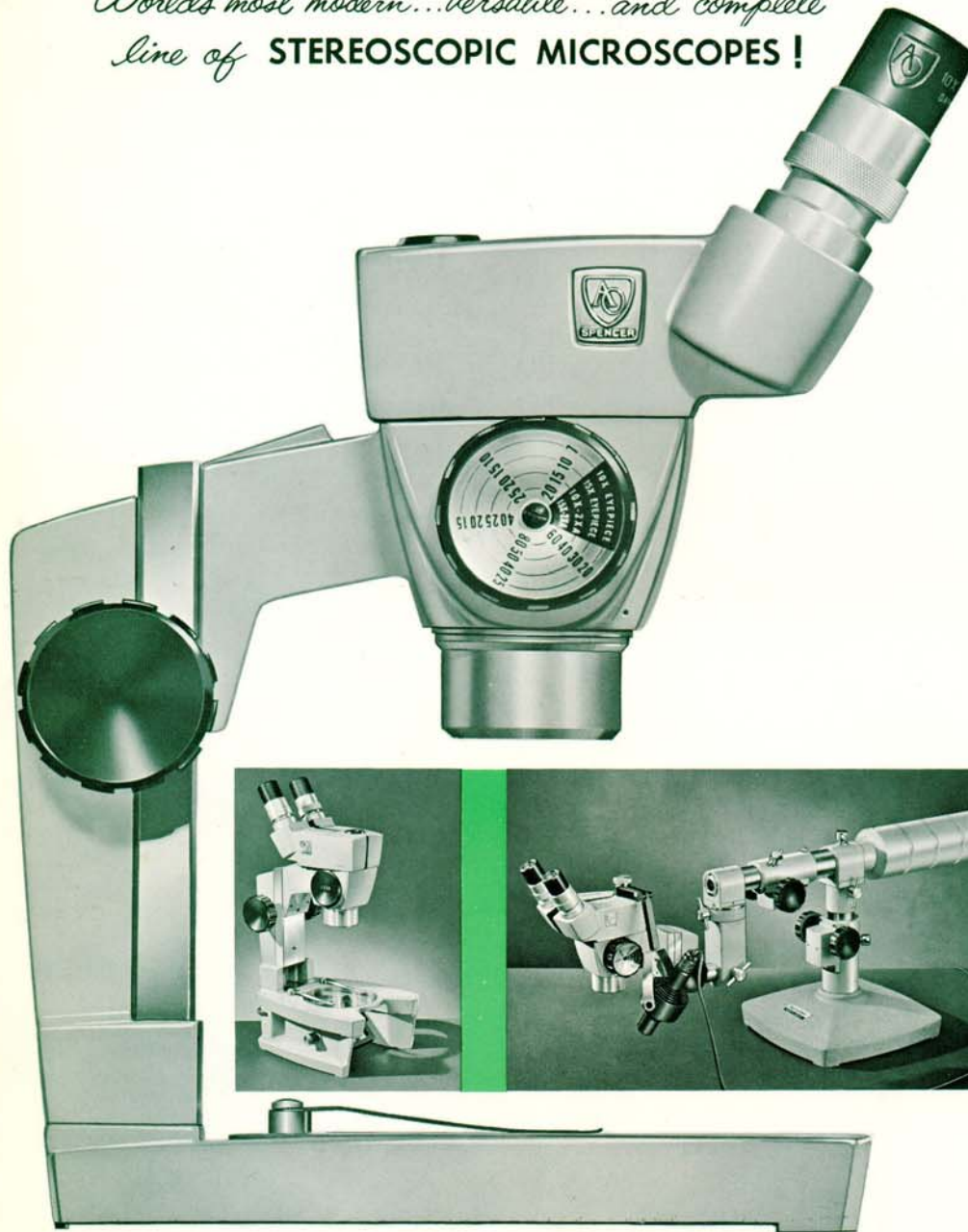




SPENCER

CYCLOPTIC

*World's most modern...versatile...and complete
line of STEREOSCOPIC MICROSCOPES!*



AMERICAN OPTICAL COMPANY • INSTRUMENT DIVISION • BUFFALO 15, NEW YORK



SPENCER

CYCLOPTIC

1. One of many lines of skilled operators employing CYCLOPTIC Microscopes to assemble advanced germanium computer transistors at Texas Instruments Semiconductor—Components Division, Dallas, Texas.

2. High school student using CYCLOPTIC to observe Infusoria culture. 3-dimensional magnification permits quick, easy selection and isolation of desired protozoa.

3. Technician at IBM Research and Development Laboratories, Poughkeepsie, N. Y. uses CYCLOPTIC Microscope while forming tiny transistor lead wires.

4. CYCLOPTIC used in Embryology Laboratory to observe chick embryo development under crisp 3-dimensional magnification.

5. Three Western Electric engineers working on a transistor problem with the help of an AO Spencer CYCLOPTIC Series 53M.

Newest RCA development, thimble-size electron tube, assembled with the aid of an AO Spencer CYCLOPTIC Stereoscopic Microscope.

Widely used...



1



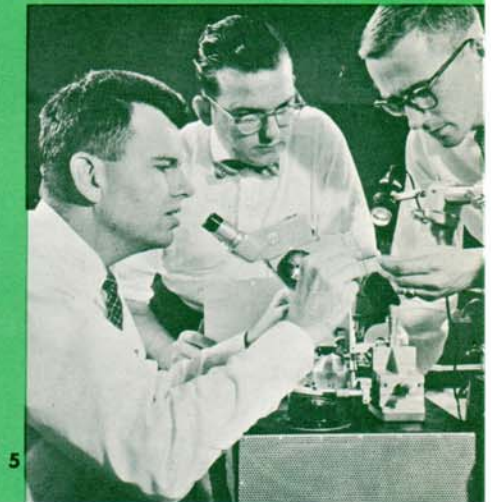
2



3



4



5

IN INDUSTRY, EDUCATION AND RESEARCH -

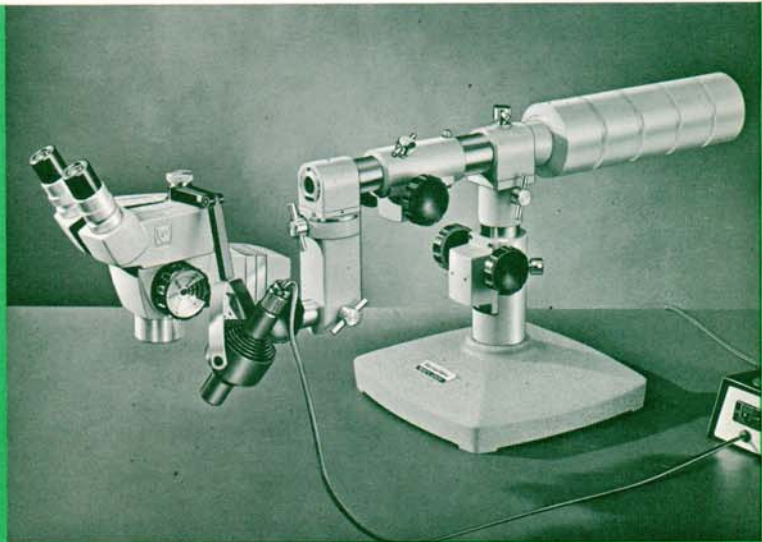
a model to suit every application



CYCLOPTIC MICROSCOPES

Outstanding features . . . plus . . .

1. Reversible and inclined body
2. Long working distance
3. Large field of view
4. Wide range of magnifications
5. Erected and unreversed image
6. Top quality optics . . . low reflection coated
7. Enhanced stereoscopic view
8. Adjustable for interpupillary and eye-refraction differences
9. Rigid, well balanced stands
10. Advanced styling and design
11. Dove-gray EPOXY finish



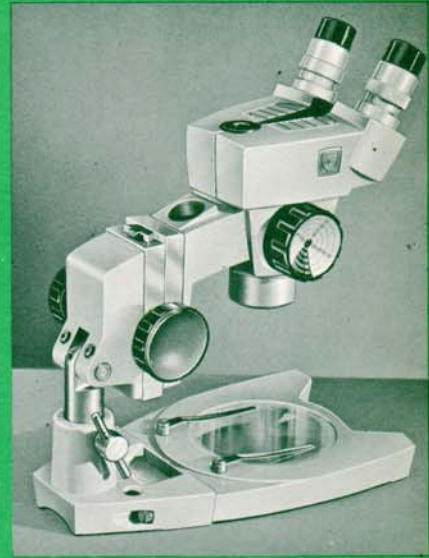
Cycloptic Series 53



Cycloptic Series 56



Cycloptic Series 58



Cycloptic Series 59

*Broad selection of models
gives unmatched versatility!*

the revolutionary

MAGNI-*Changer*



Magni-Changer "J"

Magni-Changer "K"

Magni-Changer "M"

Magnifications Simply "Dialed-In"

Only the AO CYCLOPTIC offers the convenient Magni-Changer. Desired magnification can be selectively "dialed-in" by simple rotation of the Magni-Changer to indicated values. Three Magni-Changer models . . . "J," "K" and "M" . . . are available.

Magni-Changers "J" and "K"!

Contain 8 achromatically corrected optical elements . . . offer three different magnifications for each eyepiece-objective combination.

Magni-Changer "M"!

Contains 16 achromatically corrected optical elements . . . offers five different

magnifications for each eyepiece-objective combination.

Intermediate magnifications are conveniently obtainable on "J," "K" and "M" models by rotation of the Magni-Changer, insertion of other powered eyepieces or substitution of basic objectives and auxiliary lens-attachments.

Fixed Body Magnifications!

Model F CYCLOPTICS are supplied with a fixed body magnification and resultant magnifications can be varied by substitution and addition of eyepieces, objectives, or auxiliary lens-attachments.





REVERSIBLE and INCLINED BODIES

Binocular bodies are readily reversible to suit user preference . . . inclined at optimum angle of 30° from vertical for comfort . . . and adjustable for interpupillary distances 48mm to 78mm. One of the eyepiece tubes is adjustable for correction of eye-refraction differences. Each body section houses a securely mounted one-piece prism sealed against moisture and foreign particles.



BUILT TO TAKE IT!

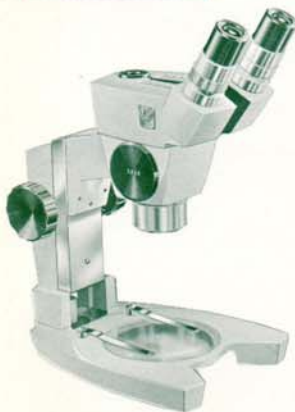
Stroboscopic photograph shows "permanent" mounted prism being crashed into solid piece of wood. Bond was not affected in any way and demonstrates the amazing holding power of specially developed "permanent" bonding agent used to mount prisms in CYCLOPTIC Microscopes. CYCLOPTIC can be put to extreme use . . . mounted on vibrating production machine, rough and tumble field trips, student handling . . . and can be cleaned frequently and easily with same positive, permanent prism alignment assured.



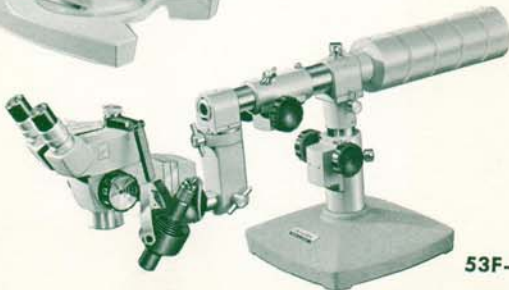
BROAD SELECTION OF RIGID WELL-BALANCED STANDS

The stands—the structural units which support all optical components and adjustments—are rigid and well balanced for stability . . . withstand hard usage and handling . . . and insure lasting optical alignment. Adjustment controls are rationally positioned for fatigue-free operation. A wide selection of microscope stands is offered to meet your requirements.

NEW EPOXY FINISH—Remarkably smooth, durable . . . EPOXY . . . unequalled for resistance to chemicals, abrasion and mechanical impact. Pleasing dove-gray color.



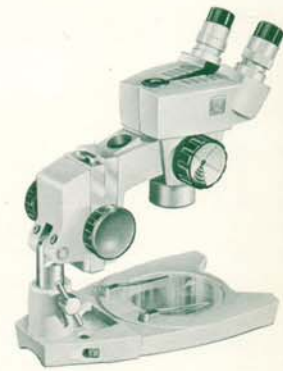
56F-1



53F-1



58M-1



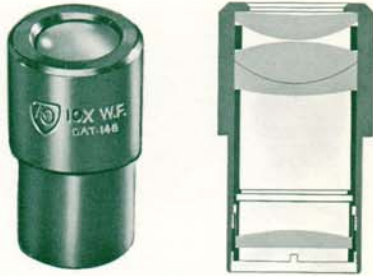
59K-1

ADJUSTABLE TENSION

Tension on focusing control knobs conveniently adjustable to suit individual touch or to compensate for normal wear over period of years. To increase tension, hold one knob firmly and turn opposite knob clockwise . . . counterclockwise turn loosens tension.



WIDE FIELD EYEPIECES



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. Micrometer disc or reticle can be conveniently inserted into eyepieces. 10X, 15X and 20X eyepieces are available.



APOCHROMATIC OBJECTIVES

Three special wide angle high quality objectives have been designed for the CYCLOPTIC Series Microscopes. These three-lens apochromats are superbly corrected for chromatic and spherical aberrations . . . present a crisp, true enhanced stereoscopic image over the full field of view.

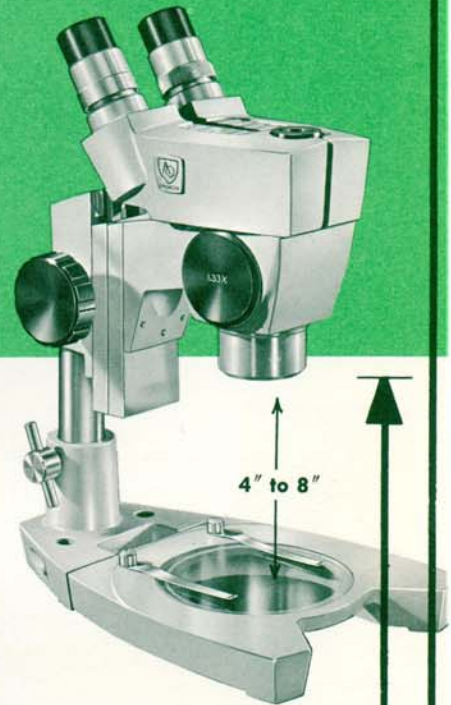


ACHROMATIC AUXILIARY LENS-ATTACHMENTS



Three achromatically corrected auxiliary lens-attachments are available . . . readily attachable to the basic objective...and extend the useful range of magnifications.

LONG WORKING DISTANCES



Standard CYCLOPTIC Microscopes provide remarkable constant long working distance of 4" between specimen and objective; an extraordinary long working distance of 8" is attainable by use of 1/2X objective and is available on CYCLOPTIC Series 53, 55, 59. Special 1/3X objective will provide 12.5" working distance with CYCLOPTIC Series 53, 55. These unusually long working distances permit efficient illumination and effective manipulation of specimens.

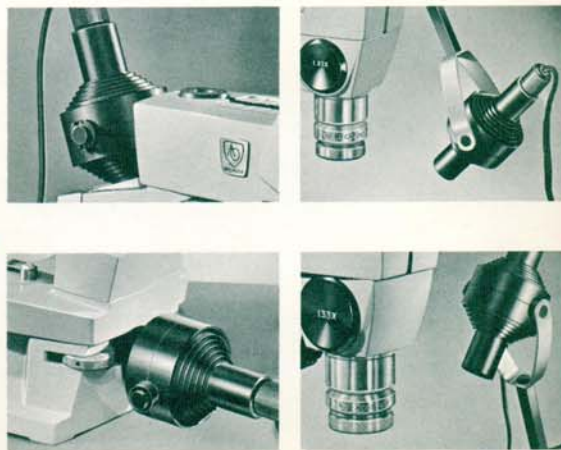




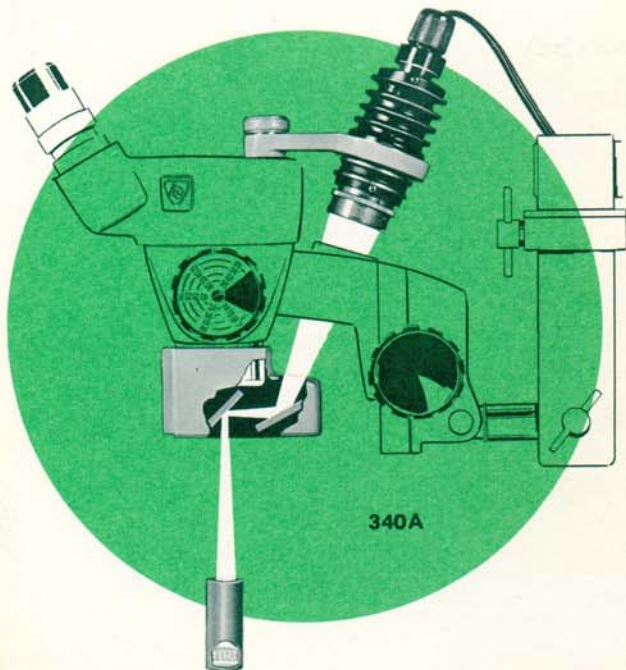
CYCLOSPOT, VERTICAL ILLUMINATOR



The new CYCLOSPOT is outstanding for epi- and trans-illumination . . . may be efficiently used in five different positions . . . includes two-element condenser system, fixed transformer . . . detachable universal arm . . . and 6.5V, 2.75 amp lamp.



Cross section illustrates lamp, first surfaced spherical mirrors and pre-focused two-lens projection system. Yoke permits easy and quick positioning of light beam and unique venting assures cool operation.



The new Vertical Illuminator permits examination of deep orifices where the angle is too acute for oblique illumination methods. This illuminator extends the advantages of stereoscopic microscopy to a great variety of new problems ranging from the inspection of small I.D. borings in machined parts or castings to delicate ear surgery. It consists of a lamphouse with special bracket and hinge pin for attachment to CYCLOPTIC stand; a vertical reflector that mounts over objective or auxiliary lens attachment; and a variable transformer. A multiple lens focusing system permits you to critically focus the intense light to match the working distances of the standard objective, the 2/3X auxiliary lens attachment, and the 1/2X and 1/3X special long working distance objectives.



and FLUORESCENT ILLUMINATOR

640 Series

The versatile new AO Spencer Fluorescent Illuminators are specifically designed for use with the AO Spencer Cycloptic and Stereoscopic Series low-power microscopes.

Two daylight fluorescent tubes . . . #F4T5/D . . . provide a flat, diffused, cool light that floods over the gross specimen to evenly illuminate surface detail regardless of specimen thickness variations. The Kelvin rating of approximately 6500° approaches true daylight . . . makes it ideal for use with Cycloptic and No. 637 Stereocamera . . . allows use of standard outdoor color film without filters. Black light tubes, #F4T5/BLB, and green light tubes, #F4T5/G, can also be used.*

*Black light tubes, green light tubes and replacement daylight tubes are readily available through electrical supply stores or dealers, and are not sold or stocked by American Optical Company.



AO Spencer Fluorescent Illuminator No. 640A consists of No. 640 Fluorescent Illuminator and No. 642 Jackknife Arm and Base. The adjustable Jackknife Arm, equipped with a pin, locks into the heavy base for use as an independent light source or into a socket on body of AO Spencer Stereoscopic Microscopes, Series 20, 21, 23, 25, 26, 27 and 28.



AO Spencer Fluorescent Illuminator No. 640 is attachable directly to the Cycloptic standard objective or to the 2X Auxiliary Lens-Attachment . . . provides full-field illumination either in to-and-fro or left-to-right positions . . . convenient thumb lock-screw holds it securely in desired position.



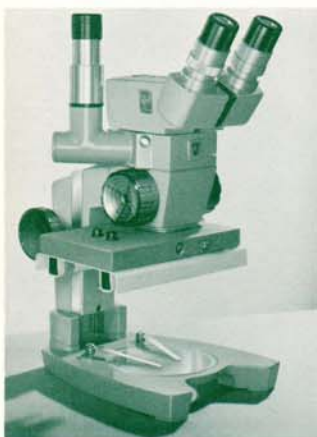
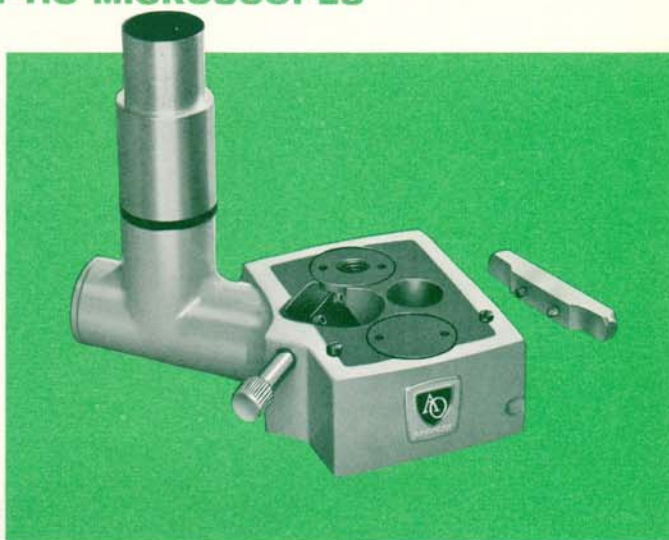
Model 638 AO PHOTOGRAPHIC TUBE ADAPTER

FOR CYCLOPTIC MICROSCOPES

A valuable aid to the use of the Cycloptic Stereoscopic Microscope is the new Model 638 Photographic Tube Adapter. It makes available for the first time a means of obtaining quick photomicrographs through the use of the AO Series 682 Cameras and similar photomicrographic equipment on the market.

The Polaroid® Land Camera Back is the ideal application since it offers immediate photographic results.

While this Single Tube Adapter has been designed specifically for use with AO Spencer Series 682 Camera, it can be successfully used with other equipment.



Single Tube Adapter is quickly attached to Cycloptic Microscope. Shown with No. 640 Illuminator and No. 146 Eyepiece.



Ideal photographic application utilizes No. 682G Camera with Polaroid Land Camera back. This offers "picture in ten seconds" results.

Rapid, Easy Attachment

The entire assembly can be quickly attached to any model Cycloptic Microscope in less than a minute. Focusing is accomplished through the conventional binocular portion of the microscope. A flip-out mirror then diverts the light from one tube of the binocular body to the Single Tube Adapter.

Fluorescent Illuminator

A recommended source of illumination for many types of work is the AO Fluorescent Illuminator, No. 640, which provides a flat, diffused, cool light that floods uniformly over the full field to evenly illuminate surface detail. The No. 640 attaches directly to the standard Cycloptic objective or to the Auxiliary Lens Attachments (except No. 264).

For special problems, other types of illumination will provide excellent results. A source of high intense light is the No. 653 Universal Illuminator, with its three-lens focusable condensing system.

CATALOG NO.	DESCRIPTION
638	Single Photographic Tube Adapter for Cycloptic Microscopes. (Does not include eyepiece.)
640	Fluorescent Illuminator with lock-screw for attachment to Cycloptic; complete with cord and plug.
653	Universal Microscope Illuminator with three-














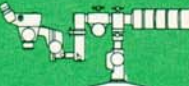
CATALOG NO.	DESCRIPTION
146	10X Wide Field eyepiece
147	15X Wide Field eyepiece
682G	Photomicrographic Camera with Polaroid Back

Easy-to-follow CYCLOPTIC MICROSCOPE CODE

For example: Model 58M-T3

58 = 58 basic stand
M = Magni-Changer "M"

T = 2/3X Auxiliary Lens-Attachment
3 = 10X and 15X Wide Field Eyepieces

Basic Stand	Body Magnification	Auxiliary Lens-Attachment	Eyepieces
56 	F  Fixed Body Magnification with standard objective		1  10X Wide Field
58 	J  MAGNI-CHANGER with standard objective	HYPHEN T  2/3X	2  15X Wide Field
59 	K  MAGNI-CHANGER with standard objective		
55 	M  MAGNI-CHANGER with standard objective	D  2X	3  10X Wide Field and 15X Wide Field
53 			

Basic Stand	Body Magnification	Eyepieces
SPECIAL LONG WORKING DISTANCE COMBINATIONS available on series 53, 55 and 59 only.	53 FL  Fixed Body Magnification with Special 1/2X objective	1  10X Wide Field
	55 JL  MAGNI-CHANGER with Special 1/2X objective	HYPHEN 2  15X Wide Field
	59 KL  MAGNI-CHANGER with Special 1/2X objective	
	ML  MAGNI-CHANGER with Special 1/2X objective	

TABLE OF RESULTANT MAGNIFICATIONS, FIELDS OF VIEW AND WORKING DISTANCES

FIXED BODY "F" AND MAGNI-CHANGER "J," "K," "M"
VARIABLE BODY MAGNIFICATIONS—with Standard Objective

Eyepiece	Auxiliary Lens-Attachment	Magnification				Field of View*	Working Distance*
		"F"	"J"	"K"	"M"		
10X	—	—	7X	—	7X	1.20"	4.0"
	—	—	10X	—	10X	0.90	
	—	15X	15X	15X	15X	0.60	
	—	—	—	20X	20X	0.40	
	—	—	—	25X	25X	0.30	
15X	—	—	10X	—	10X	1.00"	4.0"
	—	—	—	15X	15X	0.75	
	—	20X	20X	20X	20X	0.50	
	—	—	—	30X	30X	0.33	
	—	—	—	40X	40X	0.25	
10X	2X	—	15X	—	15X	0.60"	1.5"
		—	—	20X	20X	0.45	
		25X	25X	25X	25X	0.30	
		—	—	40X	40X	0.20	
		—	—	50X	50X	0.15	
15X	2X	—	20X	—	20X	0.50"	1.5"
		—	—	25X	25X	0.37	
		40X	40X	40X	40X	0.25	
		—	—	60X	60X	0.17	
		—	—	80X	80X	0.13	
10X	2/3X	—	4.5X	—	4.5X	1.75"	4.4"
		—	—	6X	6X	1.33	
		10X	10X	10X	10X	0.90	

(CONTINUED)

10X	2/3X	—	18X	15X	15X	0.60"	4.4"
15X	2/3X	—	7X	—	7X	1.50"	4.4"
		—	—	10X	10X	1.12	
		—	15X	15X	15X	.75	
		—	—	20X	20X	.50	
		—	—	25X	25X	.37	

SPECIAL LONG WORKING DISTANCE COMBINATIONS FOR CYCLOPTIC SERIES 53, 55, 59 ONLY

FIXED BODY "F" AND "J," "K," "M"
VARIABLE BODY MAGNIFICATIONS—Special 1/2X Objective

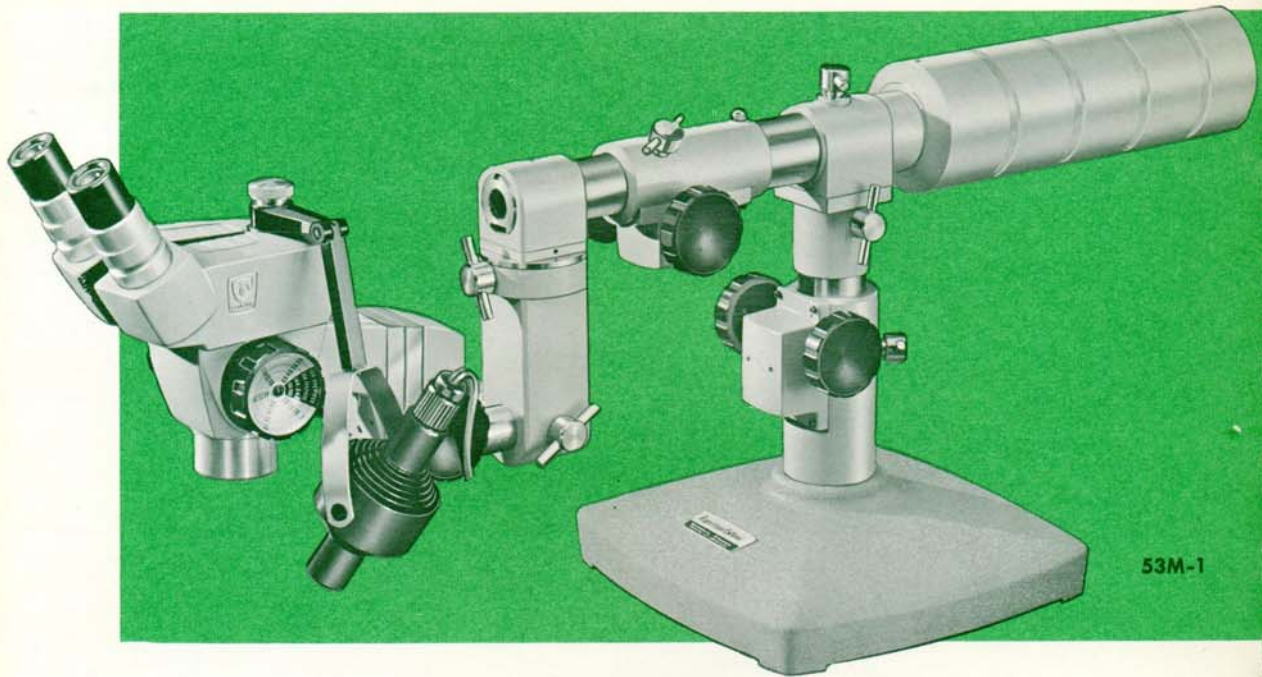
		"FL"	"JL"	"KL"	"ML"		
10X	—	—	3.5X	—	3.5X	2.40"	8.0"
	—	—	—	5X	5X	1.80	
	—	7X	7X	7X	7X	1.20	
	—	—	—	10X	10X	0.80	
	—	—	15X	—	15X	0.60	
15X	—	—	5X	—	5X	2.00"	8.0"
	—	—	—	7X	7X	1.50	
	—	10X	10X	10X	10X	1.00	
	—	—	—	15X	15X	0.66	
	—	—	20X	—	20X	0.50	

*To convert inch values to millimeters: multiply by 25.4



CYCLOPTIC

MICROSCOPE...SERIES 53

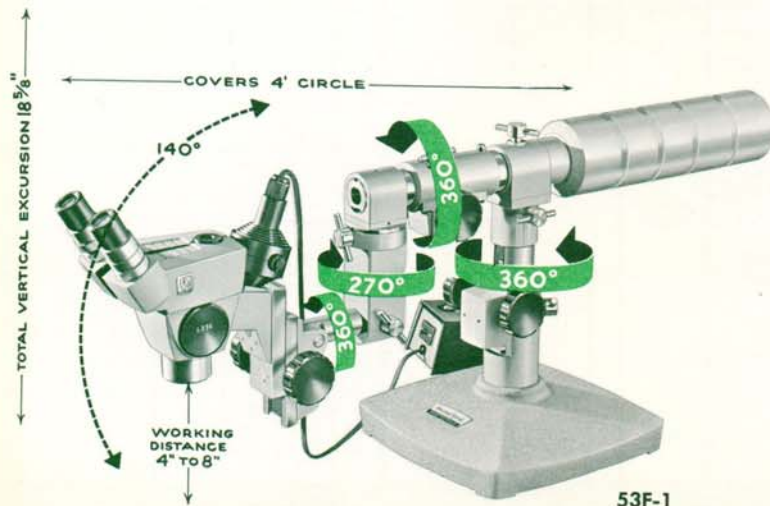


UNIVERSAL TABLE STAND

*... widest range
of adjustments ever offered!*

CYCLOPTIC MICROSCOPE Series 53F, 53J, 53K and 53M 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 universal table stand.

CYCLOPTIC MICROSCOPE Series 53F has a fixed body magnification of 1.33X.



53F-1

CYCLOPTIC MICROSCOPE Series 53J and 53K are equipped with Magni-Changer "J" and "K" respectively, offering selection of three body magnifications; Series 53M is equipped with Magni-Changer "M," offering selection of five body magnifications. Resultant magnifications are indexed on the positioning dials.

A wide selection of CYCLOPTIC MICROSCOPES Series 53F, 53J, 53K and 53M is available to satisfy your specific needs. Illustrated models 53M-1 and 53F-1 . . . and tabulation of additional models on page 13 are presented to simplify your final selection.

AO SPENCER CYCLOPTIC SERIES 53F, 53J, 53K and 53M

SERIES 53F



Catalog Number	Body Magnification	Auxiliary Lens-Attachment	Eyepieces Wide Field	Magnifications	Working Distance
53F-1	Fixed "F"	—	10X	15X	4"
53F-2	Fixed "F"	—	15X	20X	4"
53F-3	Fixed "F"	—	10X, 15X	15X, 20X	4"
53F-D1	Fixed "F"	2X	10X	15X, 25X	1.5", 4"
53F-D2	Fixed "F"	2X	15X	20X, 40X	1.5", 4"
53F-T1	Fixed "F"	2/3X	10X	10X, 15X	4", 4.4"

SERIES 53J



53J-1	Magni-Changer "J"	—	10X	7X, 15X, 25X	4"
53J-2	Magni-Changer "J"	—	15X	10X, 20X, 40X	4"
53J-D1	Magni-Changer "J"	2X	10X	7X, 15X, 25X, 50X	1.5", 4"
53J-D2	Magni-Changer "J"	2X	15X	10X, 20X, 40X, 80X	1.5", 4"
53J-T1	Magni-Changer "J"	2/3X	10X	4.5X, 7X, 10X, 15X, 18X, 25X	4", 4.4"

SERIES 53K



53K-1	Magni-Changer "K"	—	10X	10X, 15X, 20X	4"
53K-2	Magni-Changer "K"	—	15X	15X, 20X, 30X	4"
53K-D1	Magni-Changer "K"	2X	10X	10X, 15X, 20X, 25X, 40X	1.5", 4"
53K-D2	Magni-Changer "K"	2X	15X	15X, 20X, 25X, 30X, 40X, 60X	1.5", 4"
53K-T1	Magni-Changer "K"	2/3X	10X	6X, 10X, 15X, 20X	4", 4.4"

SERIES 53M



53M-1	Magni-Changer "M"	—	10X	7X, 10X, 15X, 20X, 25X	4"
53M-2	Magni-Changer "M"	—	15X	10X, 15X, 20X, 30X, 40X	4"
53M-3	Magni-Changer "M"	—	10X, 15X	7X, 10X, 15X, 20X, 25X, 30X, 40X	4"
53M-D1	Magni-Changer "M"	2X	10X	7X, 10X, 15X, 20X, 25X, 40X, 50X	1.5", 4"
53M-D2	Magni-Changer "M"	2X	15X	10X, 15X, 20X, 25X, 30X, 40X, 60X, 80X	1.5", 4"
53M-D3	Magni-Changer "M"	2X	10X, 15X	7X, 10X, 15X, 20X, 25X, 30X, 40X, 50X, 60X, 80X	1.5", 4"
53M-T1	Magni-Changer "M"	2/3X	10X	4.5X, 6X, 7X, 10X, 15X, 18X, 20X, 25X	4", 4.4"

SPECIAL LONG WORKING DISTANCE COMBINATIONS

53FL-1	Special: Fixed "F"/2	—	10X	7.5X	8"
53FL-2	Special: Fixed "F"/2	—	15X	10X	8"
53JL-1	Magni-Changer "J" and 1/2X Objective	—	10X	3.5X, 7X, 15X	8"
53JL-2	Magni-Changer "J" and 1/2X Objective	—	15X	5X, 10X, 20X	8"
53KL-1	Magni-Changer "K" and 1/2X Objective	—	10X	5X, 7.5X, 10X	8"
53KL-2	Magni-Changer "K" and 1/2X Objective	—	15X	7X, 10X, 15X	8"
53ML-1	Magni-Changer "M" and 1/2X Objective	—	10X	3.5X, 5X, 7.5X, 10X, 12.5X	8"
53ML-2	Magni-Changer "M" and 1/2X Objective	—	15X	5X, 7.5X, 10X, 15X, 20X	8"

Cabinets are not available for CYCLOPTIC Series 53F, 53J, 53K, and 53M.

NOTE: No. 1157 20X Wide Field eyepieces are available for use with Series 53 and may be substituted at no increase in cost.



CYCLOPTIC

MICROSCOPE . . . SERIES 56

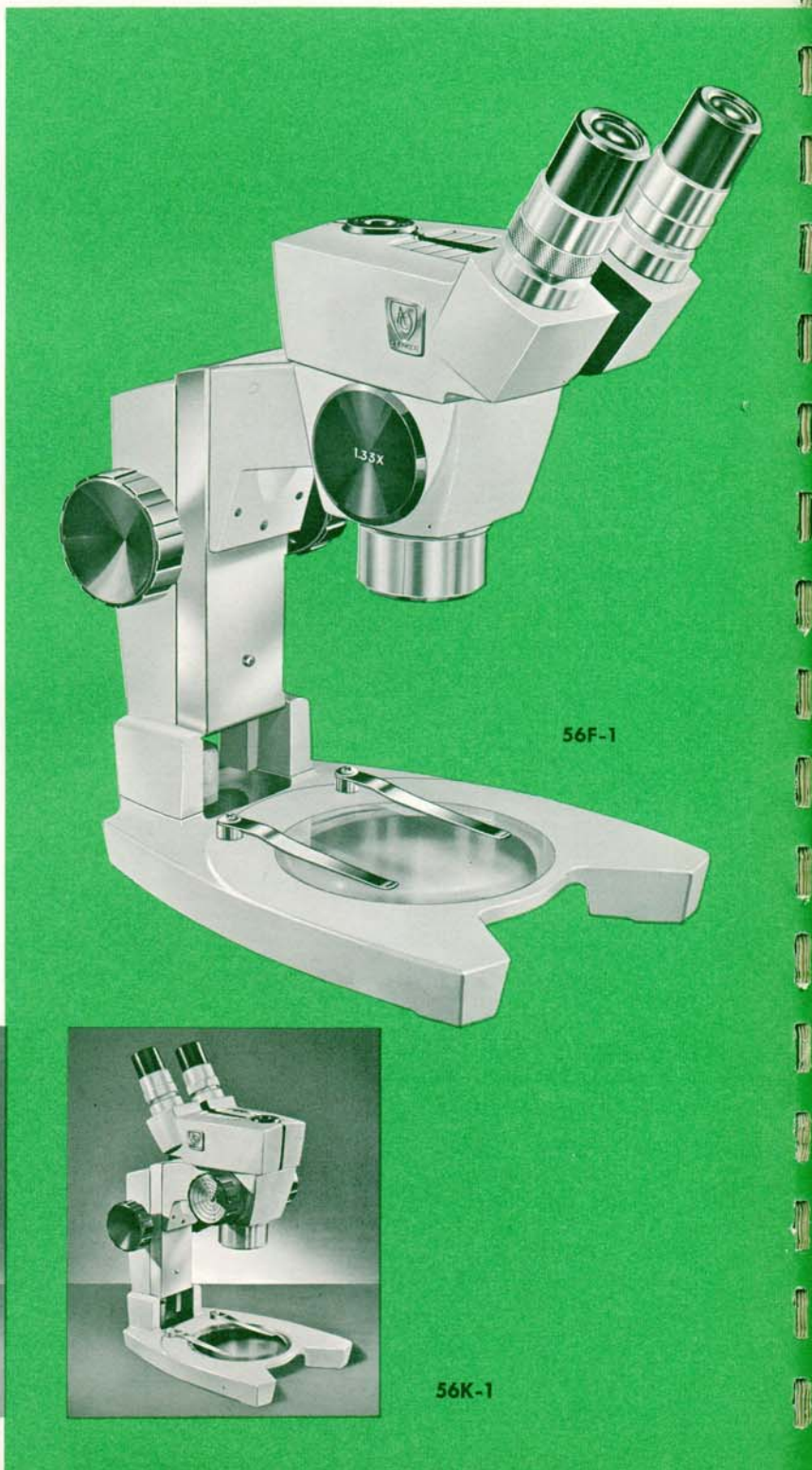
CYCLOPTIC MICROSCOPE Series 56F, 56J, 56K and 56M are supplied with inclined, reversible binocular bodies; standard apochromatic objective; eyepieces and auxiliary lens-attachments as selected; wide, durable, diagonally-cut rack and pinion focusing adjustment . . . adjustable tension; heavy duty slideways . . . extra long excursion; standard base-stage with glass insert and stage clips.

CYCLOPTIC MICROSCOPE Series 56F has a fixed body magnification of 1.33X.

CYCLOPTIC MICROSCOPE Series 56J and 56K are equipped with Magni-Changer "J" and "K" respectively, offering selection of three body magnifications; Series 56M is equipped with Magni-Changer "M," offering selection of five body magnifications. Resultant magnifications are indexed on the positioning dials.

Series 56F, 56J, 56K and 56M are convertible to Series 58F, 58J, 58K and 58M by addition of 58S base.

A wide selection of CYCLOPTIC MICROSCOPE Series 56F, 56J, 56K and 56M is available to satisfy your specific needs. Illustrated models 56F-1, 56M-1 and 56K-1 . . . and tabulation of additional models on page 15 are presented to simplify your final selection.



AO SPENCER CYCLOPTIC SERIES 56F, 56J, 56K and 56M

Catalog Number	Body Magnification	Auxiliary Lens-Attachment	Eyepieces Wide Field	Magnifications	Working Distance
SERIES 56F					
56F-1	Fixed "F"	—	10X	15X	4"
56F-2	Fixed "F"	—	15X	20X	4"
56F-3	Fixed "F"	—	10X, 15X	15X, 20X	4"
56F-D1	Fixed "F"	2X	10X	15X, 25X	1.5", 4"
56F-D2	Fixed "F"	2X	15X	20X, 40X	1.5", 4"
56F-T1	Fixed "F"	2/3X	10X	10X, 15X	4", 4.4"
SERIES 56J					
56J-1	Magni-Changer "J"	—	10X	7X, 15X, 25X	4"
56J-2	Magni-Changer "J"	—	15X	10X, 20X, 40X	4"
56J-D1	Magni-Changer "J"	2X	10X	7X, 15X, 25X, 50X	1.5", 4"
56J-D2	Magni-Changer "J"	2X	15X	10X, 20X, 40X, 80X	1.5", 4"
56J-D3	Magni-Changer "J"	2X	10X, 15X	7X, 10X, 15X, 20X, 25X, 40X, 50X, 80X	1.5", 4"
56J-T1	Magni-Changer "J"	2/3X	10X	4.5X, 7X, 10X, 15X, 18X, 25X	4", 4.4"
SERIES 56K					
56K-1	Magni-Changer "K"	—	10X	10X, 15X, 20X	4"
56K-2	Magni-Changer "K"	—	15X	15X, 20X, 30X	4"
56K-D1	Magni-Changer "K"	2X	10X	10X, 15X, 20X, 25X, 40X	1.5", 4"
56K-D2	Magni-Changer "K"	2X	15X	15X, 20X, 25X, 30X, 40X, 60X	1.5", 4"
56K-T1	Magni-Changer "K"	2/3X	10X	6X, 10X, 15X, 20X	4", 4.4"
SERIES 56M					
56M-1	Magni-Changer "M"	—	10X	7X, 10X, 15X, 20X, 25X	4"
56M-2	Magni-Changer "M"	—	15X	10X, 15X, 20X, 30X, 40X	4"
56M-3	Magni-Changer "M"	—	10X, 15X	7X, 10X, 15X, 20X, 25X, 30X, 40X	4"
56M-D1	Magni-Changer "M"	2X	10X	7X, 10X, 15X, 20X, 25X, 40X, 50X	1.5", 4"
56M-D2	Magni-Changer "M"	2X	15X	10X, 15X, 20X, 25X, 30X, 40X, 60X, 80X	1.5", 4"
56M-D3	Magni-Changer "M"	2X	10X, 15X	7X, 10X, 15X, 20X, 25X, 30X, 40X, 50X, 60X, 80X	1.5", 4"
56M-T1	Magni-Changer "M"	2/3X	10X	4.5X, 6X, 7X, 10X, 15X, 18X, 20X, 25X	4", 4.4"

No. 1656 Cabinet for CYCLOPTIC Microscope Series 56F, 56J, 56K, and 56M, is available at additional cost. See price insert.

NOTE: No. 1157 20X Wide Field eyepieces are available for use with Series 56 and may be substituted at no increase in cost.



CYCLOPTIC

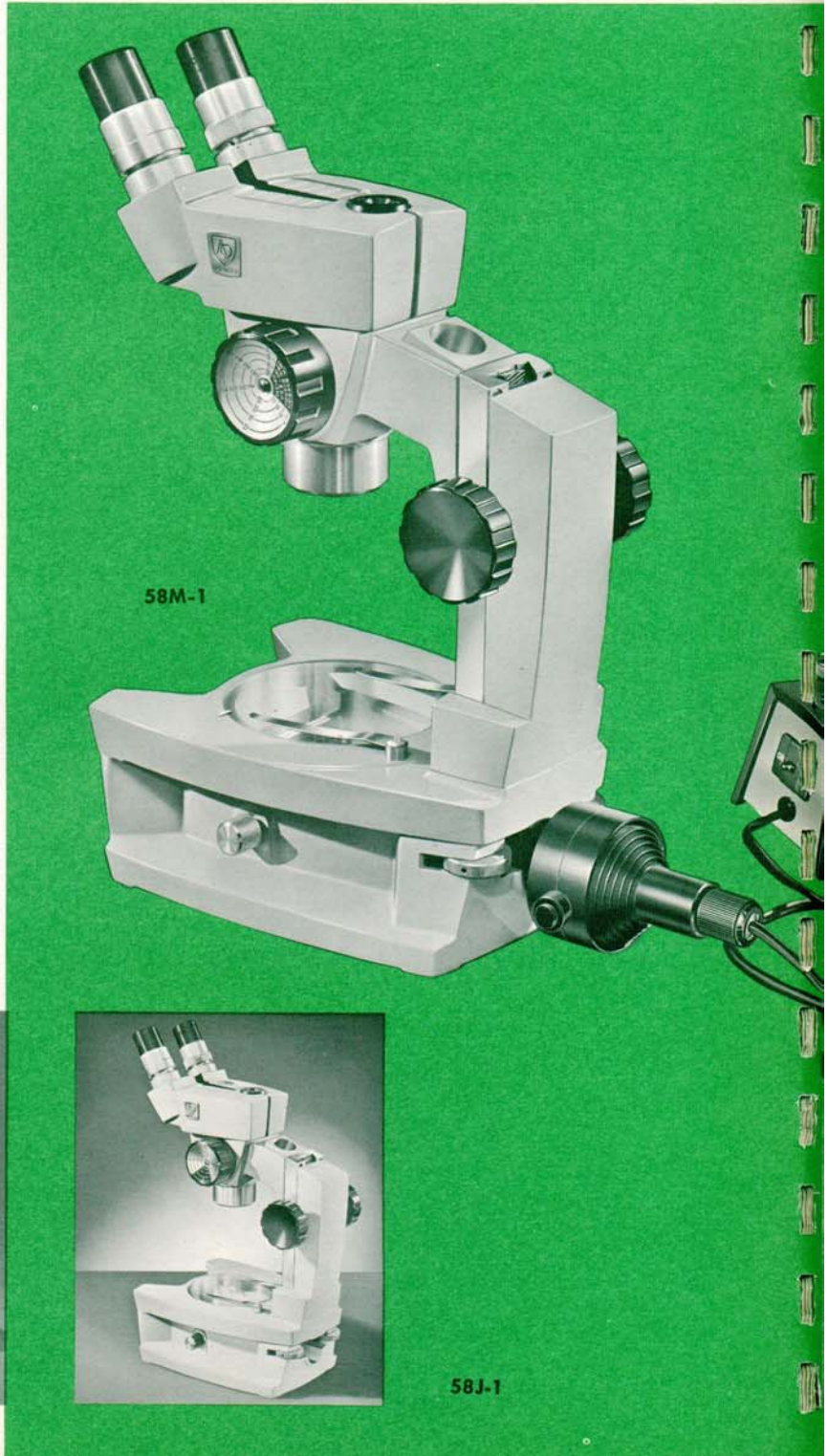
MICROSCOPE . . . SERIES 58

CYCLOPTIC MICROSCOPE Series 58F, 58J, 58K and 58M are supplied with inclined, reversible binocular bodies; standard apochromatic objective; eyepieces and auxiliary lens-attachments as selected; wide, durable, diagonally-cut rack and pinion focusing adjustment . . . adjustable tension; heavy duty slideways . . . extra long excursion; standard stage with glass insert and stage clips; detachable transilluminating substage base.

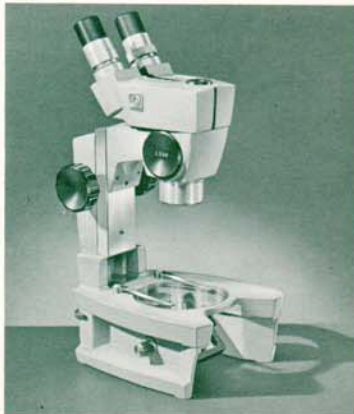
CYCLOPTIC MICROSCOPE Series 58F has a fixed body magnification of 1.33X.

CYCLOPTIC MICROSCOPE Series 58J and 58K are equipped with Magni-Changer "J" and "K" respectively, offering selection of three body magnifications; Series 58M is equipped with Magni-Changer "M," offering selection of five body magnifications. Resultant magnifications are indexed on the positioning dials.

A wide selection of CYCLOPTIC MICROSCOPE Series 58F, 58J, 58K and 58M is available to satisfy your specific needs. Illustrated models 58M-1, 58F-1 and 58J-1 . . . and tabulation of additional models on page 17 are presented to simplify your final selection.



58M-1



58F-1



58J-1

AO SPENCER CYCLOPTIC SERIES 58F, 58J, 58K and 58M

Catalog Number	Body Magnification	Auxiliary Lens-Attachment	Eyepieces Wide Field	Magnifications	Working Distance
SERIES 58F					
58F-1	Fixed "F"	—	10X	15X	4"
58F-2	Fixed "F"	—	15X	20X	4"
58F-3	Fixed "F"	—	10X, 15X	15X, 20X	4"
58F-D1	Fixed "F"	2X	10X	15X, 25X	1.5", 4"
58F-D2	Fixed "F"	2X	15X	20X, 40X	1.5", 4"
58F-T1	Fixed "F"	2/3X	10X	10X, 15X	4", 4.4"
SERIES 58J					
58J-1	Magni-Changer "J"	—	10X	7X, 15X, 25X	4"
58J-2	Magni-Changer "J"	—	15X	10X, 20X, 40X	4"
58J-D1	Magni-Changer "J"	2X	10X	7X, 15X, 25X, 50X	1.5", 4"
58J-D2	Magni-Changer "J"	2X	15X	10X, 20X, 40X, 80X	1.5", 4"
58J-D3	Magni-Changer "J"	2X	10X, 15X	7X, 10X, 15X, 20X, 25X, 40X, 50X, 80X	1.5", 4"
58J-T1	Magni-Changer "J"	2/3X	10X	4.5X, 7X, 10X, 15X, 18X, 25X	4", 4.4"
SERIES 58K					
58K-1	Magni-Changer "K"	—	10X	10X, 15X, 20X	4"
58K-2	Magni-Changer "K"	—	15X	15X, 20X, 30X	4"
58K-D1	Magni-Changer "K"	2X	10X	10X, 15X, 20X, 25X, 40X	1.5", 4"
58K-D2	Magni-Changer "K"	2X	15X	15X, 20X, 25X, 30X, 40X, 60X	1.5", 4"
58K-T1	Magni-Changer "K"	2/3X	10X	6X, 10X, 15X, 20X	4", 4.4"
SERIES 58M					
58M-1	Magni-Changer "M"	—	10X	7X, 10X, 15X, 20X, 25X	4"
58M-2	Magni-Changer "M"	—	15X	10X, 15X, 20X, 30X, 40X	4"
58M-3	Magni-Changer "M"	—	10X, 15X	7X, 10X, 15X, 20X, 25X, 30X, 40X	4"
58M-D1	Magni-Changer "M"	2X	10X	7X, 10X, 15X, 20X, 25X, 40X, 50X	1.5", 4"
58M-D2	Magni-Changer "M"	2X	15X	10X, 15X, 20X, 25X, 30X, 40X, 60X, 80X	1.5", 4"
58M-D3	Magni-Changer "M"	2X	10X, 15X	7X, 10X, 15X, 20X, 25X, 30X, 40X, 50X, 60X, 80X	1.5", 4"
58M-T1	Magni-Changer "M"	2/3X	10X	4.5X, 6X, 7X, 10X, 15X, 18X, 20X, 25X	4", 4.4"

No. 1658 Cabinet for CYCLOPTIC Microscope Series 58F, 58J, 58K, and 58M is available at additional cost. See price insert.

NOTE: No. 1157 20X Wide Field eyepieces are available for use with Series 58 and may be substituted at no increase in cost.



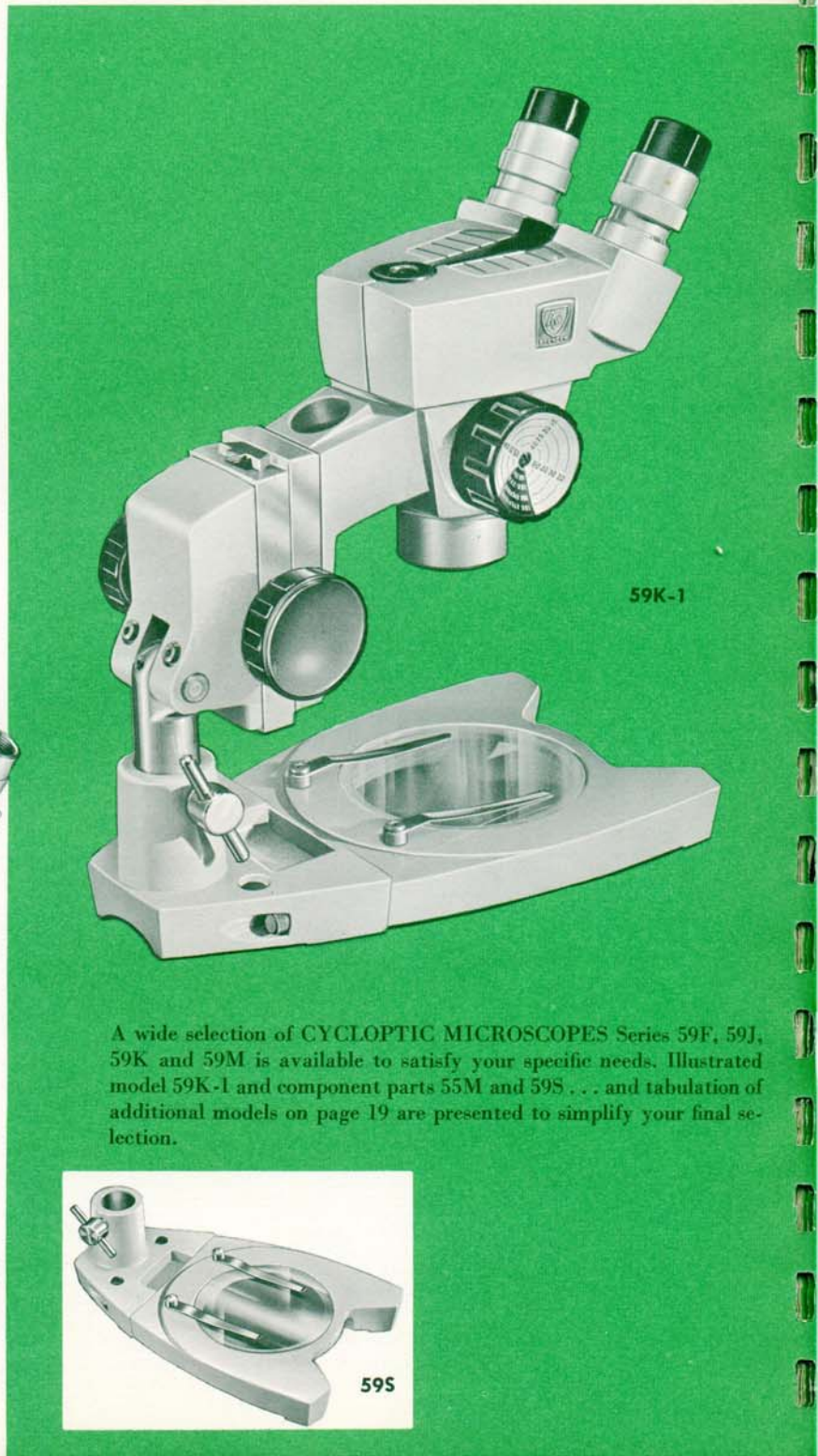
CYCLOPTIC

MICROSCOPE . . . SERIES 59

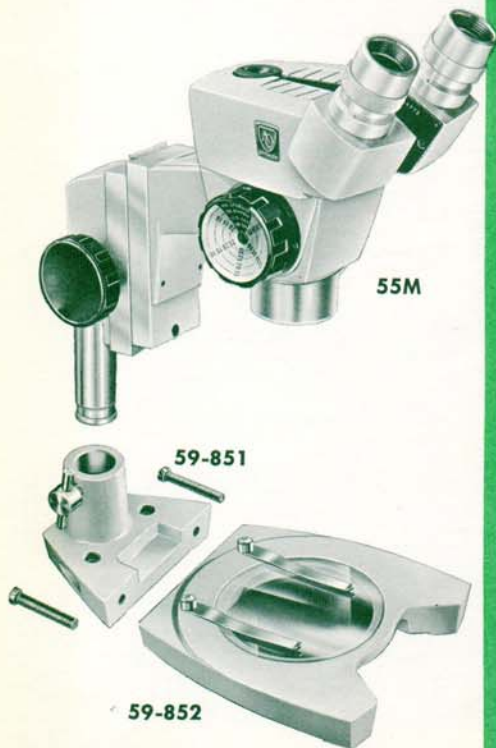
CYCLOPTIC MICROSCOPE Series 59F, 59J, 59K and 59M are supplied with inclined reversible binocular bodies; standard apochromatic objective or special long working distance 1/2X apochromatic objective as selected; eyepieces and auxiliary lens-attachments as selected; wide, durable, diagonally-cut rack and pinion focusing adjustment . . . adjustable tension; heavy duty slideways; yoke and pillar; detachable base-stage with glass insert and stage clips.

CYCLOPTIC MICROSCOPE Series 59F has a fixed body magnification of 1.33X.

CYCLOPTIC MICROSCOPE Series 59J and 59K are equipped with Magni-Changer "J" and "K" respectively, offering selection of three body magnifications; Series 59M is equipped with Magni-Changer "M," offering selection of five body magnifications. Resultant magnifications are indexed on the positioning dials.



59K-1



55M

59-851

59-852



59S

A wide selection of CYCLOPTIC MICROSCOPES Series 59F, 59J, 59K and 59M is available to satisfy your specific needs. Illustrated model 59K-1 and component parts 55M and 59S . . . and tabulation of additional models on page 19 are presented to simplify your final selection.

AO SPENCER CYCLOPTIC SERIES 59F, 59J, 59K and 59M

Catalog Number	Body Magnification	Auxiliary Lens-Attachment	Eyepieces Wide Field	Magnifications	Working Distance
SERIES 59F					
59F-1	Fixed "F"	—	10X	15X	4"
59F-2	Fixed "F"	—	15X	20X	4"
59F-3	Fixed "F"	—	10X, 15X	15X, 20X	4"
59F-D1	Fixed "F"	2X	10X	15X, 25X	1.5", 4"
59F-D2	Fixed "F"	2X	15X	20X, 40X	1.5", 4"
59F-T1	Fixed "F"	2/3X	10X	10X, 15X	4", 4.4"
SERIES 59J					
59J-1	Magni-Changer "J"	—	10X	7X, 15X, 25X	4"
59J-2	Magni-Changer "J"	—	15X	10X, 20X, 40X	4"
59J-D1	Magni-Changer "J"	2X	10X	7X, 15X, 25X, 50X	1.5", 4"
59J-D2	Magni-Changer "J"	2X	15X	10X, 20X, 40X, 80X	1.5", 4"
59J-T1	Magni-Changer "J"	2/3X	10X	4.5X, 7X, 10X, 15X, 18X, 25X	4", 4.4"
SERIES 59K					
59K-1	Magni-Changer "K"	—	10X	10X, 15X, 20X	4"
59K-2	Magni-Changer "K"	—	15X	15X, 20X, 30X	4"
59K-D1	Magni-Changer "K"	2X	10X	10X, 15X, 20X, 25X, 40X	1.5", 4"
59K-D2	Magni-Changer "K"	2X	15X	15X, 20X, 25X, 30X, 40X, 60X	1.5", 4"
59K-T1	Magni-Changer "K"	2/3X	10X	6X, 10X, 15X, 20X	4", 4.4"
SERIES 59M					
59M-1	Magni-Changer "M"	—	10X	7X, 10X, 15X, 20X, 25X	4"
59M-2	Magni-Changer "M"	—	15X	10X, 15X, 20X, 30X, 40X	4"
59M-3	Magni-Changer "M"	—	10X, 15X	7X, 10X, 15X, 20X, 25X, 30X, 40X	4"
59M-D1	Magni-Changer "M"	2X	10X	7X, 10X, 15X, 20X, 25X, 40X, 50X	1.5", 4"
59M-D2	Magni-Changer "M"	2X	15X	10X, 15X, 20X, 25X, 30X, 40X, 60X, 80X	1.5", 4"
59M-D3	Magni-Changer "M"	2X	10X, 15X	7X, 10X, 15X, 20X, 25X, 30X, 40X, 50X, 60X, 80X	1.5", 4"
59M-T1	Magni-Changer "M"	2/3X	10X	4.5X, 6X, 7X, 10X, 15X, 18X, 20X, 25X	4", 4.4"
SPECIAL LONG WORKING DISTANCE COMBINATIONS					
59FL-1	Special: Fixed "F"/2	—	10X	7.5X	8"
59FL-2	Special: Fixed "F"/2	—	15X	10X	8"
59JL-1	Magni-Changer "J" and 1/2X Objective	—	10X	3.5X, 7X, 15X	8"
59JL-2	Magni-Changer "J" and 1/2X Objective	—	15X	5X, 10X, 20X	8"
59KL-1	Magni-Changer "K" and 1/2X Objective	—	10X	5X, 7.5X, 10X	8"
59KL-2	Magni-Changer "K" and 1/2X Objective	—	15X	7X, 10X, 15X	8"
59ML-1	Magni-Changer "M" and 1/2X Objective	—	10X	3.5X, 5X, 7.5X, 10X, 12.5X	8"
59ML-2	Magni-Changer "M" and 1/2X Objective	—	15X	5X, 7.5X, 10X, 15X, 20X	8"

One No. 584 Extension Rod is supplied with Models 59FL, 59JL, 59KL, and 59ML. No. 1659 Cabinet for CYCLOPTIC Microscope Series 59F, 59J, 59K, and 59M is available at additional cost. See price insert. If 59S base-stage is not desired, substitute catalog number 55F, 55J, 55K, or 55M in place of 59F, 59J, 59K, or 59M in the above table. Series 55F, 55J, 55K, and 55M are readily adaptable to Standard Table Stand No. 52S, and large Universal Table Stand No. 53S. Cabinets are not available for CYCLOPTIC Series 55F, 55J, 55K, and 55M. See price insert sheet for 55 Series listings.

NOTE: No. 1157 20X Wide Field eyepieces are available for use with Series 55 and 59 and may be substituted at no increase in cost.