions.	34.00	30.60
K2286	#1114 with K1824 installed.	121.00	108.90

NOTE: #K1824 is ideal for differentiation of gout (monosodium urate crystal deposition disease) and pseudogout (calcium pyrophosphate dihydrate crystal deposition disease).

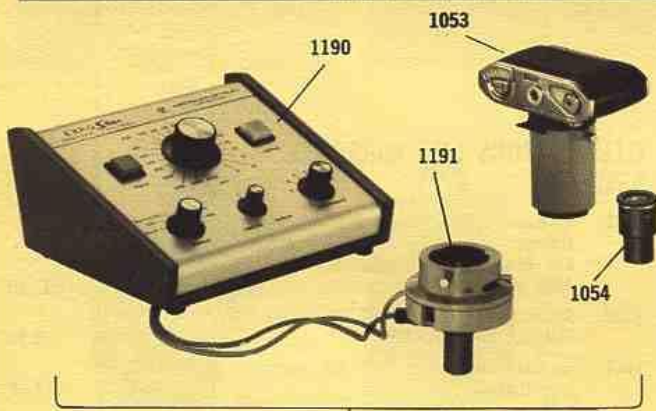
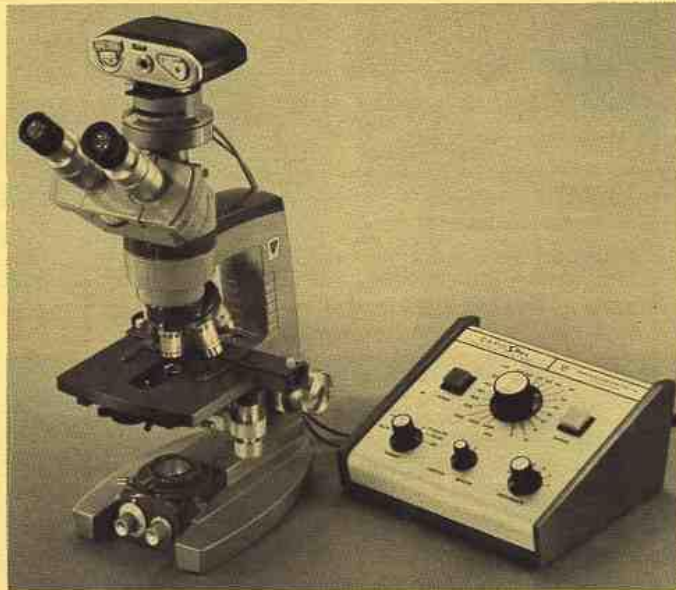
ILLUMINATORS AND MIRROR ASSEMBLY

1031	In-Base Transformer and Tungsten Halogen Illuminator "H". Hi-Intensity. For Binoculars & Trinoculars. Models 10B, 10T. 115V.	219.00	197.10
1120	Replacement Lamp 20W 6V Tungsten Halogen for 1031, H10. NET	5.35	5.35
1034	On-Base Illuminator "U" for monoculars 10M. 115V.	19.00	17.10
1036A	In-Base Illuminator "L" complete with separate #1051 Transformer. 115V.	195.00	175.50
1037	On-Base Illuminator "N" for binoculars 10B. 115V.	25.00	22.50
1038	Plano-Concave Mirror Assembly "M".	19.00	17.10
611	Replacement Lamp 15W 115V GE #15S11/102 for 1034, 1037. NET	.75	.75
1033	Replacement Lamp 2.75A 6.5V GE #1460 for #1036A. NET	4.84	4.84

NOTE: See Literature Sheets SB370, SB735 for non-integral illuminators.

AO AUTOMATIC PHOTOMICROGRAPHIC EXPOSTAR CAMERAS FOR MODELS H10T MICROSTAR

See Expostar Literature SB1190 for further details.



1053C
Expostar Automatic Camera Outfit



*#1055 is illustrated with cut film, plate holder. Also accepts Polaroid #500, 545 ... not available thru AO.

Unit Net Consumer Price

Quantity 1-4 List Quantity 5 or more 10%

CATALOG NUMBER

DESCRIPTION

1052C	3 1/4" x 4 1/4" Film Pack Polaroid® Land Camera consists of: #1052 Camera Back and 7.5X Adapter; #1190 Expostar Control Unit; #1191 Shutter, Lens Assembly*, and Photocell and Cords; #1054 Field of View Eyepiece Magnification factor 7.5X.	\$1534.00	\$1380.60
1053C	35mm Camera consisting of: #1053 Camera Back; #1190 Expostar; #1191 Shutter, Lens Assembly*, Photocell and Cords; #1054 Field of View Eyepiece. Magnification factors 2.8X and 5X.	1408.00	1267.20
1055C	4" x 5" Camera Back Adapter consisting of #1055 Camera Back Adapter; #1190 Expostar; #1191 Shutter, Lens Assembly*; Photocell and Cords; #1054 Field of View Eyepiece. Magnification factor 10X. Accepts 4" x 5" Cut Film Holders and Polaroid #500, 545 Camera Back for 4" x 5" Polaroid Cut Film Pack (#500, 545 not supplied by AO).	1433.00	1289.70
1052	3 1/4" x 4 1/4" Film Pack Polaroid Land Camera Back. Magnification factor 7.5X.	251.00	225.90
1053	35mm Camera Back. Magnification factors 2.8X, 5X.	125.00	112.50
1055	4" x 5" Camera Back Adapter. Magnification factor 10X.	150.00	135.00
1054	Field of View Focusing Eyepiece.	73.00	65.70
1190	ExpoStar Control Unit (115-120V 60 Hz).	814.00	732.60
1191	ExpoStar Shutter 2.8X and 5X Lens Assembly*, Photocell and Cords.	396.00	356.40

*If you have the older style trinocular body (MicroStar Series 10 & 20) without a NOTCH in the collar, this equipment cannot be used until the trinocular body has been slightly modified.

©TM Reg. by Polaroid Corp.

AO SEMI-AUTOMATIC PHOTOSTAR CAMERAS AND ACCESSORIES FOR MODELS H10T MICROSTAR

See literature SB1066 for further details.

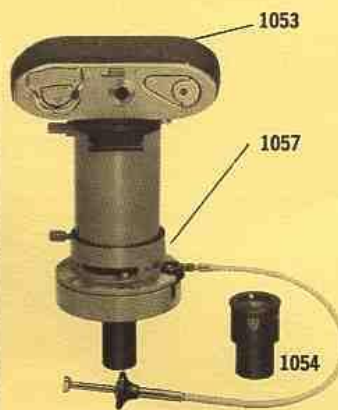


1053B

Photostar Semi-Automatic Camera Outfit

CATALOG NUMBER	DESCRIPTION	Unit Net Consumer Price	
		Quantity 1-4 List	Quantity 5 or more 10%
1052B	3 1/4" x 4 1/4" film pack Polaroid® Land Camera consisting of #1052 Camera Back and 7.5X Adapter; #1066 Exposure Control; #1067 Shutter, Cable, Lens assembly, Photocell and Cord; #1054 Field of View Eyepiece. Magnification factor 7.5X.	\$906.00	\$815.40
1053B	35mm Camera consisting of #1053 Camera Back; #1066 Exposure Control; #1067 Shutter, Cable, Lens assembly, Photocell and Cord, #1054 Field of View Eyepiece. Magnification factors 2.8 and 5X.	780.00	702.00
1055B	4" x 5" Camera Back Adapter consisting of #1055 Camera Back Adapter; #1066 Exposure Control; #1067 Shutter, Cable, Lens assembly, Photocell and Cord; #1054 Field of View Eyepiece. Magnification factor 10X. Accepts 4" x 5" Cut Film Holders and Polaroid #500, 545 Camera Back for 4" x 5" Polaroid Cut Film Pack (#500, 545 not supplied by AO).	805.00	724.50
1052	3 1/4" x 4 1/4" film pack Polaroid Land Camera Back. Magnification factor 7.5X.	251.00	225.90
1053	35mm Camera Back. Magnification factors 2.8X, 5X.	125.00	112.50
1055	4" x 5" Camera Back Adapter. Magnification factor 10X.	150.00	135.00
1054	Field of View Focusing Eyepiece.	73.00	65.70
1066	Photostar Exposure Meter.	275.00	247.50
1067	Shutter, Cable, 2.8X and 5X Lens Assembly, Photocell and Cord.	307.00	276.30

AO NON-AUTOMATIC CAMERAS AND ACCESSORIES FOR MODELS H10T MICROSTAR



1053A

Non-Automatic Camera Outfit

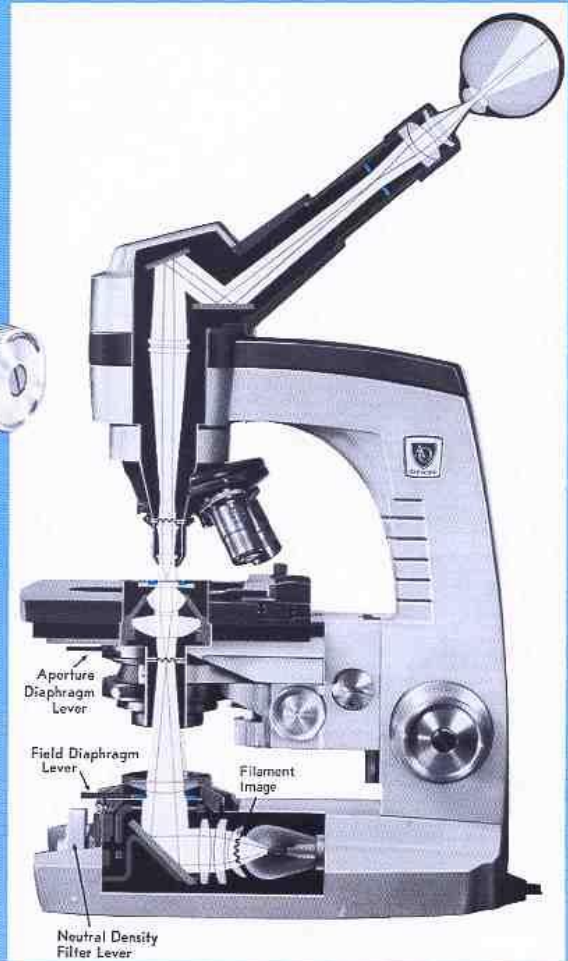
1052A	3 1/4" x 4 1/4" film pack Polaroid Land Camera consisting of #1052 Camera Back and 7.5X Adapter; #1057 Shutter, Cable and Lens Assembly; #1054 Field of View Eyepiece. Magnification factor 7.5X.	490.00	441.00
1052	3 1/4" x 4 1/4" film pack Polaroid Land Camera Back. Magnification factor 7.5X.	251.00	225.90
1053A	35mm Camera consisting of #1053 Camera Back; #1057 Shutter, Cable and Lens Assembly; #1054 Field of View Eyepiece. Magnification factors 2.8 and 5X.	364.00	327.60
1053	35mm Camera Back.	125.00	112.50
1055A	4" x 5" Camera Back Adapter consisting of #1055 Camera Back Adapter; #1057 Shutter, Cable and Lens Assembly; #1054 Field of View Eyepiece. Magnification factor 10X. Accepts 4" x 5" Cut Film Holders, and Polaroid #500, 545 Camera Back for 4" x 5" Polaroid Land Film Pack (#500, 545 not supplied by AO).	389.00	350.10
1055	4" x 5" Camera Back Adapter.	150.00	135.00
1054	Field of View Eyepiece.	73.00	65.70
1057	Shutter, Cable and Lens Assembly. Magnification factors 2.8X and 5X.	166.00	149.40

AO Series L10 MICROSTAR® Microscopes



XL10BU-QW

Wide choice of models
available with 1036A Illuminator
plus Achromatic or
Planachromatic Objectives



Features and benefits of Models "L10" are same as those detailed in SBH10 brochure — except that they are supplied with 1036A instead of 1031 Illuminators. Relatively high intensity Illuminator 1036A is controlled by external, five step transformer 115V to vary brightness of 6.5V 2.75 Amp precentered tungsten lamp (GE1460). Convenient external lever permits you to easily swing in a 10% transmission neutral density filter when required. Well corrected, prefocused optical system of #1036A contains a centerable iris diaphragm to evenly illuminate all fields of view.

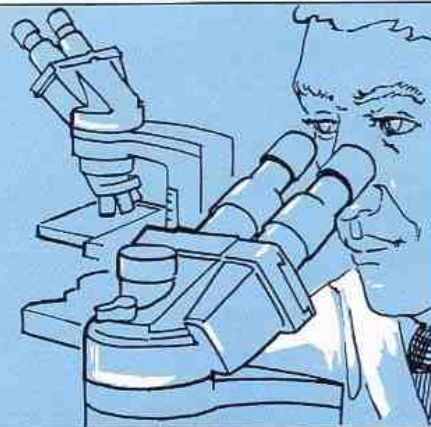


1036A In-Base Illuminator and Transformer

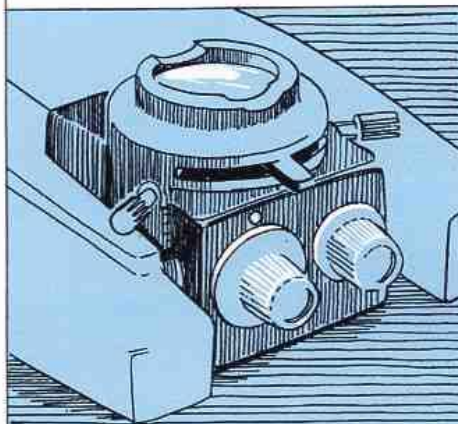
**HERE'S WHY THE AO SERIES 10 MICROSTAR[®] MICROSCOPES
DELIVER OUTSTANDING PERFORMANCE**



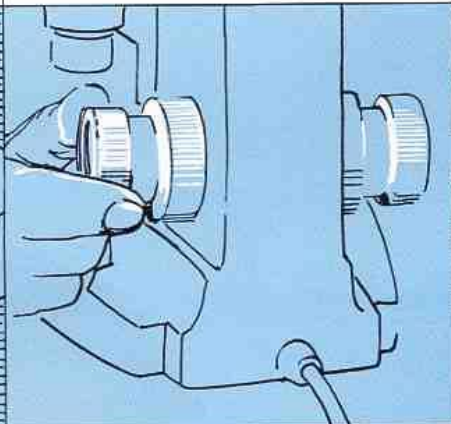
Infinity corrected optical system provides true flatness of field, edge-to-edge crispness of image.



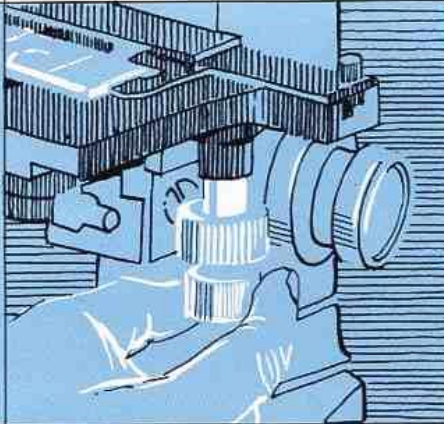
Binocular and trinocular bodies are rotatable through 360°...have constant tube length for improved parfocality.



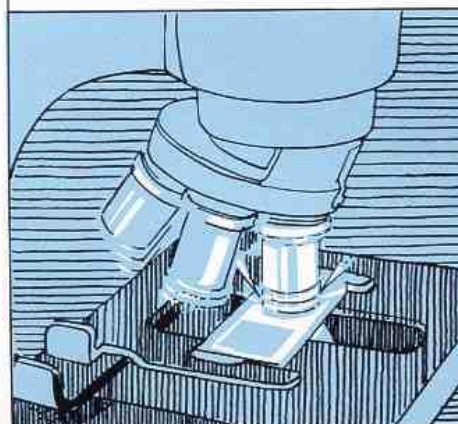
New, efficient continuously variable controlled illumination system provides superior performance with built-in-base transformer.



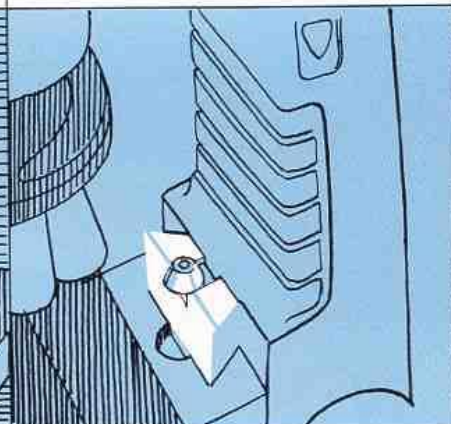
Coaxial coarse and fine focusing mechanisms are low-positioned, comfortable to use.



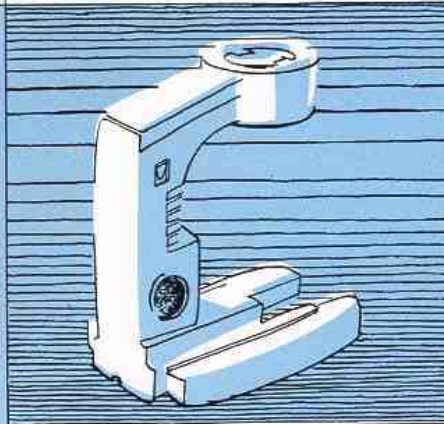
Fixed stage stability, below-stage coaxial adjustment controls, choice of graduated or ungraduated mechanical, either right or left hand.



Nosepiece is focusable, gravity loaded. Eliminates specimen slide and objective damage.

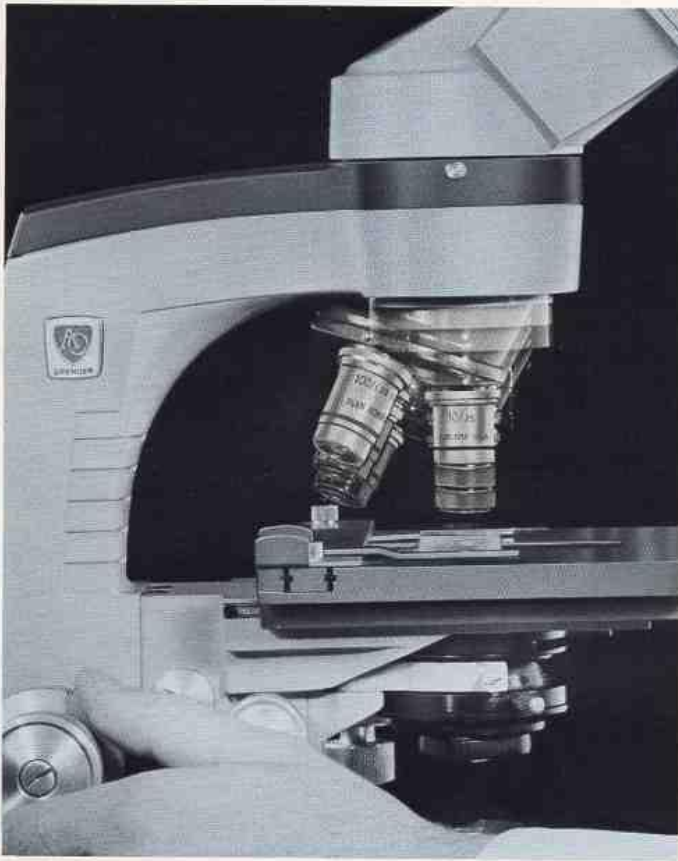


Coarse focusing is made easier and quicker with Autofocus stop.



Base-Stand-Arm is of single unit construction for maximum overall stability and strength.

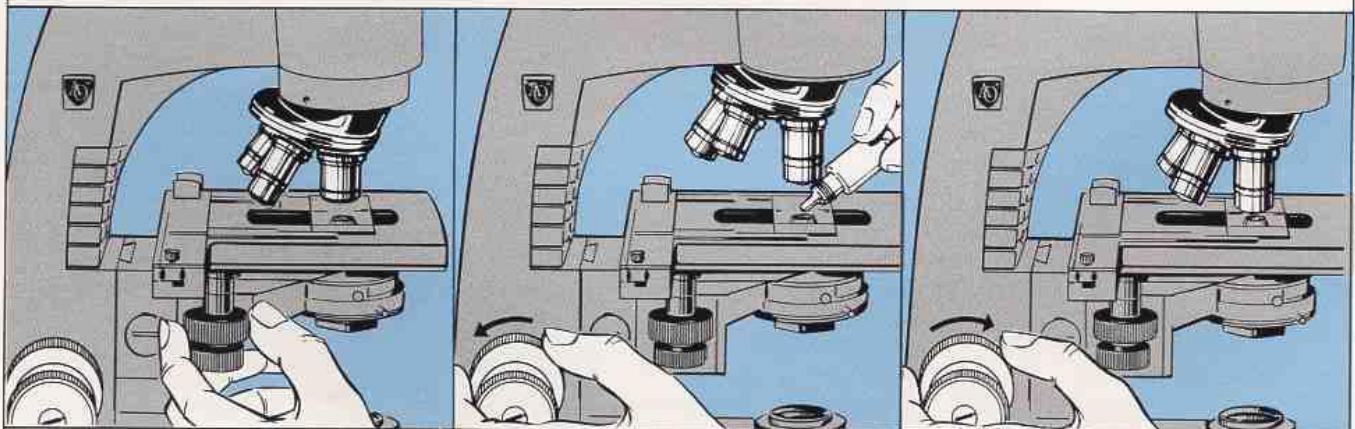
EXCLUSIVE NOSEPIECE FOCUSING CONCEPT PROTECTS SLIDES AND OBJECTIVES



Only the nosepiece assembly moves to focus the objective to the specimen. There is no rack and pinion to wear and bind. All components of body, stage and stand become one solid unit, free of any movement or vibration. The entire focusing mechanism is enclosed in the arm, sealed against dirt and dust. Dual, coaxial, coarse and fine focusing adjustment rides smoothly on ball bearing slideways. Virtually frictionless action assures long life and trouble free service.

The nosepiece is gravity-loaded — there is no positive downward pressure. Focusing down onto the slide with either coarse or fine adjustment merely causes the nosepiece to “give.” It is impossible to damage objectives or break slides. A safety clutch slips when maximum nosepiece excursion is reached to protect the focusing mechanism against damage.

Autofocus stop for additional focusing convenience. Eliminates lost time in searching for correct focus with the coarse adjustment.



1. Scan and locate field with low power objective.

2. Raise coarse adjustment, swing to oil immersion objective and apply oil.

3. Lower coarse adjustment to positive autofocus stop. You will be in focus within a turn of the fine adjustment.

**SUPERIOR QUALITY IMAGE WITH INFINITY
CORRECTED OPTICAL SYSTEM**

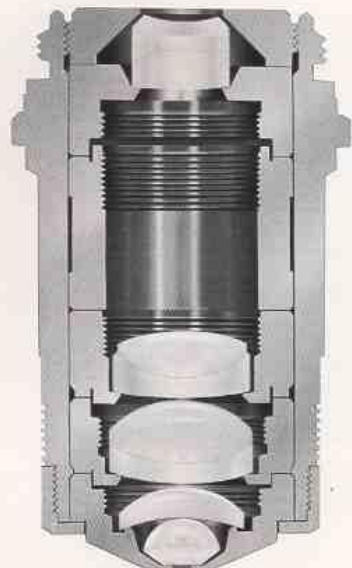


**... AND PLANACHROMATIC
OBJECTIVES**

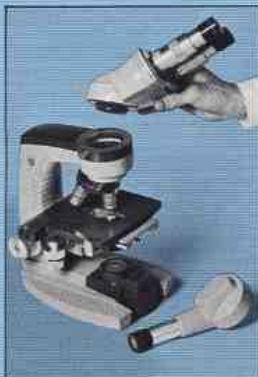
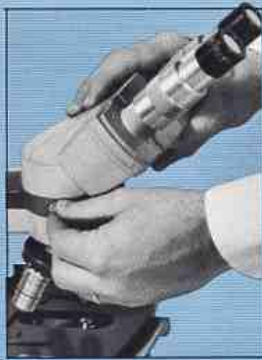


Nothing contributes more toward exceptional performance of a microscope than the design of its objective lens systems. The planachromatic objectives of the Series 10 MICROSTAR Microscope assure a new level of optical excellence. They incorporate traditional microscope objective correction for color and astigmatism plus infinity—and extreme flatness of field. You see the entire wide field of every specimen in clear, sharp focus from edge-to-edge. There is no curvature in the field of view.

All essential optical surfaces are Americote, an AO exclusive coating process which decreases internal reflections, improves light transmission and image contrast.



BROAD SELECTION OF INTERCHANGEABLE, ROTATABLE BODIES *plus* DUAL VIEWING VERSATILITY

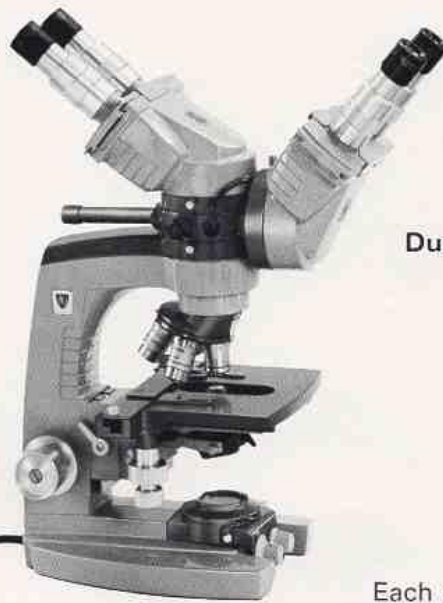


Inclined monocular, binocular, trinocular (and vertical monocular) bodies may be selected. All are rotatable a full 360° for use either in conventional or reverse positions.

Converging binocular or trinocular bodies are supplied as standard. They are graduated for interpupillary (54-74mm range) and eye refraction differences. Constant tube length is maintained by internal optical focusing. Resultant magnification, field coverage, parfocality and calibrated values of eyepiece micrometer scale remain constant despite changes in interpupillary settings. Body inclination is a comfortable 50°.

Unique swing-out prism of trinocular body diverts all illumination to either eyepieces, camera, or viewing screen.

Inclined parallel eyetubes in both the binocular and trinocular models may be substituted for converging eyetubes at no extra cost.



Dual Viewing Models

DXH10BU-FW.
Includes No. 1039B Dual Viewing Outfit.

Each of the two available types of Dual Viewing models has almost unlimited applications—for

conferences between pathologist and staff, in training technicians in research and routine laboratory techniques. The dual viewing system has proved a significant teaching aid in all the biological sciences.

Both viewers see the same sharp, bright image simultaneously. A universal movement lever control allows a green transparent arrow to be positioned anywhere in the field of view.

The Dual Viewing outfit in both models plugs into the 1031 in-base transformer of the H10.



CXH10BU-QW.
Includes No. 1049B Dual Viewing Outfit.
Distance between viewing stations is 26".

SUPERB PHOTOMICROGRAPHY MADE EASY

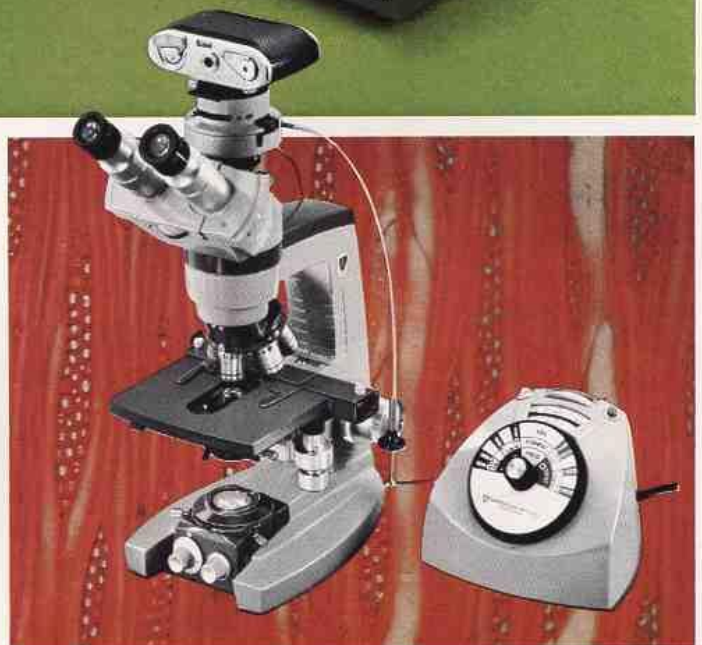


EXPOSTAR™ SHUTTER CONTROL allows control of all factors necessary to assure ease and reliability in photomicrography. AO EXPOSTAR control automatically integrates the light intensity and film reciprocity with time so that you can produce a quality photomicrograph with any AO camera system.

It eliminates the time consuming trial and error method of exposure determination that usually accompanies photography through the microscope. Nothing is left to chance. You produce a high quality photomicrograph each and every time.

Accommodates 35mm, 3¼" x 4¼" Polaroid® and 4" x 5" Cut Film Camera Backs. Time and Bulb settings included. ASA film speed range from 8-6400. Ask for Brochure SB 1190.

PHOTOSTAR™ SEMI-AUTOMATIC EXPOSURE CONTROL contains a highly sensitive cadmium sulphide photocell. A light sensor measures the light level of the in-focus specimen image and transmits it to the control unit where a reading is given on the meter. The outer handwheel is rotated to match meter reading and obtain proper exposure time. Exposure determinations from 1/125 sec. to one hour. ASA film speed range from 10 to 6400. Ask for Brochure SB1066.



CAMERA BACKS VIEWING SCREEN



3 1/4" x 4 1/4" Film Pack Polaroid Land Camera Back. Magnification factor 7.5X.



4" x 5" Camera Back Adapter. Magnification factor 10X.



35mm Camera Back. Magnification factors 2.8X, 5X.

POLAROID® Land Camera

Simple to attach; easy to use. Just focus through microscope eyepieces. Resultant magnification is 7.5x times initial magnification of objectives. 3 1/4" x 4 1/4" prints are obtained in seconds from either black and white or color film.

Camera Back Adapter

This 4" x 5" Adapter offers greater flexibility since it accepts both cut film holders and the #500, 545 Polaroid Land Film Holders.* The latter offer the advantages of both black and white (plus negative) or color prints.

35mm Camera

An inexpensive camera offering two different magnifications, the 2.8x covers essentially the field seen through the 10x wide field eyepiece while the 5x covers approximately one half that diameter. Single adapter permits

quick change-over from 2.8x to 5x, using same camera back. Resultant magnification at film plane equals objective magnification times camera magnification of 2.8x or 5x.

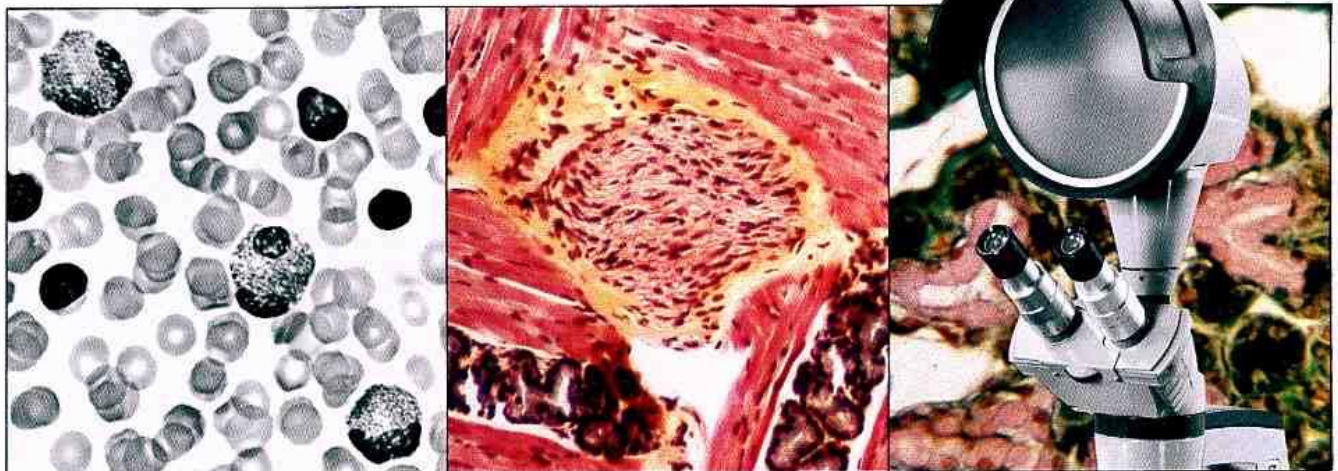
For non-integral type photomicrographic cameras, heavy base, vertical pillar and adjustable camera support, with a choice of five interchangeable camera backs, are also available. Ask for Brochure SB682.

Viewing Screen

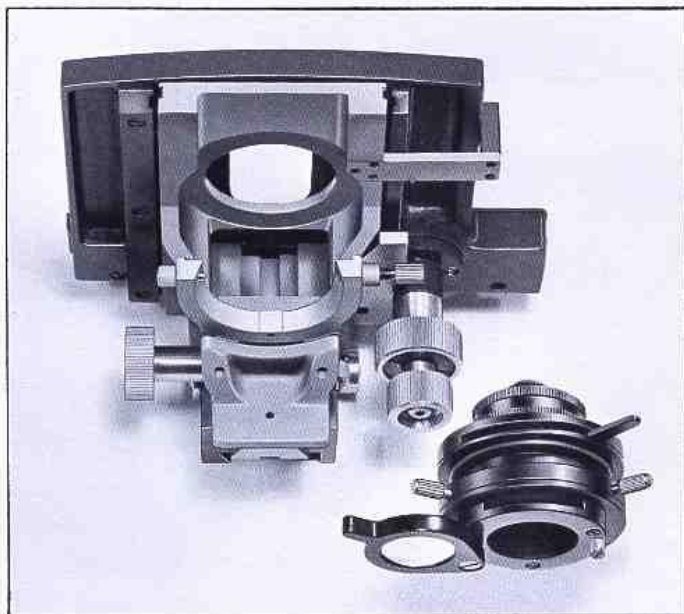
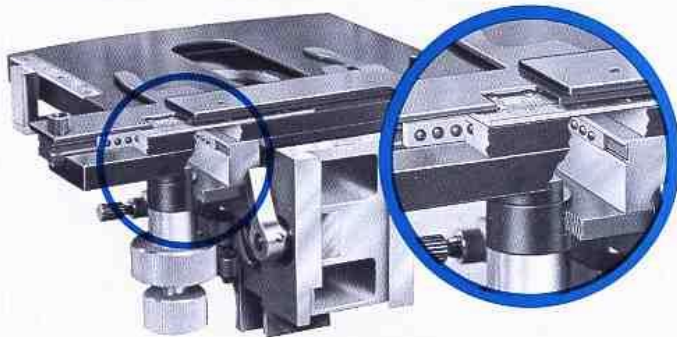
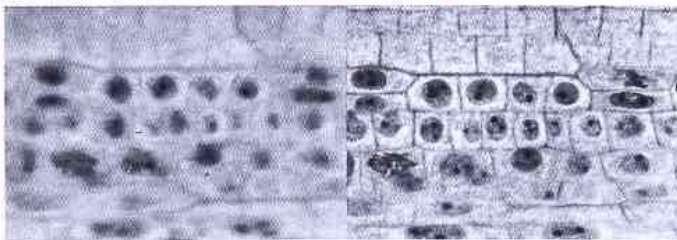
This 6" diameter screen makes small group discussion or consultation easier, more productive. Used with the trinocular body, it is readily interchangeable with cameras. Resultant magnification at screen plane is 7.5 times the initial objective magnification. Field of view is same as that seen through 10x Wide Field eyepiece.

*not available through American Optical

POLAROID® by Polaroid Corporation



EXCEPTIONAL STAGE STABILITY SUBSTAGE CONDENSER MOUNT



The stage of the Microstar Series 10 is an integral part of the stand. Stage mount is secure, solid and totally immobile. It cannot be disturbed by hand pressures so that the image remains in sharp, critical focus.

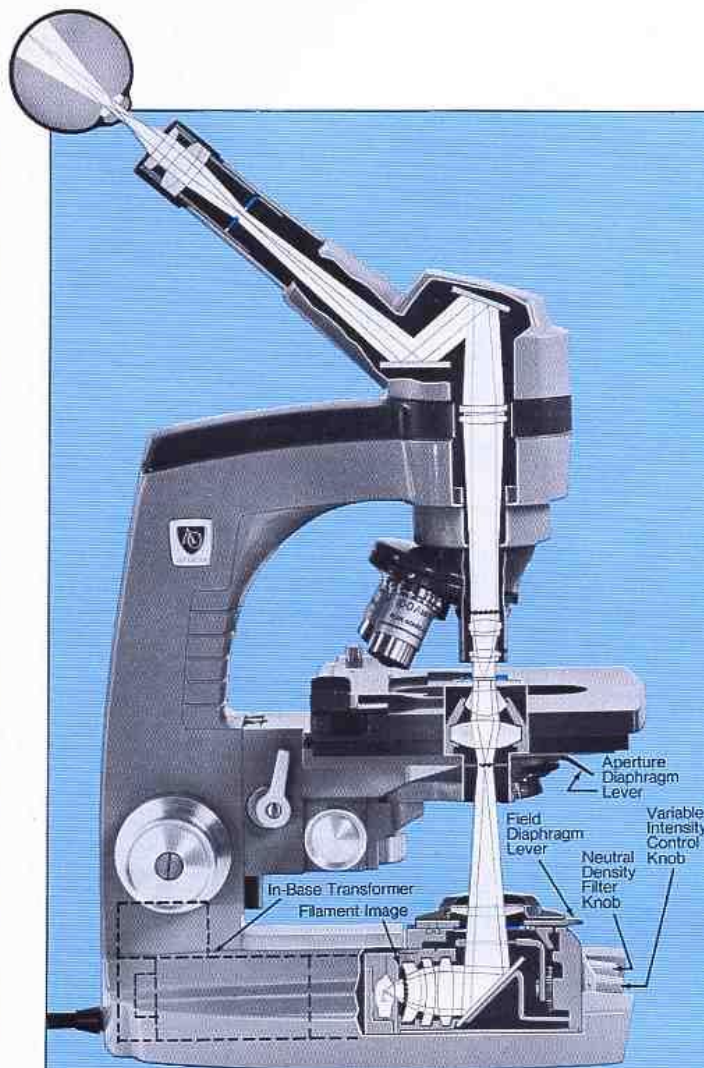
A wide selection of stages is offered to meet every purpose. Choice of simple, mechanical or Micro-Glide. Mechanical stages are research type, graduated and ungraduated for either left or right hand use. Ball bearing dovetail slideways are completely enclosed, require no cleaning or lubrication. Movement is smooth and easy; controls are low placed for comfortable use. Spring-loaded pinch-type stage fingers retain slides safely, with minimal danger of chipping corners.

For petri dish or tissue culture bottle, stage is easily disengaged by releasing locking lever and repositioned to proper working distance. There is a 1-5/8" clearance from point of focus to top of stage.

All Microstar Series 10 Microscopes are supplied with a fork-type condenser mount, focusable by a rack and pinion. The mount permits instant interchange of condensers without disturbing optical alignment.

Aspheric and Abbe condensers (N.A. 1.25) with iris diaphragm, are offered as well as choice of two Dark Field Condensers. An auxiliary swing-in condenser is included in those outfits having 2.5x and 4x scanning objectives.

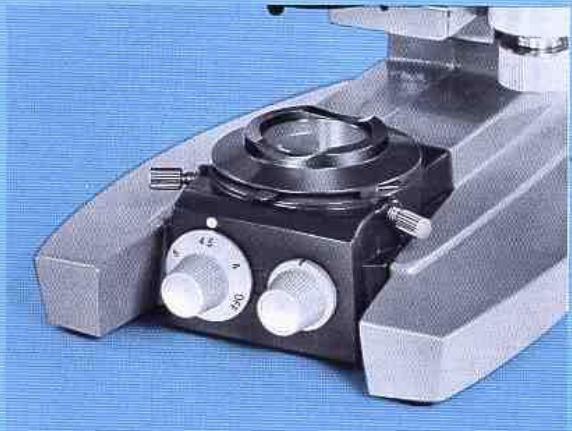
MORE LIGHT... INCREASED LAMP LIFE ... BUILT-IN-BASE TRANSFORMER



High intensity built-in illuminator (#1031) offers more light than previously available. The lamp control is solid state and continuously variable for convenient selection of the exact illumination intensity desired. High color temperature of the 20 Watt Tungsten Halogen lamp assures greater operating efficiency and truer color rendition. When operated at recommended voltages for similar light intensities as obtained with a standard tungsten lamp, exceptionally longer lamp life is possible. The transformer is in the microscope base, out of the way. Also wired to plug in a Dual Viewing adapter if and when desired.

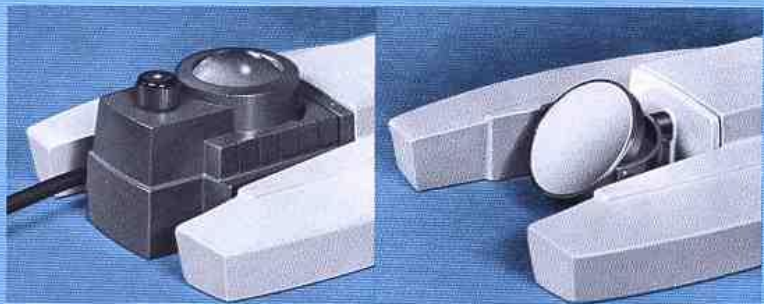
The second knob controls a 15% transmission filter—swing in or out of the light path as desired, conveniently and quickly.

Includes a centerable iris field diaphragm to allow even illumination of all size fields of view and satisfy balance requirements for desirable Koehler type illumination.



Two models of the inexpensive On-Base illuminator are also available—"N" (#1037) for binocular instruments and "U" (#1034) for the monocular. They have a daylight filter, condensing lens and reflector built in. A 15 Watt lamp provides adequate intensity for all bright-field observation. Conveniently located "on-off" switch control.

Plano-Concave Mirror & Fork assembly (#1038) may be interchanged with above illumination.



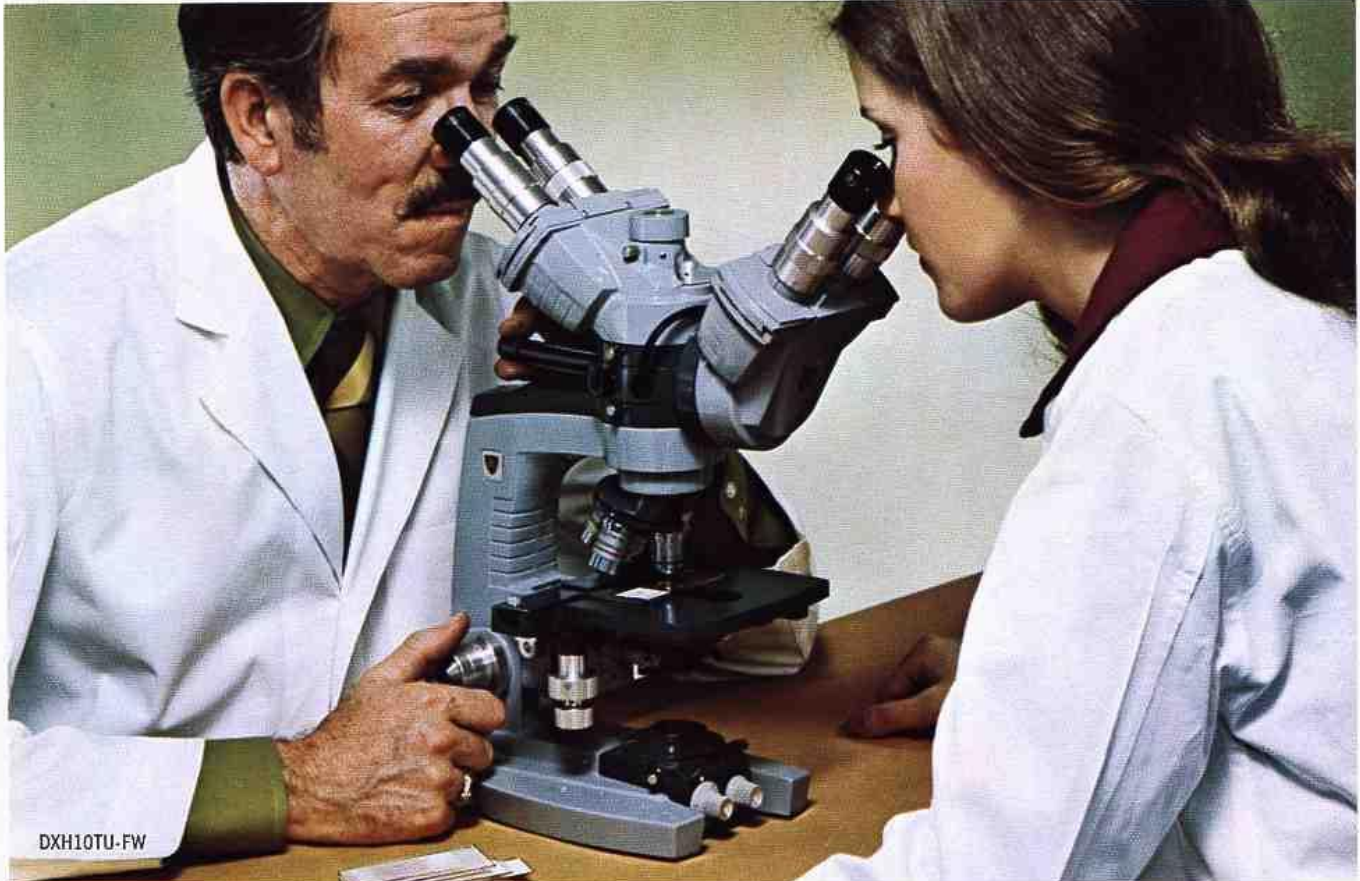
AO SERIES 10 MICROSTAR MICROSCOPES

Trinocular Models 10T

Supplied with:

- Inclined, rotatable trinocular body, interchangeable with other body types
- Focusable nosepiece with low-positioned, coaxial coarse and fine adjustments on each side of stand
- Graduated or ungraduated mechanical stage, or Micro-Glide stage
- Infinity corrected planachromatic or achromatic objectives
- Aspheric or Abbe condenser (N.A. 1.25) with iris diaphragm, in focusable fork-type mount
- Wide Field eyepieces
- Built-in-base continuously variable transformer and illuminator with high intensity 20 Watt Tungsten Halogen lamp
- Accepts wide choice of photographic equipment or Viewing Screen
- Dual Viewing models also available

See Price List for complete selection of models





XH10TU-JW with 1053A Camera

AO SERIES 10 MICROSTAR MICROSCOPES

Binocular Models 10B

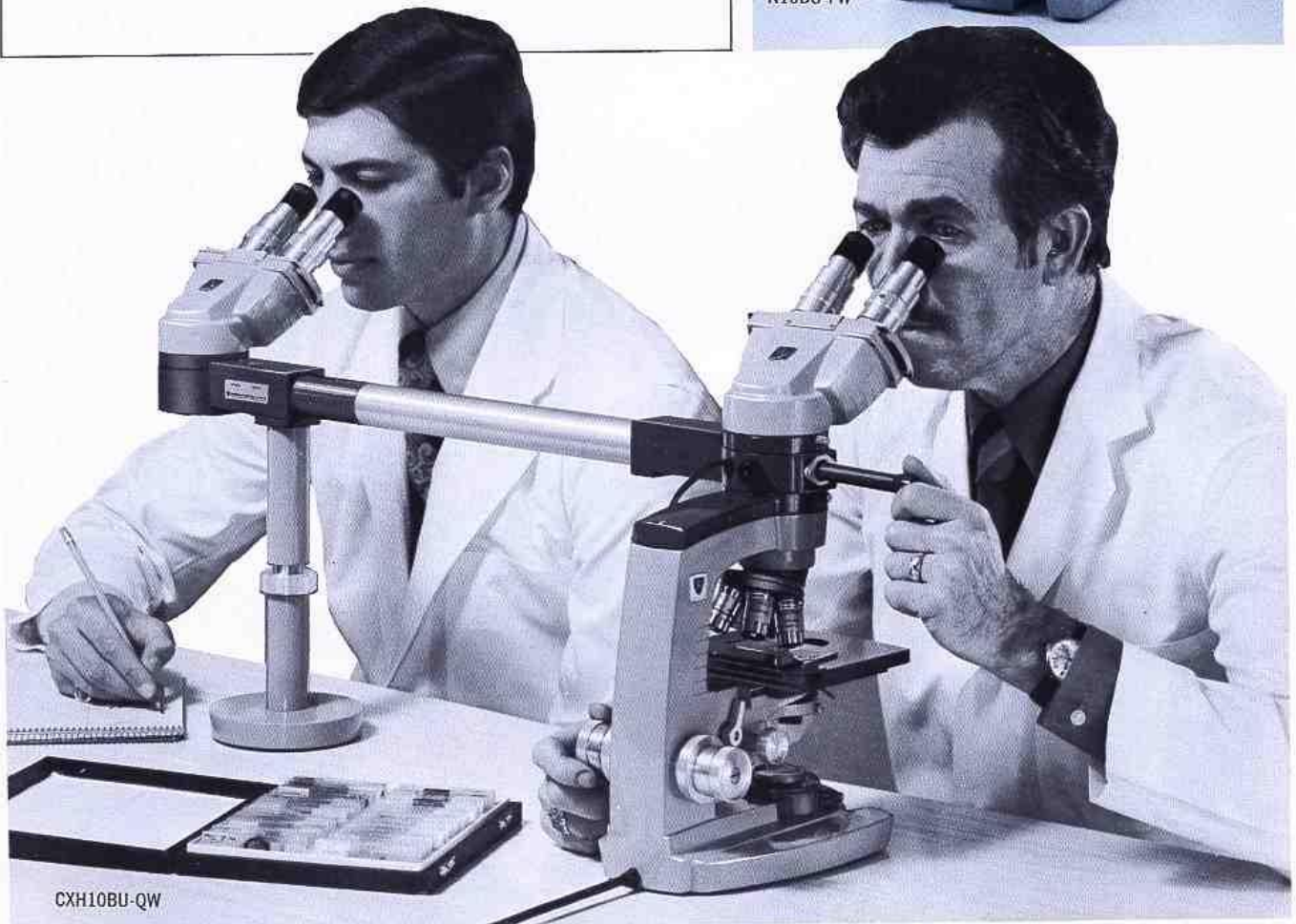
Supplied with:

- Inclined, rotatable binocular body, interchangeable with other body types
- Focusable nosepiece with low-positioned, coaxial coarse and fine adjustments on each side of stand
- Graduated or ungraduated mechanical stage, or Micro-Glide stage
- Infinity corrected planachromatic or achromatic objectives
- Aspheric or Abbe condenser (N.A. 1.25) with iris diaphragm in focusable fork-type mount
- Wide Field eyepieces
- Choice of built-in-base transformer and illuminator, On-Base illuminator with external transformer or mirror
- Dual viewing models also available

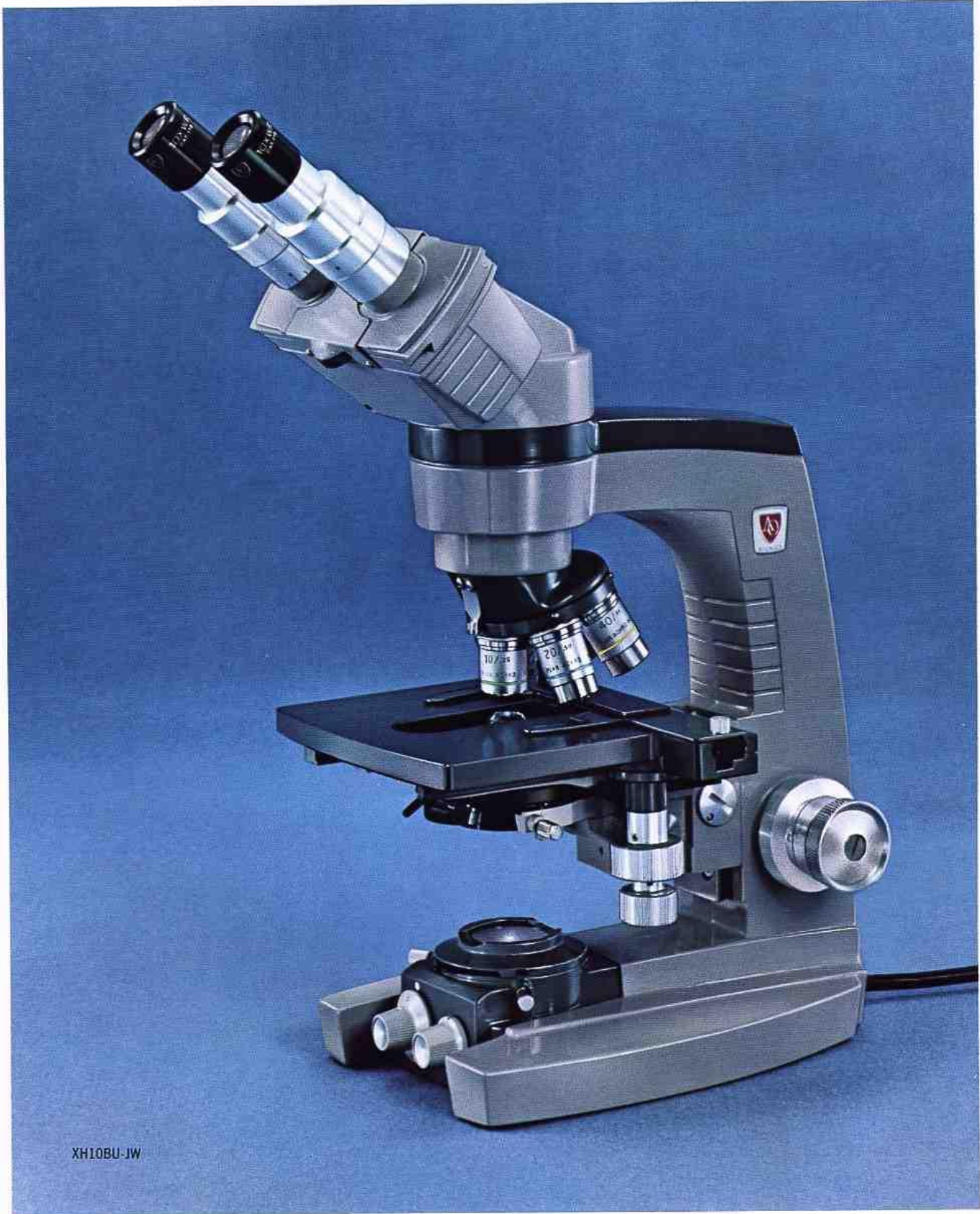
See Price List for complete selection of models.



N10BU-FW



CXH10BU-QW



XH10BU-JW

AO SERIES 10 MICROSTAR MICROSCOPES

Monocular Models 10M

Supplied with:

- Inclined rotatable monocular body, interchangeable with other body types
- Focusable nosepiece with low-positioned coarse and fine adjustments on each side of stand
- Simple, ungraduated mechanical or Micro-Glide stage
- Infinity corrected planachromatic or achromatic objectives
- Abbe condenser (N.A. 1.25) with iris diaphragm in focusable fork-type mount
- Wide Field or Huygenian eyepieces
- Choice of On-Base Illuminator or mirror

See Price List for complete selection of models



U10MU-EW

VERSATILITY OF THE BASIC SERIES 10 MICROSTAR MICROSCOPE CAN BE FURTHER EXTENDED FOR OTHER MODES OF MICROSCOPY BY SIMPLE ADDITION OF INTERCHANGEABLE ACCESSORIES.



FLUORESCENCE MICROSCOPY

See AO Brochure SB2070 regarding complete #2070C Vertical Illuminator for incident-light fluorescence microscopy. Also, AO Brochure SB10 Fluo, SBV20, SB2069 regarding transmitted-light fluorescence microscopy.



PHASE CONTRAST MICROSCOPY








Refer to AO Brochure SB10, 20 Phase concerning accessories and alternate parts for contrast enhancement of unstained materials, living specimens and blood platelets. Illustration shows complete Phase Star microscope with mounted items.



POLARIZING MICROSCOPY

Simple polarizer and analyzer set #1114B (listed on page 9 of insert price list) are adaptable to Series 10 for effectively viewing anisotropic materials contained in fluids & tissues. Particularly well suited for identifying sodium urate crystals and calcium pyrophosphate dihydrate crystal for diagnosis of gouty arthritis.

Code for L10 MICROSTAR Microscopes

PREFIX	STAND	BODY	STAGE	HYPHEN	PLANACHROMATIC OBJECTIVES NOSEPIECE - CONDENSER	EYEPIECES
 X 1085 Auxiliary Swing-In Condenser	 L 1036A In-Base Illuminator and Transformer 406 Filter	 T 1043 Trinocular  B 1042 Binocular	 U 1062 Ungraduated Mechanical  G 1064 Graduated Mechanical		E 1019 10X Objective 1023 40X Objective 1024 100X Objective 1017 4X Objective 1019 10X Objective 1023 40X Objective 1024 100X Objective 1017 4X Objective 1019 10X Objective 1022 20X Objective 1023 40X Objective 1024 100X Objective 1028 2.5X Objective 1019 10X Objective 1023 40X Objective 1024 100X Objective 1028 2.5X Objective 1019 10X Objective 1022 20X Objective 1023 40X Objective 1024 100X Objective	 W 1176 10X Wide Field
					ACHROMATIC OBJECTIVES NOSEPIECE - CONDENSER	
1085 Auxiliary Swing-In Condenser "X" is supplied with prefix "L10" catalog outfits combined with suffix "F", "J", "K", "L", "Q" catalog outfits.					H 1019 10X Objective 1116 45X Objective 1079 100X Objective 1017 4X Objective 1019 10X Objective 1116 45X Objective 1079 100X Objective	Q 1073 Triple Nosepiece 1084 N.A. 1.25 Condenser 1093A Condenser Mount 1074 Quadruple Nosepiece 1084 N.A. 1.25 Condenser 1093A Condenser Mount

SELECTION OF MODELS

ACHROMATIC OBJECTIVES

Cat. No.	BINOCULAR	
	Unit Net Consumer Price	
	Quantity 1-4 List	Quantity 5 or more 10%
L10BG-HW	\$1454.00	\$1308.60
L10BU-HW	1418.00	1276.20
XL10BG-QW	1533.00	1379.70
XL10BU-QW	1497.00	1347.30

Cat. No.	TRINOCULAR	
	Unit Net Consumer Price	
	Quantity 1-4 List	Quantity 5 or more 10%
L10TU-HW	\$1486.00	\$1337.40
XL10TG-QW	1601.00	1440.90
XL10TU-QW	1565.00	1408.50

Cat. No.	DUAL VIEWING	
	Unit Net Consumer Price	
	Quantity 1-4 List	Quantity 5 or more 10%
CXL10BU-QW	\$2545.00	\$2290.50
DXL10BU-QW	2313.00	2081.70
DXL10TU-QW	2381.00	2142.90

PLANACHROMATIC OBJECTIVES

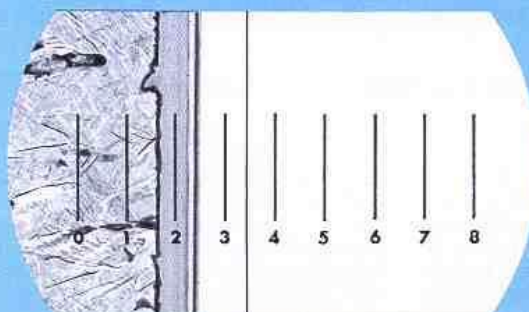
L10BU-EW	\$1488.00	\$1339.20
XL10BG-FW	1603.00	1442.70
XL10BG-KW	1641.00	1476.90
XL10BU-FW	1567.00	1410.30
XL10BU-JW	1658.00	1492.20
XL10BU-KW	1605.00	1444.50
XL10BU-LW	1696.00	1526.40

L10TU-EW	\$1556.00	\$1400.40
XL10TG-FW	1671.00	1503.90
XL10TU-FW	1635.00	1471.50
XL10TU-JW	1726.00	1553.40
XL10TU-KW	1673.00	1505.70
XL10TU-LW	1764.00	1587.60

CXL10BU-FW	\$2615.00	\$2353.50
DXL10BU-FW	2383.00	2144.70
DXL10TU-FW	2451.00	2205.90

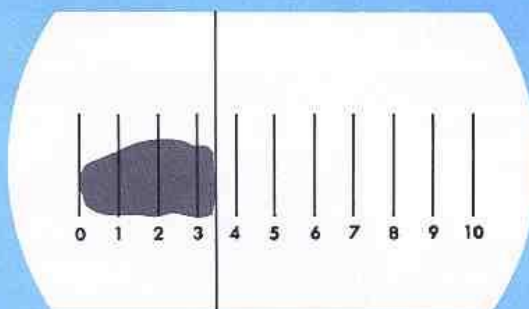
AO American Optical
 SCIENTIFIC INSTRUMENT DIVISION
 BUFFALO, NY 14215

NOW! New Accuracy, Speed, and Simplicity In Specimen Linear Measurements



ENGLISH SCALE — Models No. 424B and 424C

The reticle scale is 0.4 inch long. It is subdivided into eight equal increments of .05 inch each. The graduated micrometer drum has 100 divisions, each equal to .0005 inch.



METRIC SCALE — Models No. 426B and 426C

The reticle scale is 10mm long. It is subdivided into ten equal increments of 1mm each. The graduated micrometer drum has 100 divisions, each equal to .01mm or 10 μ (microns).

AO FILAR MICROMETER EYEPIECES

- Choice of English or Metric Scales!
- Separate control instantly adjusts position of reticle scale laterally!
- Vertical fiducial line moves laterally, independent of micrometer scale!
- Unique magnification compensator feature simplifies calibration . . . permits direct measurement!

New from AO . . . the most practical and convenient Filar Micrometer Eyepieces ever offered. These precision instruments, used in conjunction with a microscope, assure unparalleled accuracy and eliminate many tedious, time-consuming calibration factors.

Accuracy greatly exceeds that of a simple micrometer scale. The graduated micrometer drum has 100 increments or divisions. This drum moves the fiducial line precisely one reticle scale division for each revolution. Thus, the drum reads to 1/100 of the scale division.

Both AO Micrometer Eyepiece Models (English or Metric Scales) have a knurled thumbscrew to control the lateral position of the reticle scale. Such scale movement greatly expedites measuring speed as the scale zero setting, or the most adjacent scale division, can quickly be made to exactly coincide with one edge of the specimen.

Focusing onto the reticle scale is provided by a focusable eyepiece with a spiral collar. A knurled thumbscrew is used to affix the Micrometer Eyepiece to the microscope.

AO Filar Micrometer Eyepieces are available with No. 430 Magnification Compensator "C" or No. 429 Eyepiece Tube Adapter "B".

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Measurements are swift ...precise!

The method of measurement, using either the English or Metric Micrometer Eyepiece scale, is basically the same.

First, in order to make true measurements of the specimen, it is necessary to calibrate the Micrometer Eyepiece scale against a stage micrometer or scale thereby arriving at a calibration factor.

Next, position the reticle scale by means of the lateral reticle scale adjustment so the "0", or any convenient scale graduation, is precisely lined up with the left side of the image to be measured.

Now turn the micrometer drum until the fiducial line coincides with the right side of the specimen. The drum reading represents the position of the fiducial line between two graduations of the reticle scale.

In the case of an extended specimen (figure 1), the number of full reticle spaces the specimen covers constitutes the first digit of measurement and the drum reading, the last two digits.

In the case of a small specimen, or where the specific area of the object to be measured does not cover a full reticle space, the entire measurement is taken from the micrometer drum, as shown in figure 2.

In both instances outlined above, true value is the reading times calibration factor.

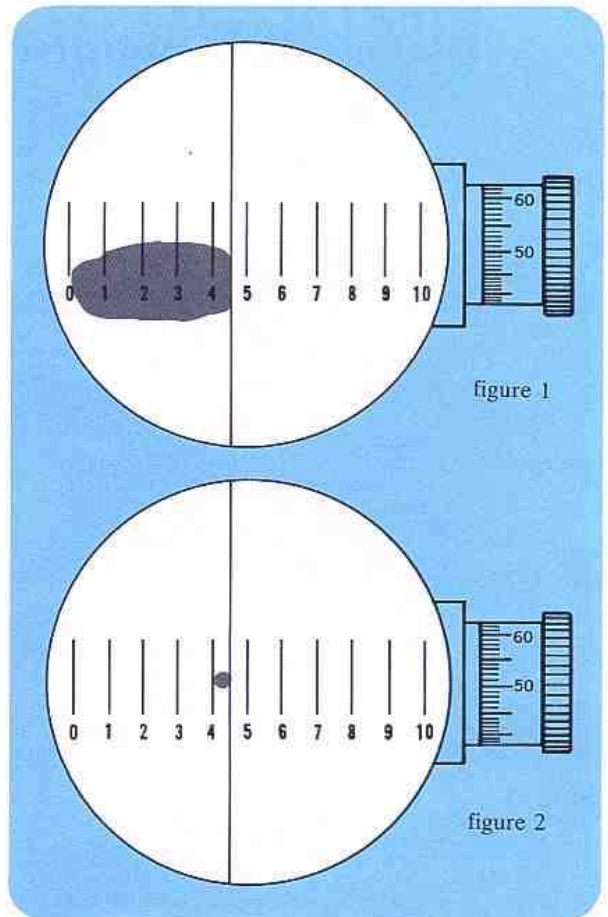


figure 1

figure 2

MAGNIFICATION COMPENSATOR PERMITS DIRECT MEASUREMENTS — SIMPLIFIES CALIBRATION

The No. 430 Magnification Compensator "C" can be readily adjusted to permit direct measurements with even calibrated

values for a number of objective magnifications (10X, 100X—Metric; 5X, 50X metallurgical—English). Move the stage micrometer until one of the even graduations corresponds with one of the divisions of the reticle scale. The "0" setting is frequently used as this allows you to sub-tend the largest number of division lines for greatest accuracy in calibrating. Using the supplied spanner wrench, turn the

magnification compensator adjustable lens until the stage micrometer and micrometer reticle scales correspond exactly as shown in figure 3. Quickly . . . easily . . . you are ready to take *direct* measurements. In those instances where it is necessary to use a calibration factor, the Compensator can be utilized to arrive at an even factor (i.e.: .437 to .450) and thus speeds and simplifies calculations.

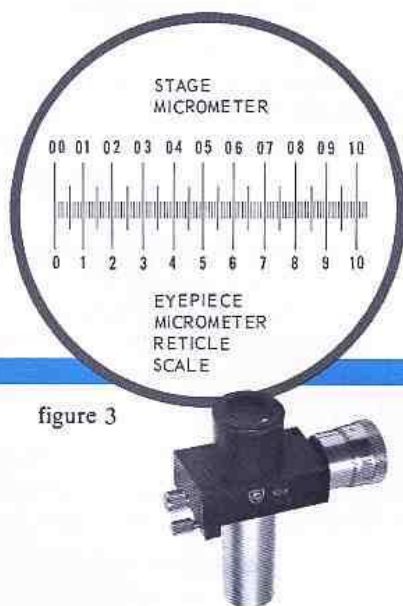


figure 3

EYEPIECE TUBE ADAPTER

The No. 429 plain Eyepiece Tube Adapter "B" allows for conventional use of the Micrometer Eyepiece on any microscope. It can also be used for applications

other than microscope equipment, such as lens bench work, where it is desirable to have no optics in front of the reticle.

CATALOG NUMBER, DESCRIPTION AND PRICE

424B	10X Filar Micrometer Eyepiece, English Scale, with #429 Eyepiece Tube Adapter	\$200.00	426C	10X Filar Micrometer Eyepiece, Metric Scale, with #430 Magnification Compensator including spanner wrench	\$237.00
424C	10X Filar Micrometer Eyepiece, English Scale, with #430 Magnification Compensator including spanner wrench	\$237.00	429	Eyepiece Tube Adapter	\$5.00
426B	10X Filar Micrometer Eyepiece, Metric Scale, with #429 Eyepiece Tube Adapter	\$200.00	430	Magnification Compensator with #1240-18 spanner wrench	\$42.00
			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



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