



# CYCLOPTIC

## ALTERNATE PARTS

## and ACCESSORIES

### MEASURING AND COUNTING ACCESSORIES FOR 437, 1146, 1147 or 1157



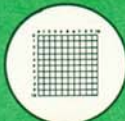
1405A



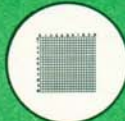
1406A



1427



1408A



1409A



1410A



1421A



148



469

No additional charge is made for #148 or #469 when CYCLOPTIC Microscopes are ordered with counting or measuring disc.



424B

#### Catalog No.

#### Description

1405A	Micrometer Disc 5mm Scale divided into 50 units
1406A	Micrometer Disc 10mm Scale divided into 100 units
1407A	Micrometer Disc 10mm Scale divided into 200 units
1408A	Net Micrometer Disc 10mm square subdivided into 100 squares
1409A	Net Micrometer Disc 10mm square subdivided into 400 squares
1410A	Micrometer Disc 5mm Scale divided into 100 units
1421A	Net Micrometer Disc 5mm square subdivided into 25 squares
1427	Cross-Hair Disc
148	Micrometer Disc Mount for No. 1147 15X W.F. Eyepiece and No. 1157 20X W.F. Eyepiece.
469	Spanner Wrench for No. 1146 10X W.F. 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.
1412	Special pre-calibrated disc which subtends a scale .200" long divided into 200 parts on the work. When used with 15X Wide Field eyepieces, either with "F" Series, or with Magni-Changer set at 20X, each small division will equal .001".
424B	Filar Micrometer Eyepiece 10X with English Scale
426B	Filar Micrometer Eyepiece 10X with Metric Scale

### WIDE FIELD EYEPieces



1146



1147



437

- 1146 10X W.F. AMERICOTE, Pair
- 1147 15X W.F. AMERICOTE, Pair
- 1156 2X BARLOW LENSES, Pair
- 1157 20X W.F. AMERICOTE, Pair
- \*437 10X W.F. Focusable Eyepiece.

\*Accepts standard reticles for 1146, 1147, and 1157 Eyepieces.



### PHOTOGRAPHIC TUBE ADAPTER

638

Single Photographic Tube Adapter (Does not include eyepiece.)



268



266



264



265

### APOCHROMATIC OBJECTIVES

- 268 Standard objective
- 266 1/2X Special long working distance objective for 53, 55, 59 only.
- 262 3/4X Special objective

### ACHROMATIC AUXILIARY LENS-ATTACHMENTS

- 267 2/3X Auxiliary Lens-Attachment
- 265 2X Auxiliary Lens-Attachment
- 264 2X Swing-out Lens-Attachment

### BLACK and WHITE STAGE PLATES 269

Stage plates Number 269 are intended for use with CYCLOPTIC Microscope Series 56, 58, and 59 . . . the set of two formica opaque plates—one white and the other black—are interchangeable with or may be specified instead of standard glass insert plates supplied with CYCLOPTIC Series 56, 58 and 59 at no additional cost.

269 Black and white stage plates . . . Set



### EYESHIELDS

149 For Eyepieces 1146 and 1147.

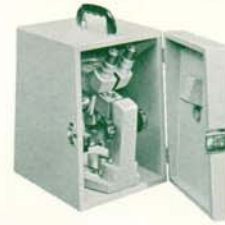
## BASES, STANDS, MECHANICAL STAGES, CABINETS



**30A**  
Phenolic-resin base-board  
7½" x 9½"



**30B**  
Phenolic-resin base-board  
12" x 17"



**1656** Cabinet for 56  
**1658** Cabinet for 58  
**1659** Cabinet for 59



**52S**  
Table Stand Model  
52S may be substituted for  
Universal Table Stand  
Model 53S or Base-Stage  
Model 59S supplied as  
standard with CYCLOPTIC  
Series 53 and 59  
respectively. See separate  
listings for Series 52.



**53S**  
Universal Table Microscope  
Stand for 53, 55, 59



**59S**  
Base-stage for 53, 55,  
59



**1556**  
Ungraduated Mechanical stage



**585**  
Transilluminating substage base  
with mirror for 56, 58, 59



**59-852**  
Stage segment of  
59S



**59-851**  
Post receptacle with locking  
lever for 53, 55, 59



**584**  
3" Extension rod for 55, 59



**585**  
Lens protecting window and cell

## ILLUMINATORS

Cat. No.	Description
359	CYCLOSPOT Microscope Illuminator with prefocused two-lens condensing system, detachable universal arm, base-transformer, 6.5V 2.75 ampere clear glass lamp.
340A	Vertical Illuminator complete with lamphouse having multiple lens focusing system, 6.5V 2.75 ampere clear glass lamp, special bracket and hinge pin; vertical reflector; variable transformer.
341A	Lamphouse only, with multiple lens focusing system, 6.5V 2.75 ampere clear glass lamp, special bracket and hinge pin; variable transformer.
355	Replacement lamp 6.5V 2.75 ampere (G.E. No. 1497), for No. 359.
360	Replacement lamp 6.5V 2.75 ampere (G.E. No. 1493), for 340A, 341A.
640	Fluorescent Illuminator with aperture and thumb lock-screw for attachment to Cycloptic; complete with two day-light fluorescent tubes, two-button manual starting switch, cord and plug.

Cat. No.	Description
640A	Fluorescent Illuminator, same as 640 but with No. 642 three-link Jackknife Arm and heavy Base.
641	Fluorescent Illuminator same as 640 but with three-wire cord and No. 9413 Hubbell plug.
641A	Fluorescent Illuminator same as 640A but with three-wire cord and No. 9413 Hubbell plug.
642	Stand for Fluorescent Illuminators 640, 640A, 641, 641A consisting of three-link Jackknife Arm and heavy Base.



640



359

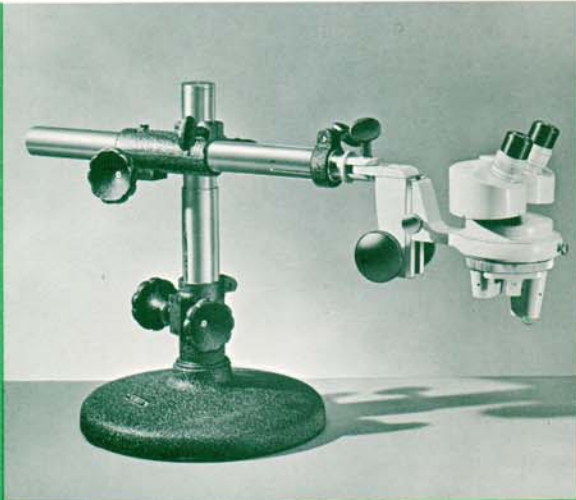


340A

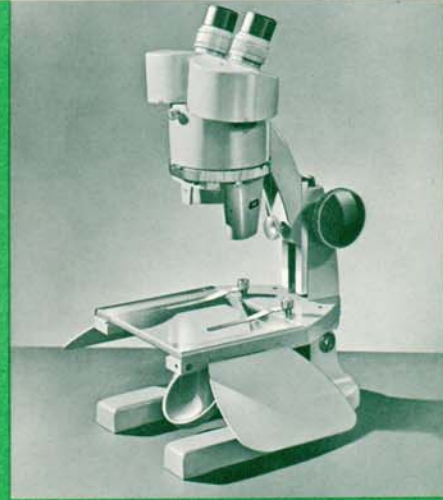


SPENCER

## STEREOSCOPIC MICROSCOPES SERIES 23, 25, 26, 27, 28



Series 23



Series 25

### Outstanding Features

- *Conventional styling and design*
- *Inclined or vertical body*
- *Rigid and well balanced microscope stand*
- *Double extension dovetail slides*
- *Large field of view*
- *Dust-proof revolving nosepiece*
- *Interchangeable objectives*
- *Enhanced stereoscopic view*
- *Top quality optics*
- *Conventional working distance*
- *Wide range of magnifications*
- *Interpupillary and eye-refraction adjustments*
- *Erected and unreversed image*
- *Dove-gray Epoxy finish*
- *Broad selection of models*

## Top Quality Optics

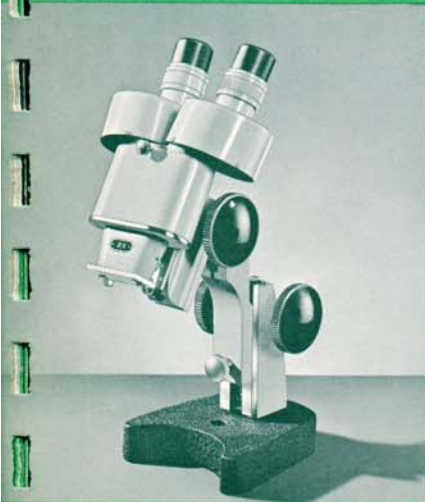


World-famed AO SPENCER optical design assures clear, sharp and erect stereoscopic images . . . wide field eyepieces feature high eyepoints for eyeglass wearers . . . greater eye comfort for prolonged observations. 10X, 15X and 20X are available.

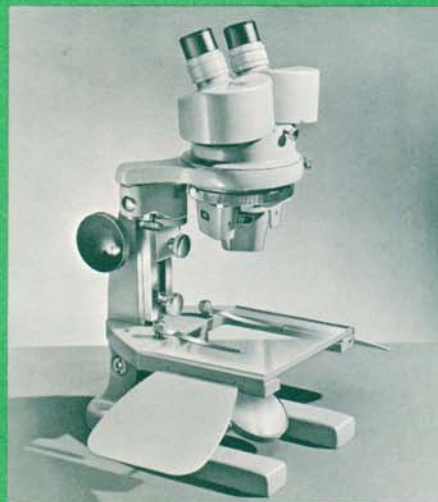
## Dust-Proof Revolving Nosepiece



Three nosepieces are available: triple, double revolving and single objective adapter. Objectives accurately revolve around a vertical axis . . . internal optical and mechanical parts are dust-proofed. Objectives in use always foremost . . . uninterrupted path for efficient illumination and effective manipulation of specimen.



Series 27



Series 28

## Rigid, Well-Balanced Microscope Stands

A wide selection of microscope stands is offered to meet your requirements. All are well-balanced, rigid . . . designed to withstand hard usage . . . insure lasting optical alignment. Adjustment controls are sensibly positioned for fatigue-free operation.



## Wide Range of Magnifications



Resultant magnification range of 7X to 160X is available. Intermediate magnifications are obtainable by various eyepiece-objective combinations. Objectives and paired eyepieces are instantly and easily interchanged.

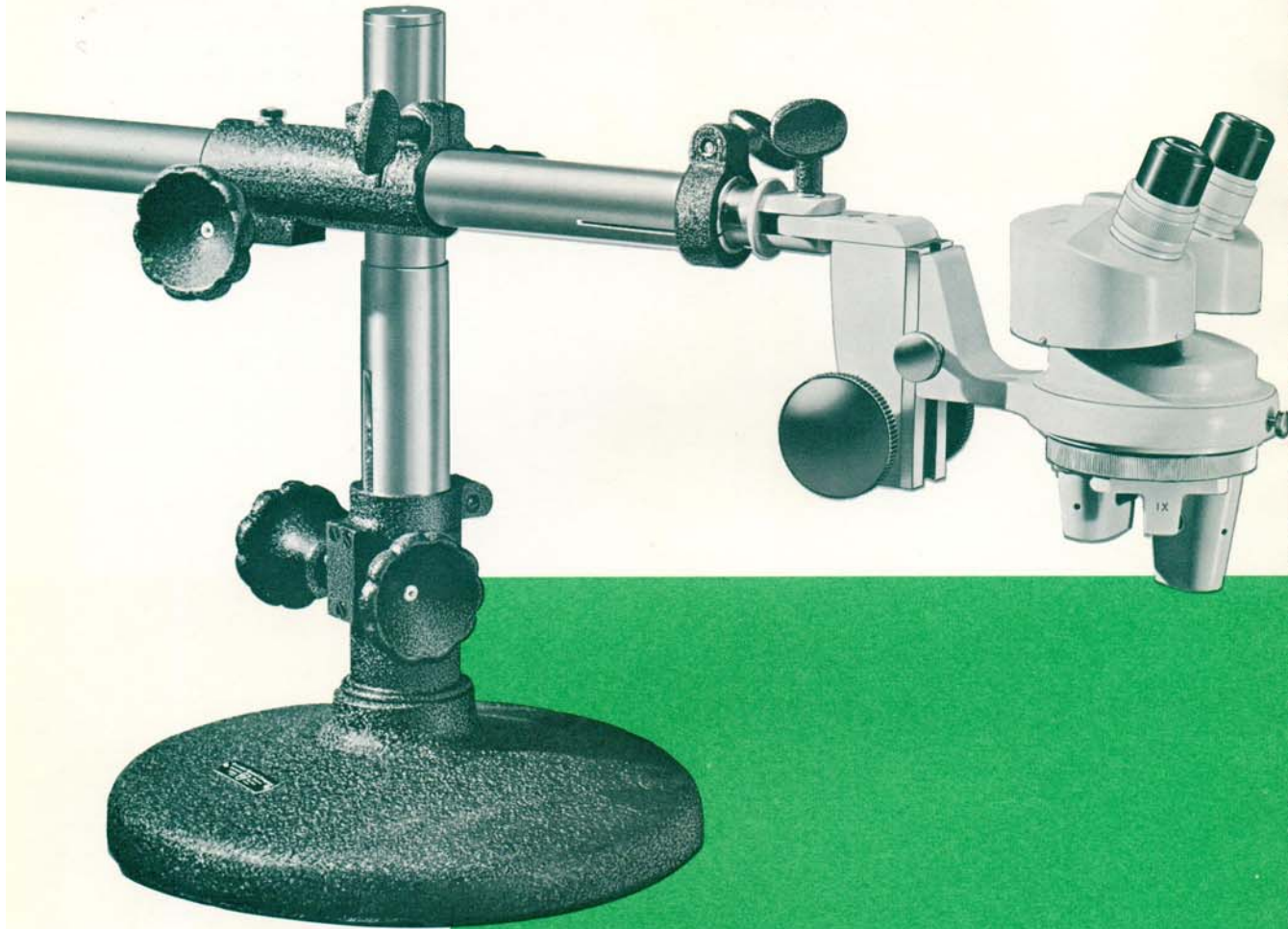
## Inclined or Vertical Body

Both vertical and 22° inclined binocular bodies are available . . . adjustable for interpupillary and eye-refraction differences . . . securely house Porro prism erecting system. Reversed bodies are available upon special request at no extra charge.



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## STEREOSCOPIC MICROSCOPE SERIES 23

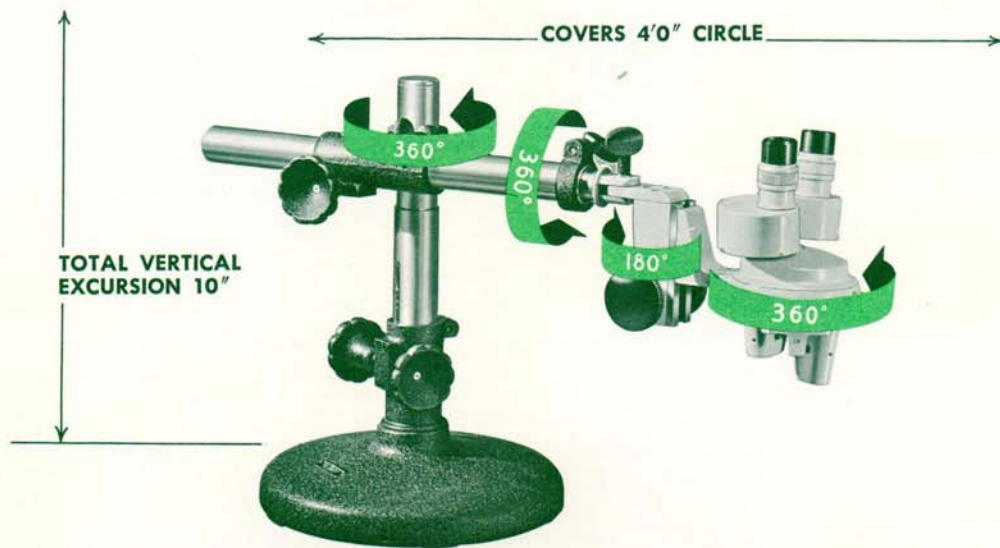


23LF

STEREOSCOPIC MICROSCOPE Series 23 are supplied with inclined binocular bodies . . . 360° rotatable optical head; triple, double revolving nosepiece or single objective adapter as selected; paired eyepieces and objectives as selected; rack and pinion focusing adjustment; heavy duty slideways; variable intermediate dovetail slide with locking thumb screw; large universal table stand.

A wide selection of STEREOSCOPIC MICROSCOPES SERIES 23 is available to satisfy your specific needs. Illustrated model 23LF . . . and tabulation of additional models on page 25 are presented to simplify your final selection.

# AO SPENCER STEREOSCOPIC MICROSCOPES ... SERIES 23



DISCONTINUED

Catalog Number	Binocular Body	Nosepiece	Paired Achromatic Objectives	Eyepieces	Magnification Range
23A	Vertical	Single	—	—	—
23E	Vertical	Double	—	—	—
23B	Vertical	Triple	—	—	—
23X	Vertical	Double	1.0X, 2.0X	10X W.F.	10X and 20X
23F	Vertical	Triple	1.0X, 2.0X, 3.0X	10X, 15X W.F.	10X to 45X
23G	Vertical	Triple	1.0X, 3.0X, 6.0X	10X, 15X W.F.	10X to 90X
23LA	Inclined	Single	—	—	—
23LE	Inclined	Double	—	—	—
23LB	Inclined	Triple	—	—	—
23LX	Inclined	Double	1.0X, 2.0X	10X W.F.	10X and 20X
23LF	Inclined	Triple	1.0X, 2.0X, 3.0X	10X, 15X W.F.	10X to 45X
23LG	Inclined	Triple	1.0X, 3.0X, 6.0X	10X, 15X W.F.	10X to 90X

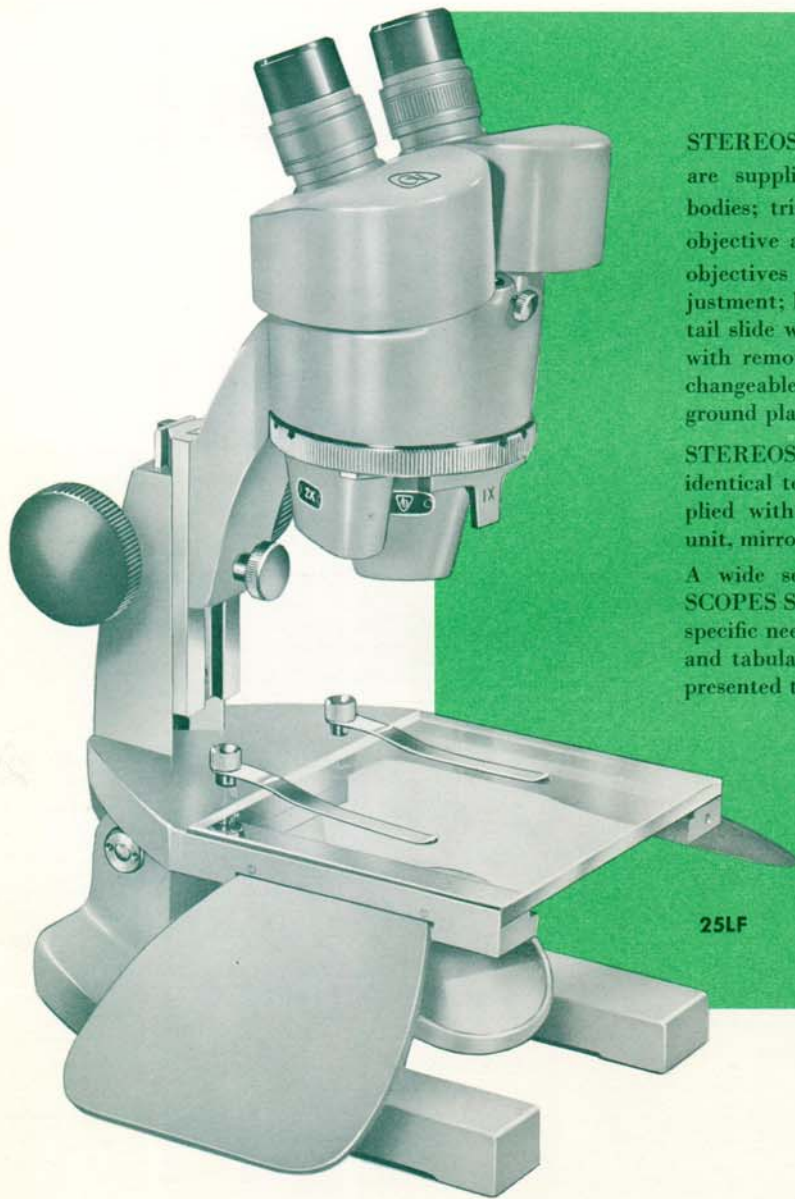
Cabinet 1623 is available for binocular head and optics.

NOTE: No. 1157B 20X Wide Field eyepieces are available for use with Series 23 and may be substituted at no increase in cost.



SPENCER

## STEREOSCOPIC MICROSCOPE SERIES 25, 26

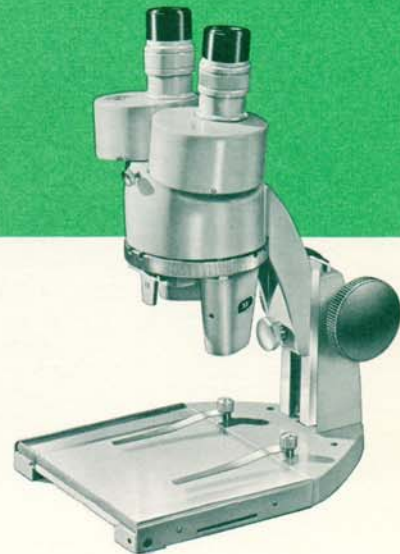


25LF

STEREOSCOPIC MICROSCOPE Series 25 and 26 are supplied with vertical or inclined binocular bodies; triple, double revolving nosepiece or single objective adapter as selected; paired eyepieces and objectives as selected; rack and pinion focusing adjustment; heavy duty slideways; intermediate dovetail slide with locking thumb screw; standard stage with removable glass stage, stage clips, and interchangeable black opaque and white translucent background plates.

STEREOSCOPIC MICROSCOPE Series 25 are identical to Series 26 except that Series 25 are supplied with Number 24 detachable horseshoe base unit, mirror, mirror-fork, hand rests.

A wide selection of STEREOSCOPIC MICROSCOPES Series 25 and 26 is available to satisfy your specific needs. Illustrated models 25LF and 26F . . . and tabulation of additional models on page 27 are presented to simplify your final selection.



26F

# AO SPENCER STEREOSCOPIC MICROSCOPES

## . . . SERIES 25 and 26

	Catalog Number	Binocular Body	Nosepiece	Paired Achromatic Objectives	Eyepieces	Magnification Range
SERIES 25	25A	Vertical	Single	—	—	—
	25E	Vertical	Double	—	—	—
	25B	Vertical	Triple	—	—	—
	25X	Vertical	Double	1.0X, 2.0X	10X W.F.	10X and 20X
	25F	Vertical	Triple	1.0X, 2.0X, 3.0X	10X, 15X W.F.	10X to 45X
	25G	Vertical	Triple	1.0X, 3.0X, 6.0X	10X, 15X W.F.	10X to 90X
	25LA	Inclined	Single	—	—	—
	25LE	Inclined	Double	—	—	—
	25LB	Inclined	Triple	—	—	—
	25LX	Inclined	Double	1.0X, 2.0X	10X W.F.	10X and 20X
	25LF	Inclined	Triple	1.0X, 2.0X, 3.0X	10X, 15X W.F.	10X to 45X
	25LG	Inclined	Triple	1.0X, 3.0X, 6.0X	10X, 15X W.F.	10X to 90X
	SERIES 26	26A	Vertical	Single	—	—
26E		Vertical	Double	—	—	—
26B		Vertical	Triple	—	—	—
26X		Vertical	Double	1.0X, 2.0X	10X W.F.	10X and 20X
26F		Vertical	Triple	1.0X, 2.0X, 3.0X	10X, 15X W.F.	10X to 45X
26G		Vertical	Triple	1.0X, 3.0X, 6.0X	10X, 15X W.F.	10X to 90X
26LA		Inclined	Single	—	—	—
26LE		Inclined	Double	—	—	—
26LB		Inclined	Triple	—	—	—
26LX		Inclined	Double	1.0X, 2.0X	10X W.F.	10X and 20X
26LF		Inclined	Triple	1.0X, 2.0X, 3.0X	10X, 15X W.F.	10X to 45X
26LG		Inclined	Triple	1.0X, 3.0X, 6.0X	10X, 15X W.F.	10X to 90X

Cabinet 1625 is available for Stereoscopic Microscopes Series 25; Cabinet 1626 is available for Series 26.

NOTE: No. 1157B 20X Wide Field eyepieces are available for use with Series 25 and 26 and may be substituted at no increase in cost.



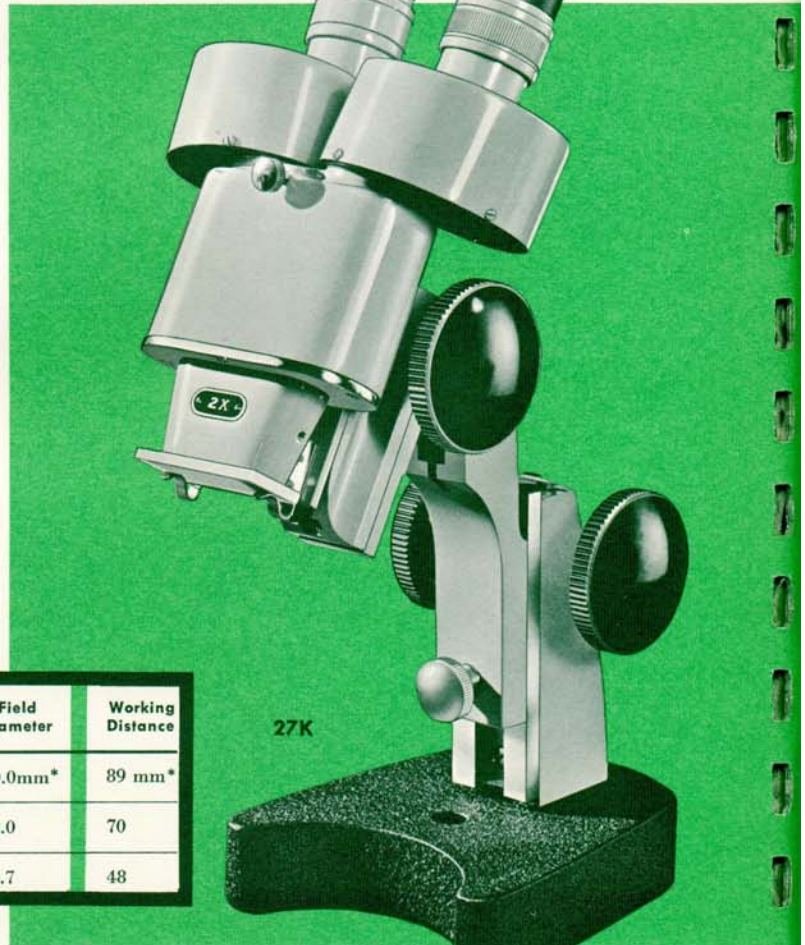
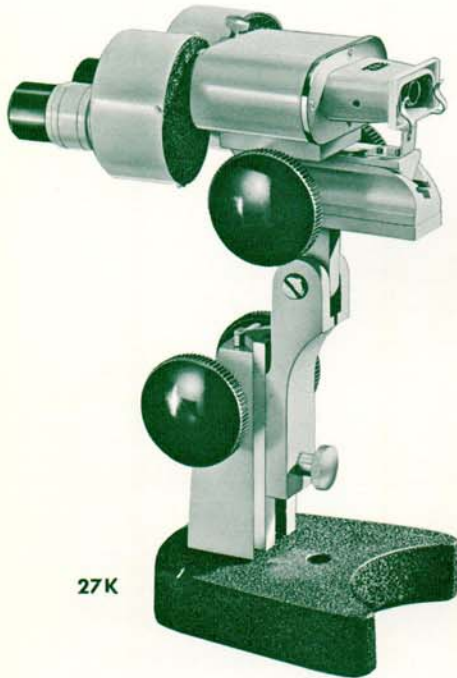


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## STEREOSCOPIC MICROSCOPE... SERIES 27

STEREOSCOPIC MICROSCOPE Series 27 are supplied with vertical binocular body; paired eyepieces and objectives as selected; objective protecting glass; two rack and pinion focusing adjustments . . . variable intermediate dovetail slide with locking thumb screw; heavy duty slideways; 90° vertical inclination joint; heavy casted base.

A selection of STEREOSCOPIC MICROSCOPES Series 27 is available to satisfy your specific needs. Illustrated Model 27K . . . and tabulation of additional models below are presented to simplify your final selection.



Catalog Number	Paired Objective	Paired W.F. Eyepieces	Total Magnification	Field Diameter	Working Distance
27J	1X	10X	10X	20.0mm*	89 mm*
27K	2	10X	20X	10.0	70
27L	3	10X	30X	6.7	48

Working distance is measured from object to front of protecting glass plate.

\*To convert to inches: divide by 25.4

Cabinet 1627 is available for Stereoscopic Microscope Series 27.

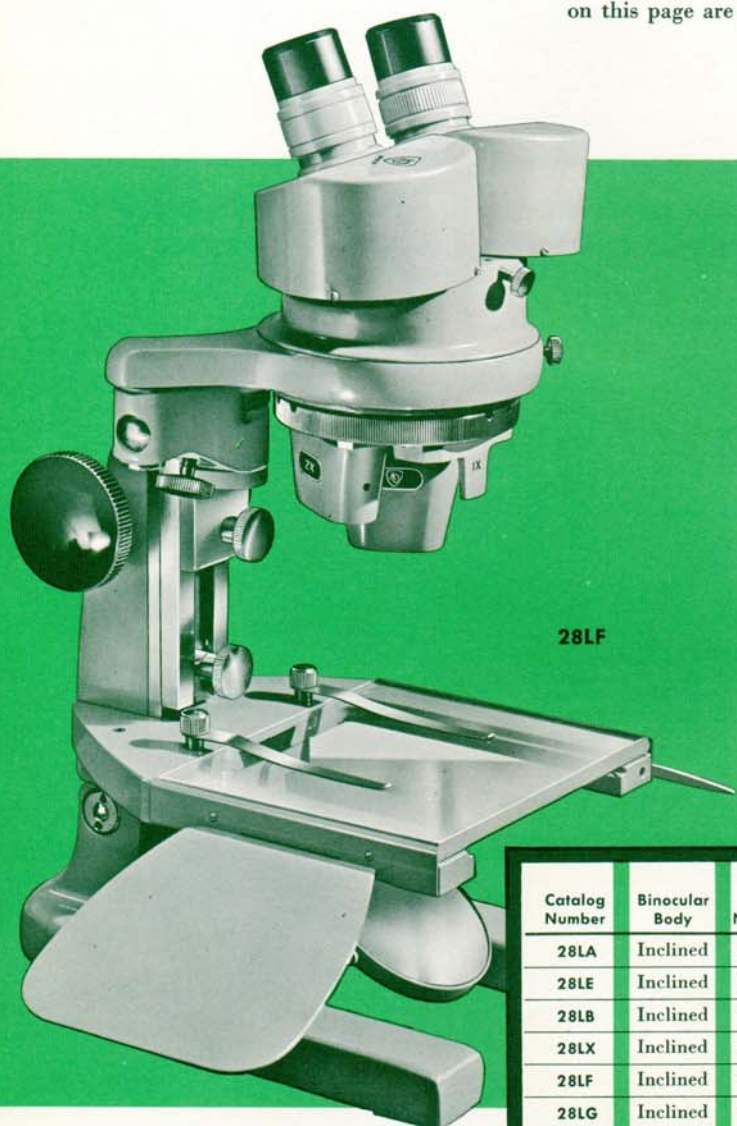


SPENCER

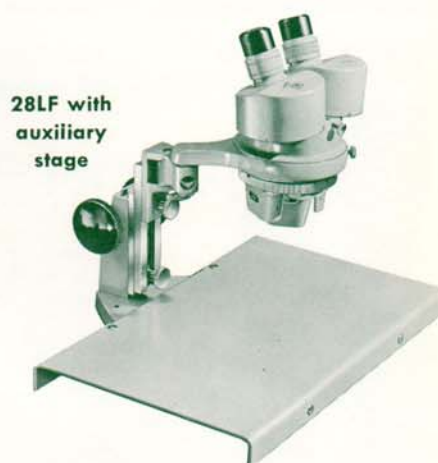
## STEREOSCOPIC MICROSCOPE . . . SERIES 28

STEREOSCOPIC MICROSCOPE Series 28L are supplied with inclined binocular bodies . . . 360° rotatable optical head . . . double swivel horizontal scanning arm; triple, double revolving nosepiece or single objective adapter as selected; paired eyepieces and objectives as selected; rack and pinion focusing adjustment; heavy duty slideways; double extension intermediate slides with locking thumb screws; standard stage with removable glass stage, stage clips, interchangeable black opaque and white translucent background plates; detachable horseshoe base unit, mirror, mirror-fork, hand rests . . . 8" x 12½" metal auxiliary stage.

Illustrated model 28LF . . . and tabulation of additional models on this page are presented to simplify your final selection.



28LF



28LF with auxiliary stage

Catalog Number	Binocular Body	Nosepiece	Paired Achromatic Objectives	Eyepieces	Magnification Range
28LA	Inclined	Single	—	—	—
28LE	Inclined	Double	—	—	—
28LB	Inclined	Triple	—	—	—
28LX	Inclined	Double	1.0X, 2.0X	10X W.F.	10X and 20X
28LF	Inclined	Triple	1.0X, 2.0X, 3.0X	10X, 15X W.F.	10X to 45X
28LG	Inclined	Triple	1.0X, 3.0X, 6.0X	10X, 15X W.F.	10X to 90X

Cabinet 1628 is available for Stereoscopic Microscope Series 28.

NOTE: No. 1157B 20X Wide Field eyepieces are available for use with Series 28 and may be substituted at no increase in cost.



## PAIRED ACHROMATIC OBJECTIVES

Catalog Number	Description
271	1.0X for 27
272	2.0X for 27
273	3.0X for 27
294	0.7X for 23, 25, 26, 28
295	1.0X for 23, 25, 26, 28
296	2.0X for 23, 25, 26, 28
297	3.0X for 23, 25, 26, 28
298	4.0X for 23, 25, 26, 28
299	6.0X for 23, 25, 26, 28
300	8.0X for 23, 25, 26, 28

## EYESHIELDS



Catalog Number 149

For Eyepieces 1146B and 1147B. Not included with Series 23-28. Must be ordered separately.



SPENCER

## ACCESSORIES FOR STEREOSCOPIC MICROSCOPES

### EYEPIECES



1146B



1147B



426B

### MEASURING AND COUNTING ACCESSORIES FOR EYEPIECES 1146B, 1147B or 1157B



1405A



1406A



1427



1408A



1409A



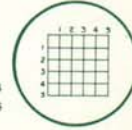
1410A



148



469



1421A

Catalog Number	Description
1405A	Micrometer Disc 5mm Scale divided into 50 units
1406A	Micrometer Disc 10mm Scale divided into 100 units
1407A	Micrometer Disc 10mm Scale divided into 200 units
1408A	Net Micrometer Disc 10mm square subdivided into 100 squares
1409A	Net Micrometer Disc 10mm square subdivided into 400 squares
1410A	Micrometer Disc 5mm Scale divided into 100 units
1421A	Net Micrometer Disc 5mm square subdivided into 25 squares
1427	Cross-Hair Disc
148	Micrometer Disc Mount for No. 1147B 15X W.F. Eyepieces and No. 1157B 20X W.F. Eyepieces.
469	Spanner Wrench for No. 1146B 10X W.F. 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. No additional charge is made for No. 148 or No. 469 when Stereoscopic Series 23-28 are ordered with counting or measuring disc.
424B	Filar Micrometer Eyepiece 10X with English Scale
426B	Filar Micrometer Eyepiece 10X with Metric Scale

Completely NEW four-optical-element wide field eyepieces offer superior image quality . . . wide field of view . . . full chromatic, curvature and distortion correction . . . comfortable eye relief even for eyeglass wearers.

Catalog Numbers 1146B, 1147B and 1157B 10X, 15X and 20X wide field eyepieces are specifically designed for use with stereoscopic microscopes described and illustrated on pages 20 through 31.

The new eyepieces are supplied with low reflection coating . . . and readily accept measuring and counting discs described.

Catalog Number	Eyepiece Description
1146B	10X W.F. AMERICOTE, Pair
1147B	15X W.F. AMERICOTE, Pair
1157B	20X W.F. AMERICOTE, Pair



## NOSEPIECES

Catalog Number	Description
442	Single Adapter for 23, 25, 26, 28
443	Double Revolving for 23, 25, 26, 28
446	Triple Revolving for 23, 25, 26, 28

## TABLE OF MAGNIFICATIONS AND FIELDS OF VIEW

Catalog Number	OBJECTIVES		EYEPIECES					
	Magnification	Working Distance	10X Wide Field Catalog No. 1146B		15X Wide Field Catalog No. 1147B		20X Wide Field Catalog No. 1157B	
			Magnif.	Field*	Magnif.	Field*	Magnif.	Field*
294	0.7X	95	7X	28.6	10.5X	24.0	15.0X	17.0
295	1.0	95	10.0	20.0	15.0	16.8	20.0	12.0
296	2.0	75	20.0	10.0	30.0	8.4	40.0	6.5
297	3.0	55	30.0	6.7	45.0	5.6	60.0	4.3
298	4.0	43	40.0	5.0	60.0	4.2	80.0	3.3
299	6.0	27	60.0	3.3	90.0	2.8	120.0	2.1
300	8.0	21	80.0	2.5	120.0	2.1	160.0	1.5

\*To convert millimeter values to inches: divide by 25.4

## CABINETS



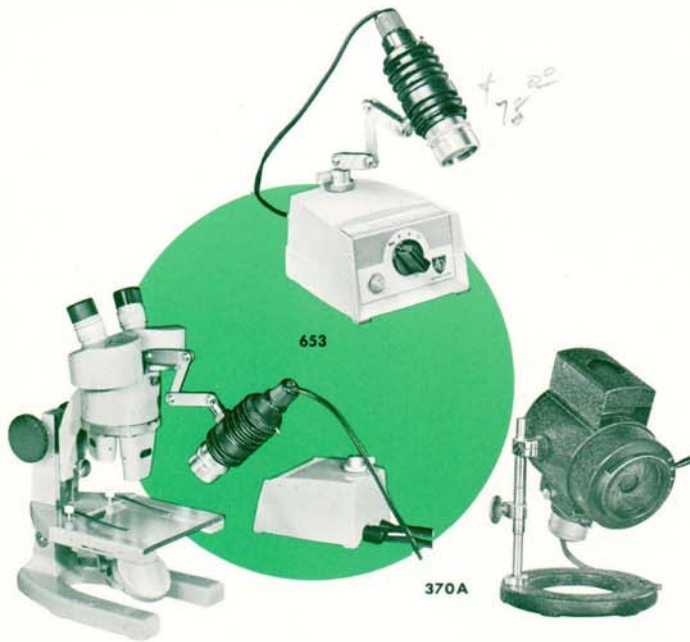
1626

### Catalog Number

### Description

- 1623 Cabinet for 23 optical head only
- 1625 Cabinet for 25.
- 1626 Cabinet for 26.
- 1627 Cabinet for 27.
- 1628 Cabinet for 28.

## SERIES 23, 25, 26, 27 and 28



## ILLUMINATORS

### Catalog Number

### Description

- 653 Universal Microscope Illuminator, with three-link jackknife standard and with 6.5 volt, 2.75 ampere bulb, clear blue glass, ground glass filters and No. 651 Variable Transformer. UL and CSA Approved.
- 354 Iris diaphragm for 653.
- 360 Replacement lamp 6.5 volt, 2.75 ampere (G.E. 1493) for 653.
- 370A Adjustable Microscope Illuminator with iris diaphragm, blue and ground glass filters, 2 lens condensing system, adjustable ring stand, 100 watt, 120 volt bayonet base lamp and 5 foot cord with switch.
- 375 Replacement lamp 100 watt, 120 volt, bayonet base for 370A (G.E. 100G16½/29SC-120).
- 359 CYCLOSPOT (See page 8).

## BASES, STANDS MECHANICAL STAGES



24

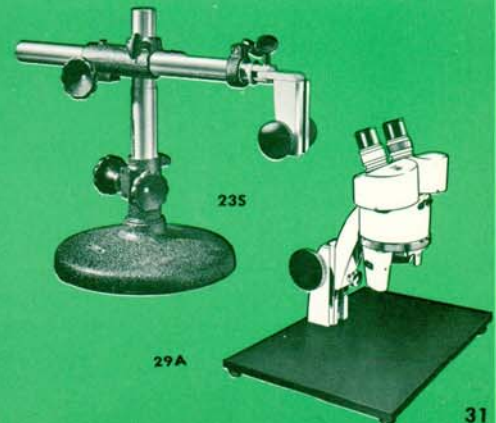


1584A

### Catalog Number

### Description

- 235 Microscope stand and base for 23.
- 24 Horseshoe base unit with mirror for 25.
- 29A Phenolic-resin baseboard 7½" x 9½".
- 1584A Mechanical stage, ungraduated for 25, 28.
- 586 Objective protecting glass for 1X and 2X objectives, for 27.
- 587 Objective protecting glass for 3X objectives, for 27.



29A

31

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

### **SALES AND SERVICE IN PRINCIPAL CITIES**

Sales Offices: Atlanta Boston Chicago Cincinnati Cleveland Dallas Detroit  
Houston Los Angeles Memphis Minneapolis New York Philadelphia  
Pittsburgh Sacramento San Francisco Seattle St. Louis Toronto Washington  
International Division: Southbridge, Mass.



**AMERICAN OPTICAL COMPANY**  
INSTRUMENT DIVISION • BUFFALO, N. Y. 14215

# PRICE LIST

## AO CYCLOPTIC . . . STEREOSCOPIC MICROSCOPES and Accessories

BROCHURE SB56 — EFFECTIVE JUNE 1, 1967

Page No.	Catalog Number	Unit Net Price Quantity 1 - 4	Unit Net Price Quantity 5 or more
10	638	\$115.00	\$103.50
	640	36.00	32.40
	653	78.00	70.20
	146	21.00	18.90
	147	21.00	18.90
	682G	494.00	444.60
13	53F-1	546.00	491.40
	53F-2	546.00	491.40
	53F-3	588.00	529.20
	53F-D1	578.00	520.20
	53F-D2	578.00	520.20
	53F-T1	578.00	520.20
	53J-1	672.00	604.80
	53J-2	672.00	604.80
	53J-D1	704.00	633.60
	53J-D2	704.00	633.60
	53J-T1	704.00	633.60
	53K-1	611.00	549.90
	53K-2	611.00	549.90
	53K-D1	643.00	578.70
	53K-D2	643.00	578.70
	53K-T1	643.00	578.70
	53M-1	698.00	628.20
	53M-2	698.00	628.20
	53M-3	740.00	666.00
	53M-D1	730.00	657.00
	53M-D2	730.00	657.00
	53M-D3	772.00	694.80
	53M-T1	730.00	657.00
	53FL-1	559.00	503.10
	53FL-2	559.00	503.10
	53JL-1	685.00	616.50
	53JL-2	685.00	616.50
	53KL-1	624.00	561.60
	53KL-2	624.00	561.60
	53ML-1	711.00	639.90
	53ML-2	711.00	639.90
15	56F-1	275.00	247.50
	56F-2	275.00	247.50
	56F-3	317.00	285.30
	56F-D1	307.00	276.30
	56F-D2	307.00	276.30
	56F-T1	307.00	276.30
	56J-1	401.00	360.90
	56J-2	401.00	360.90
	56J-D1	433.00	389.70
	56J-D2	433.00	389.70
	56J-D3	475.00	427.50
	56J-T1	433.00	389.70
	56K-1	340.00	306.00
	56K-2	340.00	306.00
	56K-D1	372.00	334.80
	56K-D2	372.00	334.80
	56K-T1	372.00	334.80
	56M-1	427.00	384.30
	56M-2	427.00	384.30
	56M-3	469.00	422.10

Page No.	Catalog Number	Unit Net Price Quantity 1 - 4	Unit Net Price Quantity 5 or more
15	56M-D1	\$459.00	\$413.10
	56M-D2	459.00	413.10
	56M-D3	501.00	450.90
	56M-T1	459.00	413.10
	1656	31.00	27.90
17	58F-1	313.00	281.70
	58F-2	313.00	281.70
	58F-3	355.00	319.50
	58F-D1	345.00	310.50
	58F-D2	345.00	310.50
	58F-T1	345.00	310.50
	58J-1	439.00	395.10
	58J-2	439.00	395.10
	58J-D1	471.00	423.90
	58J-D2	471.00	423.90
	58J-D3	513.00	461.70
	58J-T1	471.00	423.90
	58K-1	378.00	340.20
	58K-2	378.00	340.20
	58K-D1	410.00	369.00
	58K-D2	410.00	369.00
	58K-T1	410.00	369.00
	58M-1	465.00	418.50
	58M-2	465.00	418.50
	58M-3	507.00	456.30
	58M-D1	497.00	447.30
	58M-D2	497.00	447.30
	58M-D3	539.00	485.10
	58M-T1	497.00	447.30
	1658	31.00	27.90
19	59F-1	321.00	288.90
	59F-2	321.00	288.90
	59F-3	363.00	326.70
	59F-D1	353.00	317.70
	59F-D2	353.00	317.70
	59F-T1	353.00	317.70
	59J-1	447.00	402.30
	59J-2	447.00	402.30
	59J-D1	479.00	431.10
	59J-D2	479.00	431.10
	59J-T1	479.00	431.10
	59K-1	386.00	347.40
	59K-2	386.00	347.40
	59K-D1	418.00	376.20
	59K-D2	418.00	376.20
	59K-T1	418.00	376.20
	59M-1	473.00	425.70
	59M-2	473.00	425.70
	59M-3	515.00	463.50
	59M-D1	505.00	454.50
	59M-D2	505.00	454.50
	59M-D3	547.00	492.30
	59M-T1	505.00	454.50

Page No.	Catalog Number	Unit Net Price Quantity 1 - 4	Unit Net Price Quantity 5 or more
19	59FL-1	\$340.00	\$306.00
	59FL-2	340.00	306.00
	59JL-1	466.00	419.40
	59JL-2	466.00	419.40
	59KL-1	405.00	364.50
	59KL-2	405.00	364.50
	59ML-1	492.00	442.80
	59ML-2	492.00	442.80
	584	6.00	5.40
	1659	31.00	27.90
	53S	260.00	234.00
	59S	35.00	31.50
	55F-1	286.00	257.40
	55F-2	286.00	257.40
	55F-3	328.00	295.20
	55F-T1	318.00	286.20
	55F-T2	318.00	286.20
	55F-T3	360.00	324.00
	55F-D1	318.00	286.20
	55F-D2	318.00	286.20
	55F-D3	360.00	324.00
	55FL-1	299.00	269.10
	55FL-2	299.00	269.10
	55J-1	412.00	370.80
	55J-2	412.00	370.80
	55J-3	454.00	408.60
	55J-T1	444.00	399.60
	55J-T2	444.00	399.60
	55J-T3	486.00	437.40
	55J-D1	444.00	399.60
	55J-D2	444.00	399.60
	55J-D3	486.00	437.40
	55JL-1	425.00	382.50
	55JL-2	425.00	382.50
	55K-1	351.00	315.90
	55K-2	351.00	315.90
	55K-3	393.00	353.70
	55K-T1	383.00	344.70
	55K-T2	383.00	344.70
	55K-T3	425.00	382.50
	55K-D1	383.00	344.70
	55K-D2	383.00	344.70
	55K-D3	425.00	382.50
	55KL-1	364.00	327.60
	55KL-2	364.00	327.60
	55M-1	438.00	394.20
	55M-2	438.00	394.20
	55M-3	480.00	432.00
	55M-T1	470.00	423.00
	55M-T2	470.00	423.00
	55M-T3	512.00	460.80
	55M-D1	470.00	423.00
	55M-D2	470.00	423.00
	55M-D3	512.00	460.80
	55ML-1	451.00	405.90
	55ML-2	451.00	405.90

SEE OTHER SIDE

Page No.	Catalog Number	Unit Net Price Quantity 1 - 4	Unit Net Price Quantity 5 or more
20	1405A	\$ 9.00	\$ 8.10
	1406A	10.00	9.00
	1407A	10.00	9.00
	1408A	16.50	14.85
	1409A	16.50	14.85
	1410A	9.00	8.10
	1421A	16.50	14.85
	1427	10.00	9.00
	148	1.00	.90
	469	.70	.63
	400	27.00	24.30
	1412	23.00	20.70
	437	38.00	34.20
	424B	128.00	115.20
	426B	128.00	115.20
	1146	42.00	37.80
	1147	42.00	37.80
	1156	85.00	76.50
	1157	42.00	37.80
	268	32.00	28.80
	266	45.00	40.50
	262	32.00	28.80
	267	32.00	28.80
	265	32.00	28.80
	264	55.00	49.50
	269	3.00	2.70
	638	115.00	103.50
	149	1.00	.90
21	30A	15.00	13.50
	30B	30.00	27.00
	1656	31.00	27.90
	1658	31.00	27.90
	1659	31.00	27.90
	52S	100.00	90.00
	53S	260.00	234.00
	59S	35.00	31.50
	1556	92.00	82.80
	58S	38.00	34.20
	59-852	10.00	9.00
	59-851	25.00	22.50
	584	6.00	5.40
	585	10.00	9.00
	359	36.00	32.40
	340A	148.00	133.20
	341A	96.00	86.40
	355	1.60	1.60
	360	1.02	1.02
	640	36.00	32.40
	640A	44.00	39.60

Page No.	Catalog Number	Unit Net Price Quantity 1 - 4	Unit Net Price Quantity 5 or more
21	641	\$ 49.00	\$ 44.10
	641A	57.00	51.30
	642	8.00	7.20
25	23A	discontinued	
	23E	discontinued	
	23B	discontinued	
	23X	discontinued	
	23F	discontinued	
	23G	discontinued	
	23LA	523.00	470.70
	23LE	546.00	491.40
	23LB	562.00	505.80
	23LX	690.00	621.00
	23LF	799.00	719.10
	23LG	808.00	727.20
	1623	32.00	28.80
27	25A	359.00	323.10
	25E	382.00	343.80
	25B	398.00	358.20
	25X	526.00	473.40
	25F	635.00	571.50
	25G	644.00	579.60
	25LA	412.00	370.80
	25LE	435.00	391.50
	25LB	451.00	405.90
	25LX	579.00	521.10
	25LF	688.00	619.20
	25LG	697.00	627.30
	26A	312.00	280.80
	26E	335.00	301.50
	26B	351.00	315.90
	26X	479.00	431.10
	26F	588.00	529.20
	26G	597.00	537.30
	26LA	365.00	328.50
	26LE	388.00	349.20
	26LB	404.00	363.60
	26LX	532.00	478.80
	26LF	641.00	576.90
	26LG	650.00	585.00
	1625	32.00	28.80
	1626	32.00	28.80
28	27J	437.00	393.30
	27K	437.00	393.30
	27L	437.00	393.30
	1627	32.00	28.80
29	28LA	523.00	470.70
	28LE	546.00	491.40
	28LB	562.00	405.80
	28LX	690.00	621.00
	28LF	799.00	719.10
	28LG	808.00	727.20
	1628	35.00	31.50

Page No.	Catalog Number	Unit Net Price Quantity 1 - 4	Unit Net Price Quantity 5 or more
30	271	\$ 51.00	\$ 45.90
	272	51.00	45.90
	273	51.00	45.90
	294	51.00	45.90
	295	51.00	45.90
	296	51.00	45.90
	297	51.00	45.90
	298	54.00	48.60
	299	60.00	54.00
	300	60.00	54.00
	149	1.00	.90
	1405A	9.00	8.10
	1406A	10.00	9.00
	1407A	10.00	9.00
	1408A	16.50	14.85
	1409A	16.50	14.85
	1410A	9.00	8.10
	1421A	16.50	14.85
	1427	10.00	9.00
	148	1.00	.90
	469	.70	.63
	400	27.00	24.30
	424B	128.00	115.20
	426B	128.00	115.20
	1146B	42.00	37.80
	1147B	42.00	37.80
	1157B	42.00	37.80
	442	7.00	6.30
	443	30.00	27.00
	446	46.00	41.40
31	294	51.00	45.90
	295	51.00	45.90
	296	51.00	45.90
	297	51.00	45.90
	298	54.00	48.60
	299	60.00	54.00
	300	60.00	54.00
	1623	32.00	28.80
	1625	32.00	28.80
	1626	32.00	28.80
	1627	32.00	28.80
	1628	35.00	31.50
	653	78.00	70.20
	354	12.50	11.25
	360	1.02	1.02
	370A	84.50	76.05
	375	2.00	2.00
	359	36.00	32.40
	23S	200.00	180.00
	24	47.00	42.30
	29A	discontinued	
	1584A	78.00	70.20
	586	4.00	3.60
	587	4.00	3.60

All prices, deliveries and terms of sale are subject to change without notice.

Applicable taxes are in addition to prices stated.

Orders are subject to final acceptance by the Sales Office at Buffalo with the understanding that prices and terms prevailing at time of delivery will apply. The equipment supplied may not agree in all details with the description or illustrations shown, as instruments are subject to modification and improvement.

NOTE: Cabinets are no longer included in price of Series 23, 25, 26, 27 and 28 Microscopes. They are available at additional cost as listed.



**AMERICAN OPTICAL COMPANY**  
INSTRUMENT DIVISION • BUFFALO, N. Y. 14215



# CYCLOPTIC

## MICROSCOPE...SERIES 52

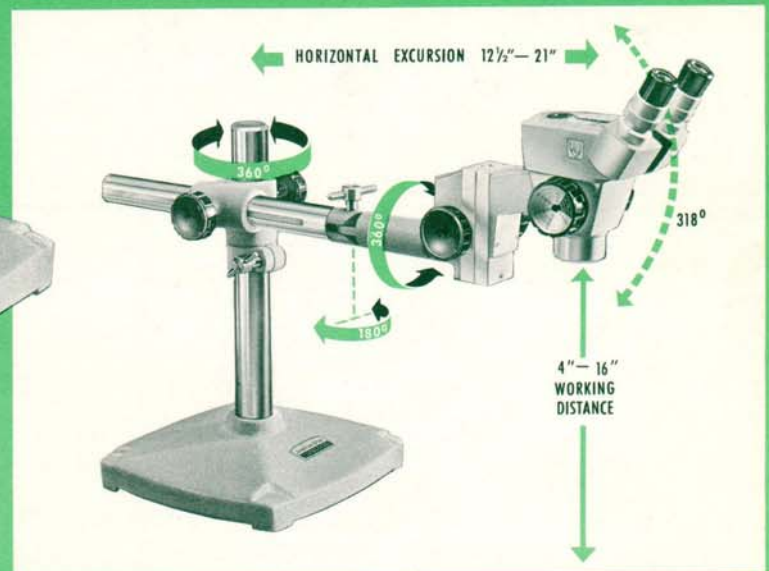
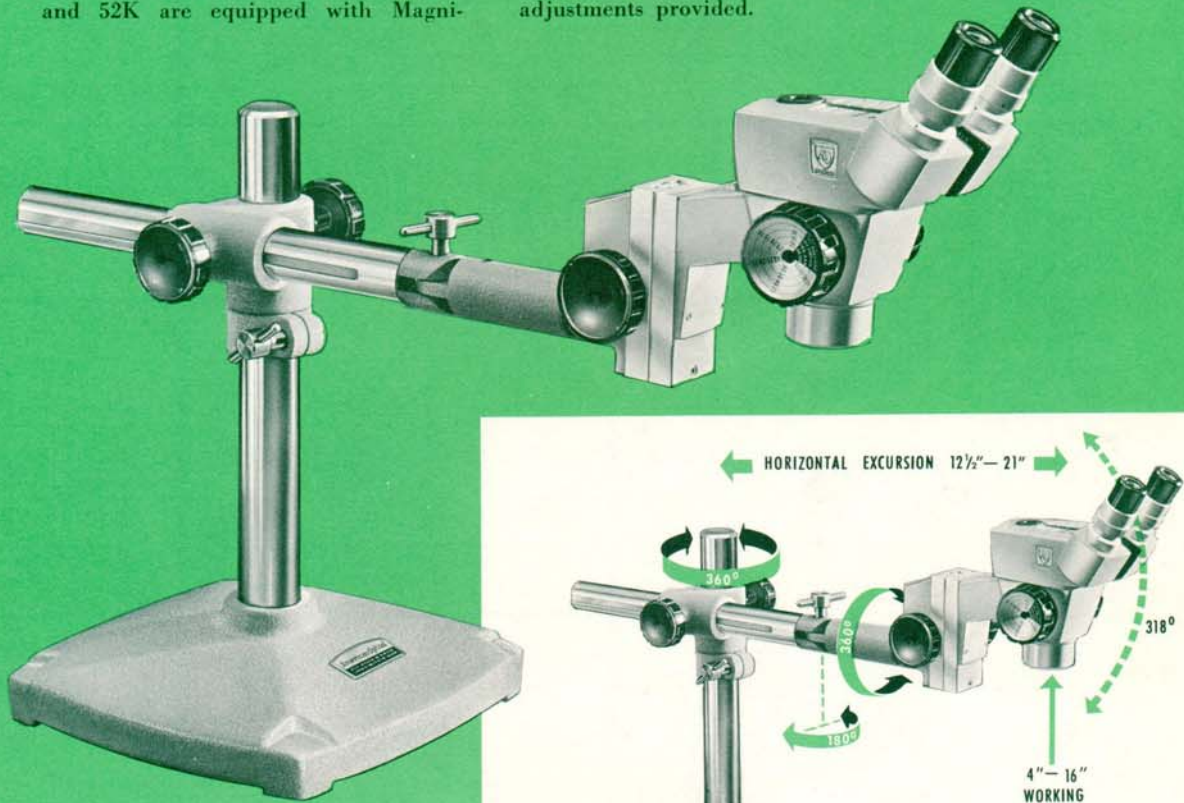
CYCLOPTIC MICROSCOPE Series 52F, 52J, 52K and 52M are supplied with inclined, reversible binocular bodies; standard apochromatic objective or special long working distance 1/2X apochromatic objective as selected; eyepieces and auxiliary lens-attachments as selected; wide, durable, diagonally-cut rack and pinion focusing and positioning adjustments; large standard table stand.

CYCLOPTIC MICROSCOPE Series 52F has a fixed body magnification of 1.33X.

CYCLOPTIC MICROSCOPE Series 52J and 52K are equipped with Magni-

Changer "J" and "K" respectively, offering selection of three body magnifications; Series 52M is equipped with Magni-Changer "M", offering selection of five body magnifications. Resultant magnifications are indexed on the positioning dials.

Series 52 Standard Table Stand differs from 53 Series Universal Table Stand in that it provides manual adjustments of vertical pillar and horizontal arm instead of rack-and-pinion adjustments. A supporting ring is provided on the vertical post to permit a full 360° rotation of arm. See illustration for range of adjustments provided.



Illustrated model, 52M-1 and tabulation of additional models on opposite side of page are presented to simplify your final selection.


AMERICAN OPTICAL COMPANY

INSTRUMENT DIVISION

BUFFALO, N. Y. 14215



# AO SPENCER CYCLOPTIC SERIES 52F, 52J, 52K and 52M

Catalog Number	Body Magnification	Auxiliary Lens-Attachment	Eyepieces Wide Field	Magnifications	Working Distance	Price
<b>SERIES 52F</b>						
 52F-1	Fixed "F"	—	10X	15X	4"	\$386.00
52F-2	Fixed "F"	—	15X	20X	4"	386.00
52F-3	Fixed "F"	—	10X, 15X	15X, 20X	4"	428.00
52F-D1	Fixed "F"	2X	10X	15X, 25X	1.5", 4"	418.00
52F-D2	Fixed "F"	2X	15X	20X, 40X	1.5", 4"	418.00
52F-T1	Fixed "F"	2/3X	10X	10X, 15X	4", 4.4"	418.00
<b>SERIES 52J</b>						
52J-1	Magni-Changer "J"	—	10X	7X, 15X, 25X	4"	512.00
52J-2	Magni-Changer "J"	—	15X	10X, 20X, 40X	4"	512.00
52J-D1	Magni-Changer "J"	2X	10X	7X, 15X, 25X, 50X	1.5", 4"	544.00
52J-D2	Magni-Changer "J"	2X	15X	10X, 20X, 40X, 80X	1.5", 4"	544.00
52J-T1	Magni-Changer "J"	2/3X	10X	4.5X, 7X, 10X, 15X, 18X, 25X	4", 4.4"	544.00
<b>SERIES 52K</b>						
52K-1	Magni-Changer "K"	—	10X	10X, 15X, 20X	4"	451.00
52K-2	Magni-Changer "K"	—	15X	15X, 20X, 30X	4"	451.00
52K-D1	Magni-Changer "K"	2X	10X	10X, 15X, 20X, 25X, 40X	1.5", 4"	483.00
52K-D2	Magni-Changer "K"	2X	15X	15X, 20X, 25X, 30X, 40X, 60X	1.5", 4"	483.00
52K-T1	Magni-Changer "K"	2/3X	10X	6X, 10X, 15X, 20X	4", 4.4"	483.00
<b>SERIES 52M</b>						
52M-1	Magni-Changer "M"	—	10X	7X, 10X, 15X, 20X, 25X	4"	538.00
52M-2	Magni-Changer "M"	—	15X	10X, 15X, 20X, 30X, 40X	4"	538.00
52M-3	Magni-Changer "M"	—	10X, 15X	7X, 10X, 15X, 20X, 25X, 30X, 40X	4"	580.00
52M-D1	Magni-Changer "M"	2X	10X	7X, 10X, 15X, 20X, 25X, 40X, 50X	1.5", 4"	570.00
52M-D2	Magni-Changer "M"	2X	15X	10X, 15X, 20X, 25X, 30X, 40X, 60X, 80X	1.5", 4"	570.00
52M-D3	Magni-Changer "M"	2X	10X, 15X	7X, 10X, 15X, 20X, 25X, 30X, 40X, 50X, 60X, 80X	1.5", 4"	612.00
52M-T1	Magni-Changer "M"	2/3X	10X	4.5X, 6X, 7X, 10X, 15X, 18X, 20X, 25X	4", 4.4"	570.00
<b>SPECIAL LONG WORKING DISTANCE COMBINATIONS</b>						
52FL-1	Special: Fixed "F"/2	—	10X	7.5X	8"	399.00
52FL-2	Special: Fixed "F"/2	—	15X	10X	8"	399.00
52JL-1	Magni-Changer "J" and 1/2X Objective	—	10X	3.5X, 7X, 15X	8"	525.00
52JL-2	Magni-Changer "J" and 1/2X Objective	—	15X	5X, 10X, 20X	8"	525.00
52KL-1	Magni-Changer "K" and 1/2X Objective	—	10X	5X, 7.5X, 10X	8"	464.00
52KL-2	Magni-Changer "K" and 1/2X Objective	—	15X	7X, 10X, 15X	8"	464.00
52ML-1	Magni-Changer "M" and 1/2X Objective	—	10X	3.5X, 5X, 7.5X, 10X, 12.5X	8"	551.00
52ML-2	Magni-Changer "M" and 1/2X Objective	—	15X	5X, 7.5X, 10X, 15X, 20X	8"	551.00
52S	Standard Table Stand					100.00

Cabinets are not available for CYCLOPTIC Series 52F, 52J, 52K and 52M.

NOTE: No. 1157 20X Wide Field eyepieces are available for use with Series 52 and may be substituted at no increase in cost.