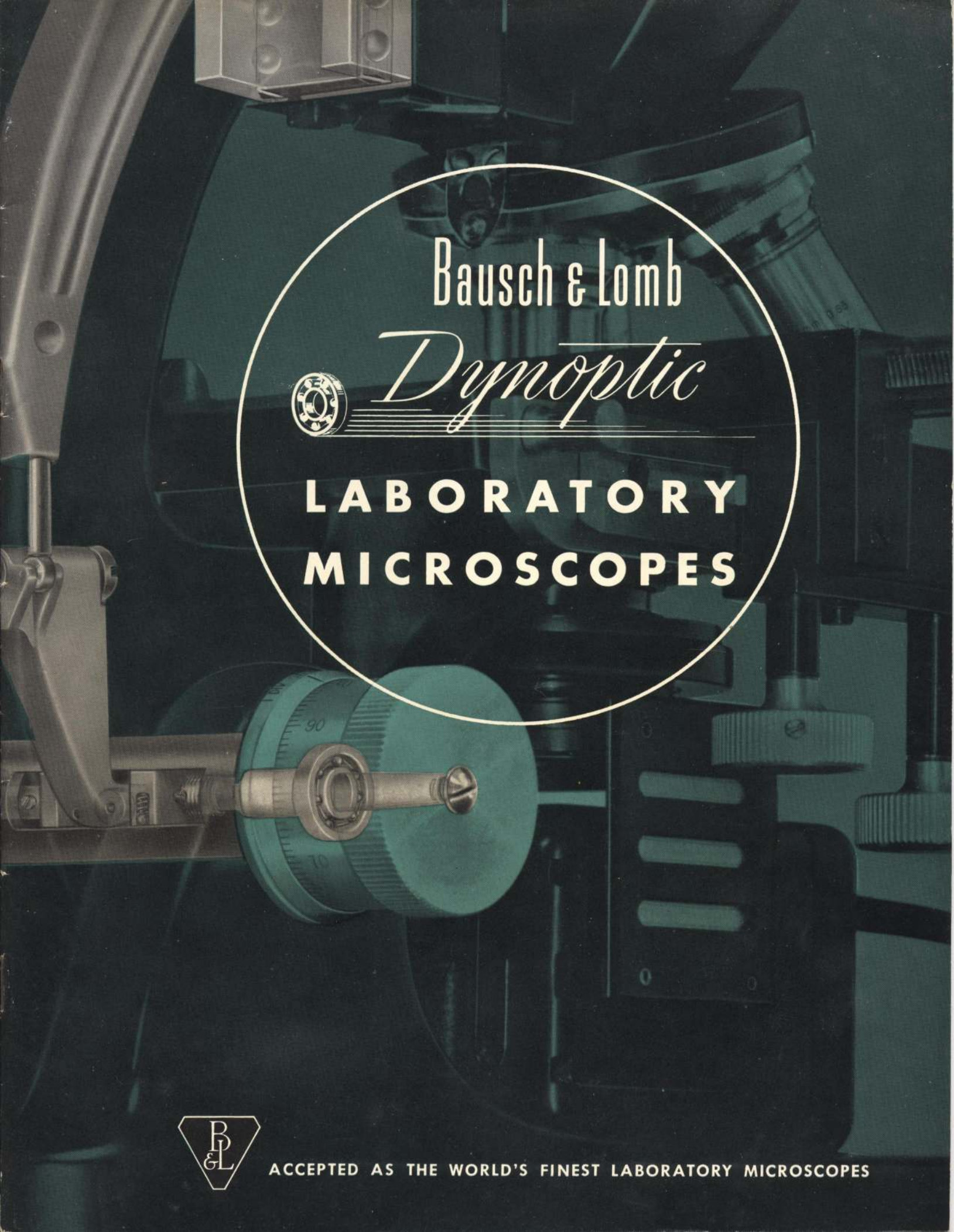
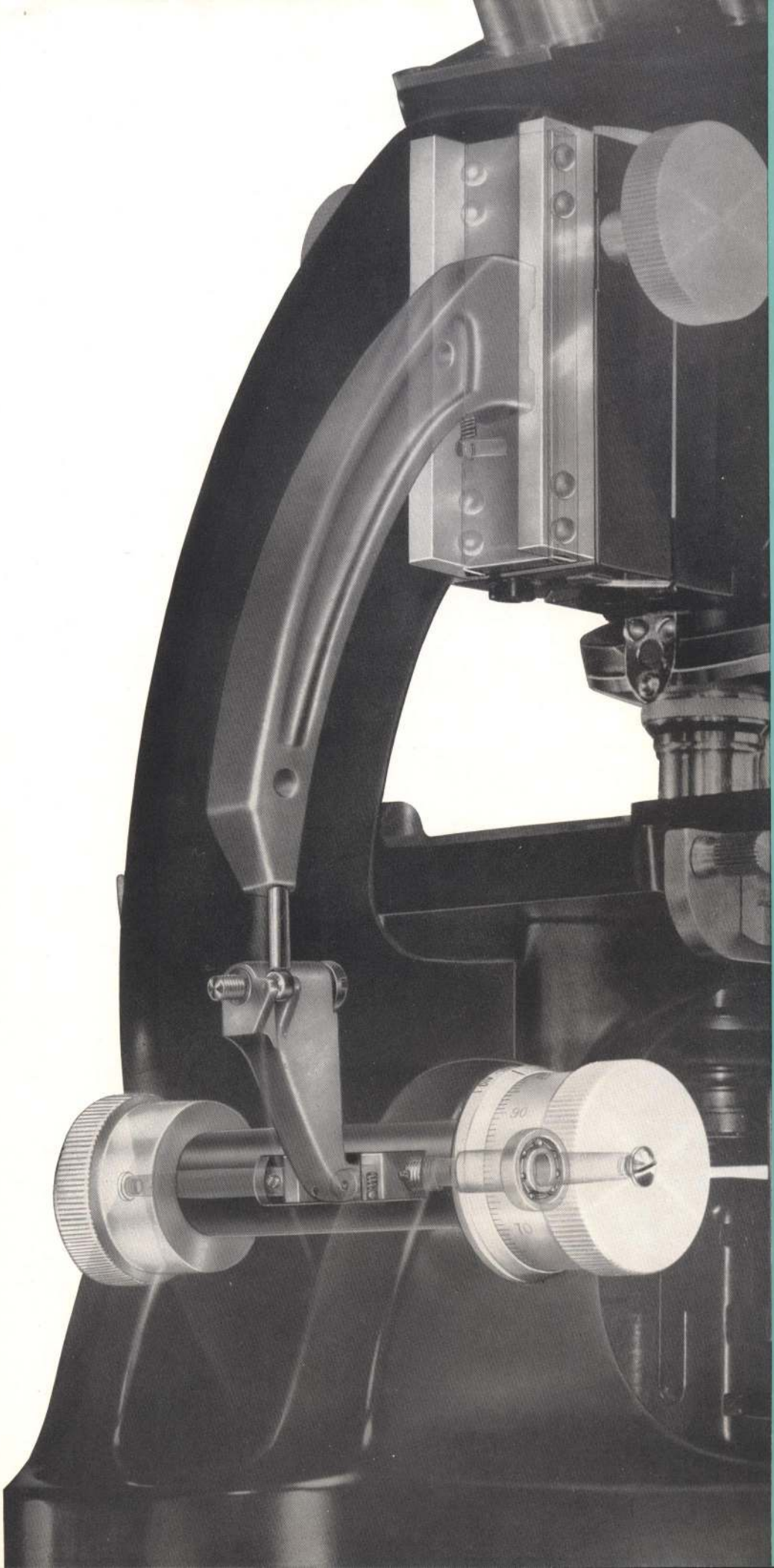

Bausch & Lomb
Dynoptic
LABORATORY
MICROSCOPES
B&L
ACCEPTED AS THE WORLD'S FINEST LABORATORY MICROSCOPES



1

Dua-rol
Low Position Ball-bearing and Roller Fine Adjustment

2

Roto-sphere
Ball-bearing, Revolving Nosepiece

3

Unitized
10X Objective

4

Removable Mechanical Stage with Below-stage Controls

5

Vacuum-controlled Spring Slide Holder

6

Variable Focus Condenser for either rack and pinion or plain substage

7

Automatic Focusing

8

Full 360-degree Substage Ring Mount

9

Bausch & Lomb Balcoted Optics . . . The World's Finest

These 9 points

are the guideposts to quality microscope performance

Profitable ownership and pleasing operation . . . these qualities make the *Dynoptic* Laboratory Microscope the one best buy. Quality of work, speed and ease of operation result from the combination of unsurpassable Balcoted optics and modern mechanical design.

The nine salient features of these microscopes, developed in succeeding paragraphs, convey some sense of the almost incredible care that goes into the construction of these instruments. Bausch & Lomb scientists are respected all over the world as possessing the know-how which has kept the Company in a position of leadership for over a hundred years. And in the *Dynoptic* line they have combined optical and mechanical designs to make these models outstanding for years of faithful service.

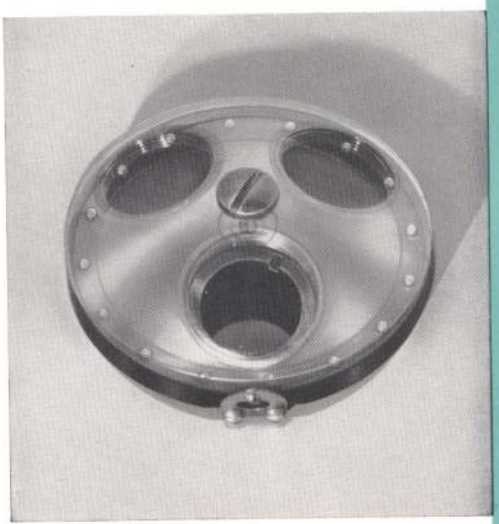
1. *Dua-rol* Low Position Fine Adjustment

The easy-focus mechanism rides on ball-bearings and rollers which convert the slightest movement of the knob into vertical travel of the objective. Friction-free, wear-resistant, and effortless—this focusing mechanism, shown in phantom on the opposite page, minimizes operator fatigue and encourages thorough, complete and accurate examinations. The large king size knob has one micron divisions, convenient in estimating thickness or depth in a specimen and also indicative of the precision which the entire instrument embodies.

Only "three fingers" above the table top, the fine focusing knob permits resting the hand on the table throughout examinations. The operator works in a non-tiring position, with his hand supported, his arm relaxed to make the tiniest possible change in focus a routine matter.

The ball-bearing carrying the fine adjustment shaft is the radial thrust type that not only assures a lifetime of effortless motion but eliminates backlash—when you stop turning the knob your focus stays just where you leave it. Two rollers are the contact points through which the horizontal movement of the worm is converted to vertical movement of the slide.

Both wandering-out-of-focus and binding are avoided by the design of the fine adjustment slide which travels on specially selected preloaded ball-bearings in precision ground, hardened steel raceways.



2. *Roto-sphere* Ball-bearing Nosepiece

A ball-bearing nosepiece completes the friction-free focusing design.

Located around the periphery the bearings carry the weight perfectly distributed throughout the entire circumference. A compensator distributes the pressure to all bearing points, cancelling possible wear. Accurate positioning of the objective is assured by a positive ball-stop. Repeat settings are identical throughout a long lifetime of service.

3. *Unitized* 10x Objective

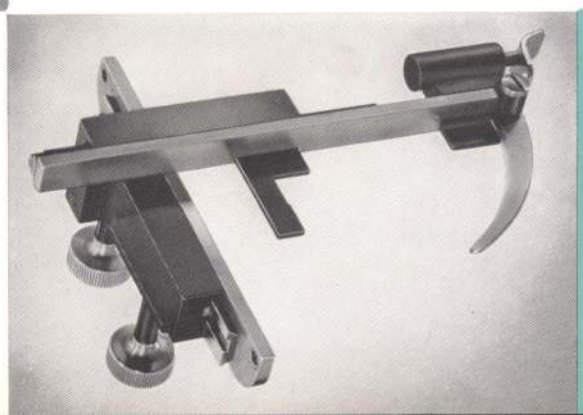
Much larger areas of specimens can now be searched with this 10× achromatic objective with its longer working distance and flatter field. Being non-divisible it eliminates any possibility of misplacing the lower element—a feature that is of special importance where microscopes are in student use.

Permanence of centration and alignment stem from the improved objective mountings with the lenses burnished into diamond-turned, threadless cells. Tolerances of less than .0001″ assure a solid fit that rough use will not affect.

4. Mechanical Stage

Valuable savings in time and assurance of precision operation result from the design of the mechanical stage. It is fastened to the microscope stage by two convenient knurled screws. Quickly taken off for rapid scanning, petri dish use or examination of unusually large specimens it is replaced in seconds for regular use. *Dynoptic* Microscopes with plain stages have tapped holes so that a mechanical stage can be ordered later and put on by the user. The graduated mechanical stage permits easy, accurate relocation of particular sections of a specimen slide, systematic searching of slides, or measurement of specimen size. Graduations are in millimeters and verniers reading to tenths of a millimeter.

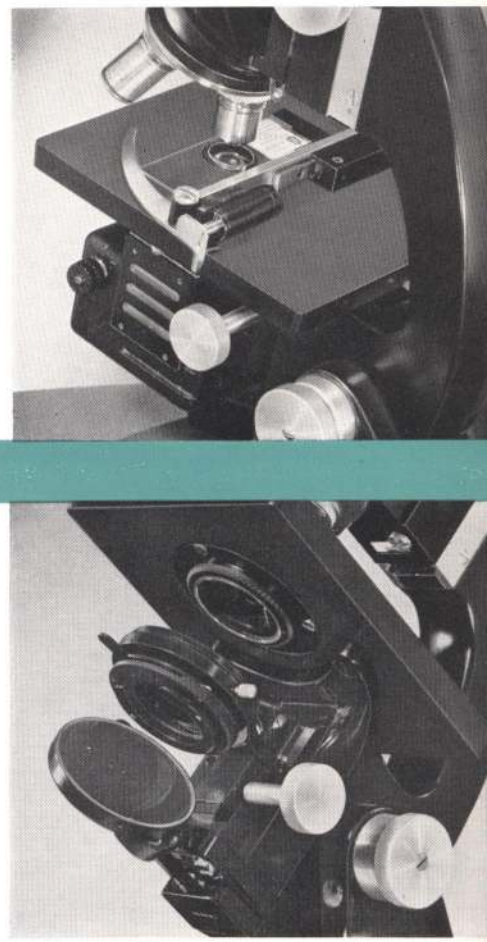
Where employed, a mechanical stage is subjected to more movement than any other part of the microscope. The metals used in the construction of the B&L mechanical stage reduce wear to a negligible degree. However, should some slight play develop between rack and pinion gear teeth, the operator is provided with the means to compensate for it quickly and easily, by a simple adjustment. Thus, he is always assured of straight line action when moving a slide, eliminating the annoying occurrence of a field moving out of the zone of observation.



5. Vacuum-spring Slide Holder

Speedy, safe positioning of the slide is effected by the combination vacuum controlled spring slide finger which exerts just enough pressure to hold either large or small slides against the stage bars. Three-way pressure, downward, sideways and back keeps the slide in the proper position.

Control knobs are below the stage and in line with the right hand fine focusing knob, resulting in the notable Bausch & Lomb "straight line operational procedure." Knobs are screwed on the pinions and setscrews permit pressure adjustment to suit different operators. Comfortable operation induces better examinations, especially those extended ones with much shifting of the slide and refocusing. All slide movement and fine focusing is done with the arm and hand relaxed and resting comfortably on the table top. This "armchair position" coupled with the feather touch ball-bearing focusing train make the *Dynoptic* microscope a real pleasure to use.



6. Variable Focus Condenser

Further savings in time and work, and a marked improvement in performance result from the use of the Variable Focus Substage Condenser.

With the Variable Focus Condenser and a separate light source you instantly change the form of illumination for different objectives. There is no bothersome stopping to take the condenser apart. Specimen examination is fast and continuous. You simply change objectives by rotating the *Roto-sphere* nosepiece while simultaneously matching the N.A. of condenser and objectives, thus attaining maximum resolving power. All models in the *Dynoptic* line can be equipped with this feature. On those having a rack and pinion substage the upper element of the condenser is mounted on the underside of the stage in a fixed, centered position. The lower element is inserted in the 360-degree full-ring mount of the substage. For models with plain substage the Variable Focus Condenser has both elements mounted in a tubular case with the lower element raised and lowered by a ring.

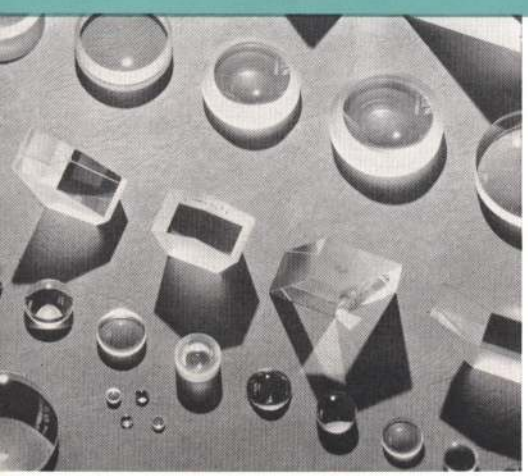
7. Automatic Focusing

The operator saves a great deal of time and is spared considerable annoyance by the automatic focusing arrangement built into these microscopes. When working with slides of equal thickness, it is only necessary to make the original adjustment for focus—thereafter any one of the slides will be in sharp focus for the same objective, without further adjustment, no matter how many times the microscope body is racked up and down. Or, if desired, the nosepiece can be rotated to

any one of the parfocal objectives and the slide brought back into sharp focus with just a touch of the fine focusing knob. Another advantage of this arrangement is that it eliminates cover glass and slide breakage and prevents damage to objectives. Adjusted at the factory to function with slides of 1.2-1.3mm thickness, the automatic focus stop can be easily set for any thickness of slide by the user.

8. 360-degree Substage Full-Ring Mount

To achieve a more sharply defined image and to eliminate distortion, the substage condenser is held in rigid and accurate centration in a full-ring mount. Bearing faces are fine-turned to assure a precise fit so that the condenser will not tilt off vertical axis, yet can be easily inserted or removed.



9. The world's finest optical elements . . . Plus Balcote

In order to assure better images through better definition and highest contrast all optical elements in the Dynoptic Binocular and Triocular bodies, all eyepieces, all objectives and all substage condensers are Balcoted on their air to glass surfaces. Balcote is the Bausch & Lomb flare reducing filming, the first commercially available anti-reflection treatment.

Graduated Drawtube

To give even greater precision and versatility in performance all *Dynoptic* models can be optionally fitted with a graduated drawtube having an adjustment range of 145-175mm. This tube is available separately for attachment to fixed length monocular tubes on Series *F* and *C* microscopes, or it can be had as an integral part of a monocular tube for interchange with the microscope bodies of Series *C*, *T*, and *TT* models.

The drawtube provides three important advantages: it compensates for small differences in cover glass thickness with high power, high N.A. dry objectives; it permits small changes in initial magnification so that, in calibrating micrometer eyepieces for purposes of measuring, an even factor can be obtained; and it can be used to hold a low power objective and thereby secure lower magnifications than if the same objective were held in the nosepiece.

Interchangeable Tubes and Bodies

To permit you to choose the instrument best suited to your present requirements and budget and still be in a position to adequately meet future require-

ments, monocular, binocular and Triocular bodies are available to be used interchangeably on the *C*, *T* and *TT* series. The monocular tube on a *C* series model can be replaced by a binocular or Triocular body for the fatigue-free viewing they afford over extended observation periods. Or the binocular body of a *T* series model can be replaced by a monocular or Triocular body for work in micro-projection, photomicrography and measurement. This interchangeability is accomplished merely by loosening a thumbscrew on the top of the microscope arm — field position is not disturbed. This is also true of the *F* series except that a screwdriver is required for the change.

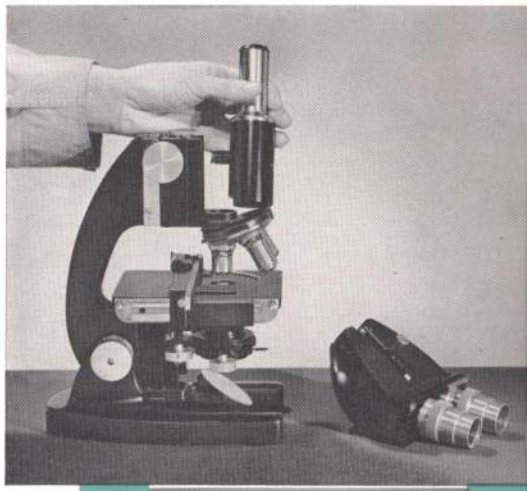
Binocular bodies, all Balcoted, are supplied with unit magnification permitting larger field size, and greater illumination with the same amount of light than those with a magnification factor. Eyepieces are parallel so that ocular muscles are fully relaxed and images are fused normally and easily.

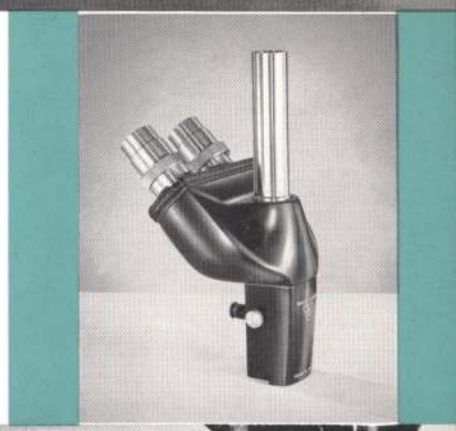
Illumination is always in complete balance between the two sides of the binocular body. Prism mounts are extremely strong to insure that prisms will remain in alignment and the two images perfectly superimposed.

Adjustment for interpupillary distance is made speedily and accurately by means of a knurled adjusting ring which moves both eyepiece tubes. A millimeter scale enables the observer to select his correct adjustment at any time merely by setting to the known scale reading. Parallel eyepieces assure a constant interpupillary distance for any length eyepiece.

One eyepiece can be independently focused to compensate for the difference in visual acuity between the eyes.

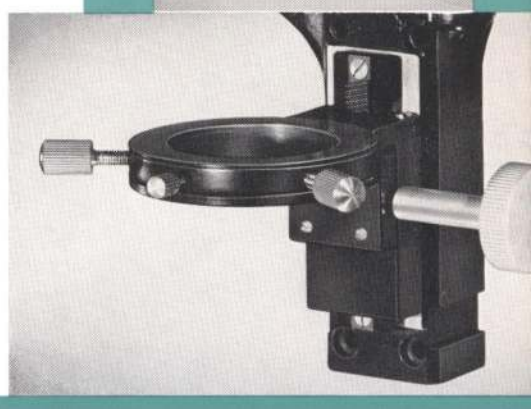
The Bausch & Lomb Triocular Body combines all the recognized advantages of an inclined binocular body for visual use with the convenience of a vertical monocular tube for quick attachment of a camera for photomicrography. Visual observation at the binocular eyepieces is continuous and uninterrupted even during the actual photographic exposure. The Triocular Body, which doubles the normal eyepiece-times objective magnification, can be rotated through 360° and locked in any position. Body rotation is helpful in orienting the specimen in relation to the picture frame as well as permitting most comfortable operation for the particular camera being used.





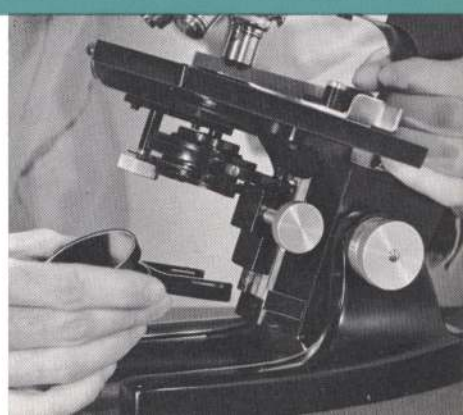
Simple Centering Substage

Any *Dynoptic* microscope with rack and pinion substage can be optionally fitted with the simple centering substage, to achieve the ultimate in precise coaxial alignment of condenser and objective so necessary for work requiring the highest order of optical efficiency. Two thumbscrews bear against the inner ring of the substage mount and can be adjusted to effect a centering movement of approximately 2mm range. A clamp screw secures the condenser in position.



Quick On-and-off Mirror Bracket

All *Dynoptic* models have a fork quick on-and-off mirror bracket as standard equipment. This bracket straddles the substage post in grooves machined to provide a close bind-free fit. A slot in each side of the bracket permits maintaining the desired pressure. There is no sagging or shifting of the mirror, which is firmly held in line but instantly removable. Mirror is the Bausch & Lomb standard high quality 55mm diameter, plano-concave.



Need and expected use are the determining factors in the choice of a microscope. The following information is intended to be helpful in selecting a specific instrument from among the many models listed on the succeeding pages.

TO HELP YOU CHOOSE the right model microscope

FPD-2

FPM-7

FPH-8

It is possible to divide the Bausch & Lomb line of compound laboratory microscopes into several groups based on their mechanical and optical design and end use.

GROUP I. Elementary Student and Laboratory Microscopes.

In this group are the lower cost Series *F* models, the basic instruments in the versatile Dynoptic Laboratory Microscope line. Several models are pictured at left and the entire series is fully described on pages 20-21. These instruments are of the same sturdy, ball-bearing construction as the more advanced models, lacking only the accessories for more complex work. A binocular body can be substituted for the monocular tube, at any time, by simple screwdriver adjustment.

These instruments are most frequently used for elementary biological work by:

1. High School Science Laboratories.
2. Elementary College Science Laboratories in the study of biology, botany and zoology.
3. Hobbyists and amateur microscopists.

All B&L microscopes in this category are monocular types of standard size and are operated in the conventional manner. This group can be provided with optical combinations providing magnifications equal to those of the more advanced instruments. However, magnifications most commonly desired are up to 430×.

The optical combinations most frequently selected in Group I consist of two objectives:

16mm, 10× (low power, dry)
4mm, 43× (high power, dry)

and one eyepiece, 10×, providing magnifications of 100× and 430×. A lower power objective may be desired for botanical studies or other observations where a larger field of view and lower magnification become useful. Other eyepieces above and below 10× are available to increase the range of magnifications with microscopes in Group I.

The design versatility of the *Dynoptic* Series *F* microscopes in Group I permits the use of the 97×, 1.25 N.A. oil immersion objec-

tive, since a condenser of 1.25 N.A. can be supplied in a simple mount at the time of purchase, or added at a later date. This permits their use for some advanced work in the biological sciences, where magnifications in the order of 1000× are required, such as histology, hematology, bacteriology, embryology, and cytology.

While a mechanical stage is not always required, it can be added by the user if desired without returning the instrument to the factory.

GROUP II. Advanced Student, Laboratory and Medical Microscopes.

These more elaborate and versatile instruments make up the balance of the microscopes described in this catalog. They consist of the Series *C* monocular microscopes, Series *T* binocular microscopes and Series *TT* Triocular microscopes. All of these instruments are supplied with the rack and pinion substage for the 1.25 N.A. substage condenser. A mechanical stage for precise movement of the specimen slide is desirable in most instances.

These instruments are most frequently used by:

1. Advanced college science laboratories in the study of: Biology, Botany, Zoology, Entomology, Cytology, Anatomy, Bacteriology, Pathology and Histology — both visual observation and photographic use.
2. Public Health and Hospital Laboratories for Hematology, Urology, Pathology and Bacteriology.

The optical combination most frequently selected for general use consists of three objectives:

16mm, 10×, 0.25 N.A. (low power, dry)
4mm, 43×, 0.65 N.A. (high power, dry)
1.8mm, 97×, 1.25 N.A. (high power, oil immersion)

With the above objectives on monocular and binocular microscopes 5× and 10× Huygenian Eyepieces give 50× to 970× magnifications. Where a larger field of view is a controlling factor 10× Wide Field Eyepieces are often preferred on Triocular Microscopes. 5× Huygenian give the same magnification and field of view as the 10× Wide Fields.

Sometimes a lower power "finder" objective or "scanning lens" is desirable for field searching. Several microscope models are available with such a 3.5× objective.

In addition to the standard instruments listed in this catalog certain optical modifications of these standard models are required for a number of specialized applications. Space does not permit a complete listing of these instruments. However, separate catalogs will be sent on request.

Among these are microscopes for:

Mold and bacteria counts in food examinations, particle size determinations and analyses, textile and paper analyses, micro-projection and photomicrography, polarized light observations, quality control and process engineering in industry.

CBV-8

TBV-8

TBV-69

TTBV-69

The logic behind B&L model numbers

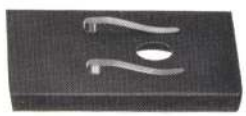
In referring to the *Dynoptic* Laboratory Microscopes, alphabetical model designations are much simpler to use than complicated catalog numbers. These model tags may seem confusing and merely arbitrary substitutes for catalog numbers. But, actually there is a rational system which determines the groupings. You may be interested to learn just how it works.

The various principal parts which are used in assembling the many available models are indicated in the illustrations below. The stand, left, is common to all models and has no alphabetical tag. The binocular body and the two forms of monocular tubes are assigned the letters *T* for inclined binocular, *TT* for Triocular combining inclined binocular eyepieces and vertical monocular eyepiece for photomicrography, *C* for Convertible monocular that can be converted to binocular use without tools, and *F* for semi-fixed monocular, convertible to binocular use in your lab by screwdriver adjustment. Stages are *P* for Plain; *B* for Built-on ungraduated mechanical, and *G* for Graduated mechanical.

Substage equipment may consist of simply an iris diaphragm or any of the condensers shown. If the condenser requires a rack and pinion substage, it is furnished.

BASIC STAND

F—Monocular Tube
Convertible to binocular use by screwdriver adjustment



P—Plain Stage

Ring Adapter

D—Iris Diaphragm

H—*Verti-slide* Condenser

Condenser Sleeve

S—Abbe Condenser

M—Medium Aperture Condenser

With these sketches and their applicable alphabetical designations it is a simple matter to indicate which equipments are wanted. For instance, you may want to buy a microscope with binocular body, a graduated mechanical stage, and medium aperture condenser, so you indicate a model:—*T* for Tilted body; *G* for Graduated mechanical stage; and *M* for Medium aperture condenser, so the model is *TGM*. Or suppose you want a semi-fixed monocular, Plain stage model with iris Diaphragm—it's an *FPD*.

Any combination desired can be supplied. In indicating the combination you want, disregard naming the stand—that is basic to all. Then select either and *F*, *C*, *T*, or *TT* tube or body, a *P*, *B*, or *G* stage and *D*, *H*, *S*, *M*, *R*, *V* or *L* substage equipment, naming them in that sequence.

The ring adapter will accommodate either the *D* iris Diaphragm, or the *H Verti-slide* condenser. The condenser sleeve is used with either the *S* Abbe condenser, or the *M* Medium aperture condenser. The rack and pinion substage mount will receive either the *R* Abbe condenser, or the *V* Variable focus condenser.

Special optical and mechanical equipment is best selected through discussion with B&L or dealer representatives.

So, by this logical method, your microscope is reduced to a sensible, basic formula.

C—Monocular Tube Convertible to binocular use without tools

T—Inclined Binocular Body

TT—Triocular Body

C, T, and TT are easily interchangeable

B—Ungraduated Mechanical Stage

G—Graduated Mechanical Stage

Rack & Pinion Substage Mount—

V—Upper & Lower Elements Variable Focus Condenser

R—Abbe Condenser

L—*Opti-lume* Attachable Illuminator With Bracket

series T

TBV-8

TPV-9

TPR-8

TBV-69

The Binocular Body Series. With Balcoted Optics. Monocular tube available at extra cost for measuring and micro-projection.

For advanced biological work, medical study and diagnosis, as a general purpose microscope in industrial laboratories and wherever the comfort of binocular vision is desirable.

All models in this series have parallel eyepiece tubes; matched rack and pinion coarse adjustment; ball-bearing and roller low position fine adjustment with one micron divisions; *Roto-sphere* ball-bearing, ball-stop, precentered nosepiece; rack and pinion substage with full 360-degree ring mount for condenser; plano-concave mirror in fork quick-on bracket; alcohol- and reagent-resistant black finish; hardwood cabinet.

STANDARD MODELS—all Balcoted Optics

Model No.	Stage	Substage 1.25 N.A. Condenser	Objectives	Eyepieces (Paired)
TBV-8	Mech.	Var. Focus	10X, 43X, 97X Achromatic in Triple Nosepiece	Huygenian: 5X (long eye-relief), 10X
TBR-8		Abbe		
TPV-8	Plain	Var. Focus		
TPR-8		Abbe		
TBV-9	Mech.	Var. Focus	3.5X, 10X, 43X, 97X Achromatic in Quadruple Nosepiece	
TBR-9		Abbe		
TPV-9	Plain	Var. Focus		
TPR-9		Abbe		
TBV-69	Mech.	Var. Focus		Widefield 10X
TBR-59		Abbe	10X, 43X, 97X Ach., in Trip. Nosepiece	
TBV-10	Mech.	Var. Focus	10X, 43X Achro. 98X Fluorite in Triple Nosepiece	Huygenian: 5X (long eye-relief), 10X
TBR-10		Abbe		

Optional accessories, including Opti-lume integral illuminator and Micro-Lite on pages 22-23.

series TT

TTBV-69

The Triocular Body Series with Balcoted Optics. For special applications the Triocular Body can be replaced (with a simple screwdriver adjustment) by a vertical monocular tube, available at extra cost.

For advanced biological work, medical study and diagnosis, as a general purpose microscope in industrial laboratories and wherever the comfort of binocular vision is desirable. Plus the convenience of a vertical monocular tube for quick attachment of a camera for permanent recording of the visual image.

All models in this series have parallel binocular eyepiece tubes for greater visual comfort, and a monocular, vertical, photomicrographic tube for camera attachment (2× magnification in visual and photographic tubes); body readily interchangeable with visual binocular body and visual monocular tube by screwdriver adjustment; matched rack and pinion coarse adjustment; ball-bearing and roller low position fine adjustment, with one micron divisions; Roto-sphere ball-bearing, ball-stop, precentered nosepiece; rack and pinion substage with full 360 degree ring mount for condenser; plano-concave mirror in fork quick-on bracket; alcohol- and reagent-resistant black finish; hardwood cabinet.

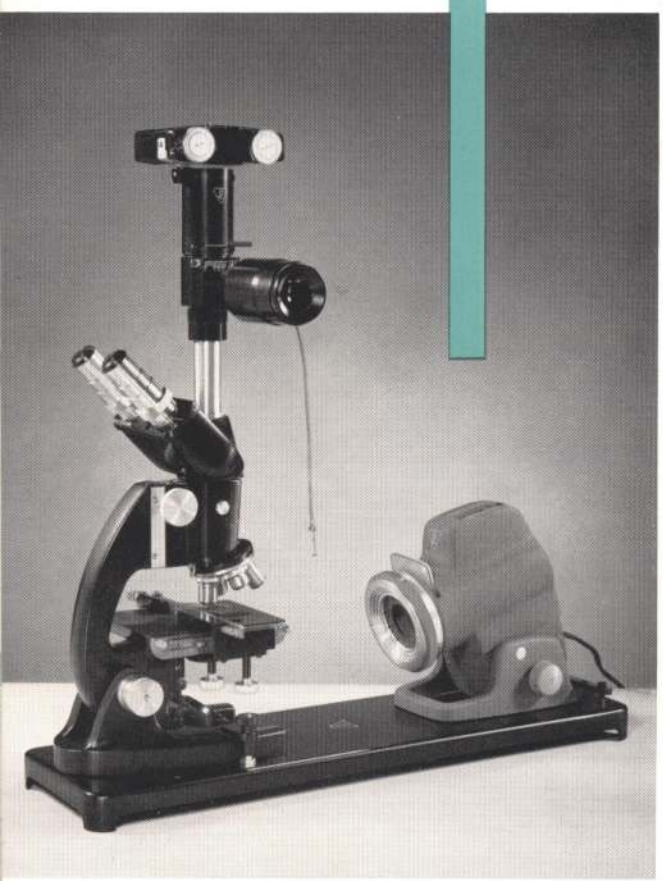
TTBR-59

STANDARD MODELS—All Balcoted Optics

Model No.	Stage	Substage 1.25 N.A. Condenser	Objectives Achromatic Parfocal	Eyepieces
TTBR-58	Mech.	Abbe	10X, 43X 97X in Triple Nosepiece	Three 5X (Long eye-relief), Huygenian
TTBR-59				Three 10X Widefield
TTBV-69		Variable Focus	3.5X, 10X, 43X, 97X in Quadruple Nosepiece	
TTBV-79				Three 5X (Long eye-relief), Huygenian

The series of Professional Type Microscope Illuminators recommended for Triocular Microscopes is shown in catalog D-119, available on request.

Photomicrographic Cameras and the Triocular



Dynoptic Triocular Microscopes and Bausch & Lomb Cameras team up perfectly for speedy, top quality photomicrographic work. Time-saving, short exposures are assured by the B&L design of the Triocular optical system. Here 80% of the source illumination is delivered to the camera tube, the remaining 20% giving ample light for visual work with the Bausch & Lomb high intensity illuminators.

Visual observation at the binocular eyepieces is continuous and uninterrupted, even during the photographic exposure, and is made at a comfortable light intensity, without need of filters — from low power scanning through the high power oil immersion.

Flare-free, sharp contrast images are assured with the Balcoted Triocular optics. The observer can rotate the body over a full 360° for orienting the specimen in relation to the picture frame, and quickly lock the body for the most comfortable viewing position.

The Triocular Body doubles the normal magnification. When using a bellows type camera this feature gives higher magnification without extending the bellows to its very limit.

With the Model N Eyepiece Camera

Convenient and effortless results of high quality are easily accomplished with instrumentation composed of a Triocular Microscope, Model N Eyepiece Camera, Professional Microscope Illuminator and the Metal Baseboard. The Eyepiece Camera has its own viewer forming an aerial image on a clear glass. Sharp focus at the film even with fine detail specimens, as bacteria, is certain. When not in use the viewer can be swung out of position.

The N Camera has a ½× factor, which, coupled with the 2× factor of the Triocular Body results in normal (eyepiece times objective) magnification at the film plane. To take pictures 35mm or 2¼ in. x 3¼ in., either the Triocular Body is rotated until the Camera Viewer is at proper position, or, the camera can be rotated. By orienting the Camera Viewer and the Triocular Body so that the Viewer and Binocular Eyetubes are at an angle to each other, two or more can observe the specimens at one time. In this conference type viewing, areas of interest in the specimen can be discussed and choices for photographing made.

While not required it is generally preferred that the visual

Microscope

and photographic eyepieces be of the same power. If they are parfocal and similar, little additional focusing from the visual is necessary at the Viewer, except to accommodate for acuity differences in individuals.

Illuminators

For routine black and white pictures, 35mm or 2¼ in. x 3¼ in., the Model PG-26 Professional Microscope Illuminator gives very satisfactory results with the Model N Eyepiece Camera. For best pictures in black and white or color, 35mm or larger, the Model PR-27 Illuminator is ideal. Evenly distributed, concentrated illumination is provided by the 6-v., 108-watt ribbon filament lamp.

The Metal Baseboard has clamps at each end which firmly hold the microscope and illuminator in their correct position, without disturbance of their alignment.

With the Model L Camera

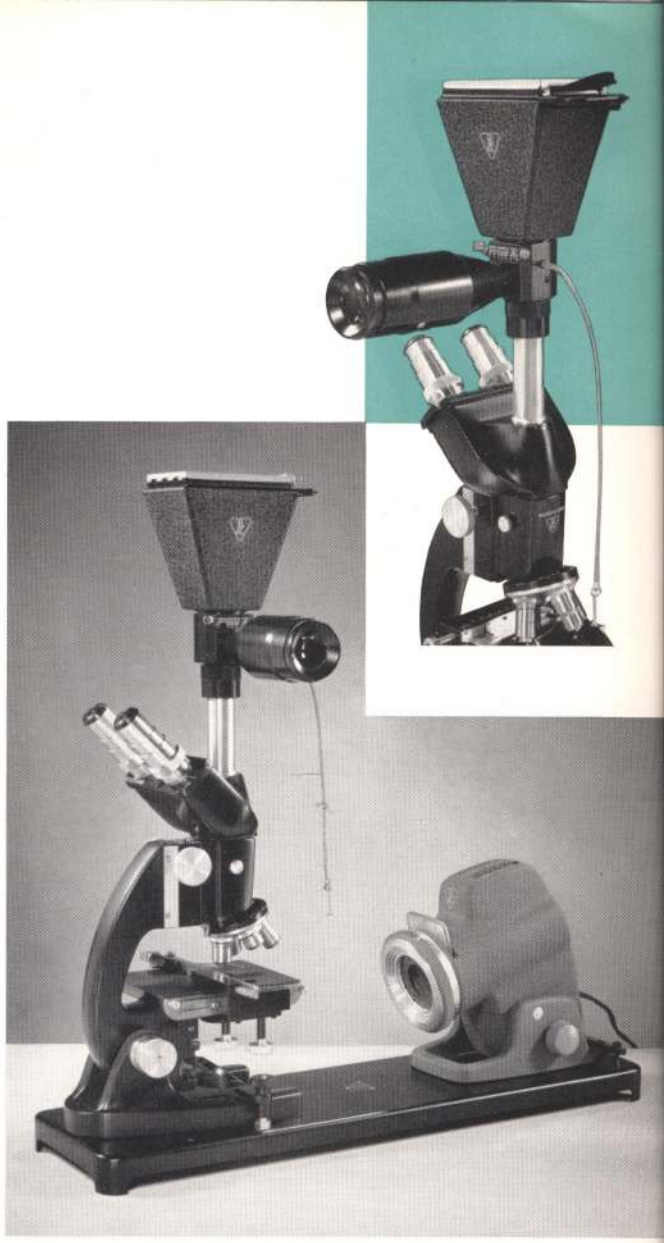
Speed, convenience and versatility make this 5 in. x 7 in. Camera standard equipment wherever there is a fair volume and variety of photomicrographic work. Visual observation at the binocular eyepieces of a Triocular microscope is done while comfortably seated and in position to check the focus at the ground glass of the reflex back. A Polaroid Land Camera Attachment with Reflex Back and a 35mm Camera Attachment are offered optionally. The camera is carried on a double slide optical bed on the upright column. The proper bellows extension can be established and locked, then the entire unit, including the optical bed raised or lowered without disturbing the bellows setting.

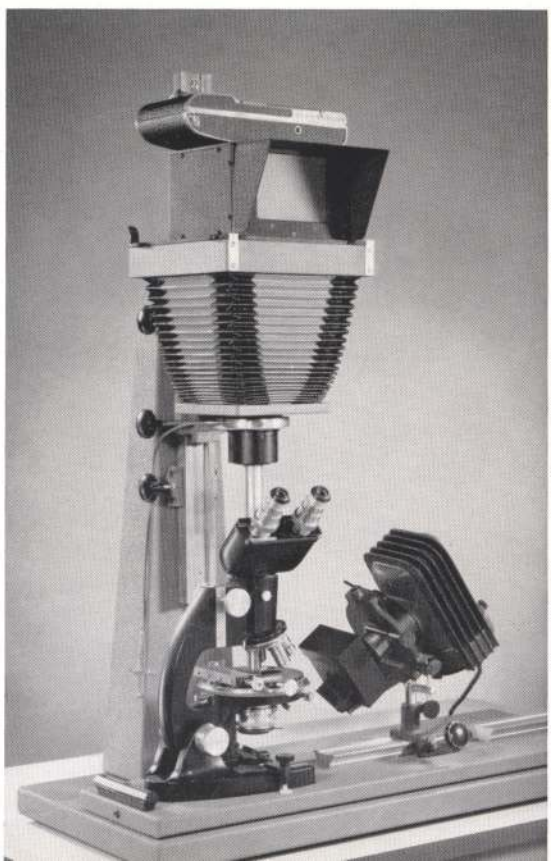
In addition to the microscope base clamps and stop, the baseboard carries a two section optical bed. To the sections are clamped the various accessories, stages and illuminating units, rigidly positioned in proper alignment.

Illuminating Equipment

For high power photomicrography with a Dynoptic Triocular Microscope there is a choice of ribbon filament or mechanical feed arc illuminator.

The Model L is completely described in Bausch & Lomb catalog E-210 which will be furnished on request to your B&L dealer or to the Company at Rochester, New York.





series C

CBV-8

CPV-9

The Convertible Monocular Tube Series With Balcoted Optics. Interchangeable Triocular or binocular body available at extra cost.

Particularly adapted to photomicrography, where simultaneous visual observation is not required, for biological work, medical diagnosis, bacteriology, and blood counting.

All models in this series have matched rack and pinion coarse adjustment; ball-bearing and roller low position fine adjustment with one micron divisions; *Roto-sphere* ball-bearing, ball-stop, precentered nosepiece; rack and pinion substage with full 360-degree ring mount for condenser; plano-concave mirror in fork quick-on bracket; alcohol- and reagent-resistant black finish; hardwood cabinet.

CBV-9

STANDARD MODELS—all Balcoted Optics

Model No.	Stage	Substage 1.25 N.A. Condenser	Objectives	Eyepieces (Huygenian)
CPV-6	Plain	Var. Focus	10X, 43X Achromatic in Double Nosepiece	5X (long eye-relief), 10X
CPR-6		Abbe		
CBV-8	Mech.	Var. Focus	10X, 43X, 97X Achromatic in Triple Nosepiece	
CBR-8		Abbe		
CPV-8	Plain	Var. Focus		
CPR-8		Abbe		
CBV-9	Mech.	Var. Focus	3.5X, 10X, 43X, 97X Achromatic in Quadruple Nosepiece	
CBR-9		Abbe		
CPV-9	Plain	Var. Focus		
CPR-9		Abbe		

CPR-8

Optional accessories, including Opti-lume integral illuminator and Micro-Lite on pages 22-23.

series F with Plain Substage

FPD-2

FPM-7

The Monocular Tube Series with Balcoted Optics. Tube is interchangeable with a binocular or Triocular body by screwdriver adjustment.

Recommended for elementary botany, zoology and biology in high schools and colleges.

All models in this series have matched rack and pinion coarse adjustment; ball-bearing and roller low position fine adjustment with one micron divisions; *Roto-sphere* ball-bearing, ball-stop, precentered nosepiece; plain substage; plano-concave mirror in fork quick-on bracket; alcohol- and reagent-resistant black finish; in hardwood cabinet. Standard models listed below are with plain stage but a removable mechanical stage, either graduated or ungraduated, can be supplied.

FPH-8

FPS-6

FPS-8

STANDARD MODELS—all Balcoted Optics

Model No.	Stage	Substage Equipment	Achromatic Objectives	Eyepieces (Huygenian)
FPD-2	Plain	Iris Diaphragm	10X, 43X in Dbl. Nosepiece	10X
FPM-5		.70 N.A. Condenser In Sleeve Mount	4X, 10X, 43X in Triple Nosepiece	5X (long eye-relief), 10X
FPM-7			3.5X, 10X, 43X in Triple Nosepiece	
FPS-6		Abbe 1.25 N.A. Condenser in Sleeve Mount	10X, 43X in Double Nosepiece	
FPS-8			10X, 43X, 97X in Triple Nosepiece	
FPH-8		Var. Focus Cond. in Tubular Mount		

Optional accessories, including Opti-lume integral illuminator and Micro-Lite on pages 22-23.

Optional equipment

Opti-lume attachable integral illuminator for binocular microscopes

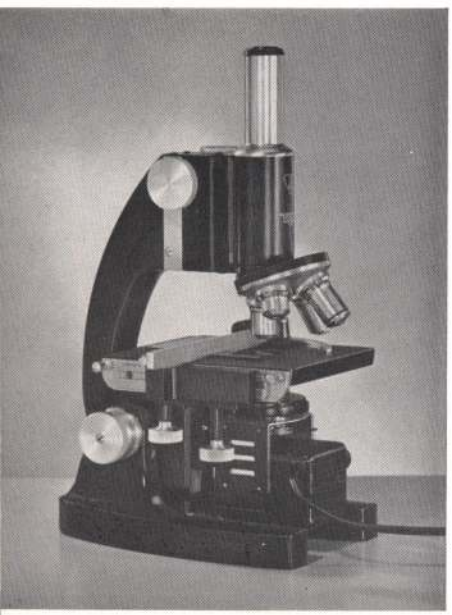
Designed primarily to provide the additional light required for all types of binocular microscope applications, from low power to oil immersion, this illuminator is also ideal for use with monocular microscopes when examining thick, heavily stained specimens. The field of view for any objective is completely and uniformly illuminated when the *Opti-lume* is attached to either an Abbe or Variable Focus Condenser. To fill the field of low power objectives when the *Opti-lume* is used separate from the microscope it is essential that the microscope be fitted with the Variable Focus Condenser.

Featuring an aluminized metal reflector, spherical condenser, and frosted white or blue glass, it will supply over three times more light than others at all comparable in price.

Easily and quickly attached to the microscope by means of a U-shaped bracket with a tongue and groove fitting into two sides of the lamphouse, the *Opti-lume* focuses with the substage condenser and tilts with the microscope. Attachment to the tubular condenser is by means of the same bracket.

Travel of the substage condenser is not limited in any way. The illuminator assembly is feather-light, eliminating all danger of increased wear on rack and pinion substages.

Sturdy, compact, and inexpensive, the *Opti-lume* has a simply designed phenolic lamphouse with ventilating louvers. A shield around the lamp, and space between the illuminator and the stage, prevent heat damage to specimens. The lamp is 115-v., 15-w., clear, medium screw base, available wherever commercial lamps are sold. A built-in switch is provided.



Microscope Cases

All microscopes listed in this catalog are supplied in hardwood case. The case is solid cherry, in natural finish, and is a beautiful example of the cabinetmaker's art. It is equipped with lock and key and is designed to accommodate both the microscope and equipment listed with it.

A blue, leatherette-covered, horizontal, professional type carrying case is also available, either as an extra, or in place of the hardwood cabinet at extra cost. Case is equipped with lock and fasteners and like the hardwood case, will accommodate microscope and equipment listed with it.

(Microscopes can be supplied without hardwood or 'leatherette' case and shipped in a corrugated carton. See price list for case allowance.)

Opti-lume attachable integral illuminator for monocular microscopes

This standard *Opti-lume* is designed to provide adequate illumination for examinations with a monocular microscope. It features the same desirable advantages listed for the binocular microscope *Opti-lume*, with the exception of the spherical condenser and aluminized reflector.

**Both the binocular and monocular microscope Opti-lumes can be used separate from the microscope, with a mirror.*

The *Opti-lume* for use on Series F Microscopes with plain substage.

(To attach the Opti-lume to microscopes with D, S, or M substage the H-bracket is used in place of the mirror.)

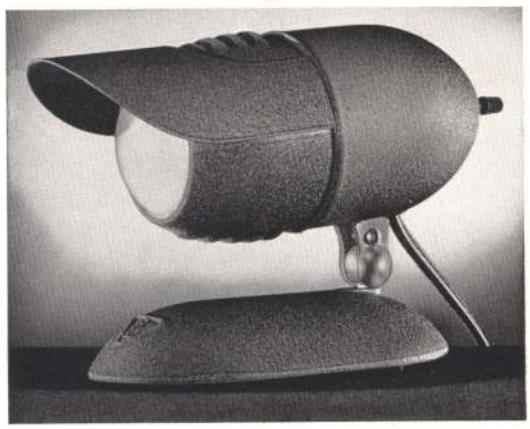
Micro-Lite

Here is an abundance of illumination for your transparent specimen work, in convenient form and at an attractively low price. The *Micro-Lite* is compact (only 9″ x 3½″), lightweight (just over 2 lbs. including cord), and uses an ordinary 60-watt lamp, obtainable practically everywhere.

Louvers on the top and bottom permit flow of air around the lamp and prevent overheating of the lamphouse. The ball and socket joint, pressure controlled, permits directing the light in any direction.

The condensing lens is of the bull's-eye type with one surface ground to provide evenly diffused illumination. A blue filter behind the condenser produces light of about daylight quality, and an anti-glare shield above the lens completely protects the user's eyes from stray light.

A built-in switch with 6 ft. of Underwriters approved cord is provided. You simply plug it into any 115-120-volt light circuit and it's ready to go to work. The base, heavy enough to prevent tipping over, has four felt-padded feet to protect table tops.



The *Micro-Lite*

Hardwood

Professional

TERMS AND PROCEDURE

CATALOG NUMBERS

When ordering, be sure to give catalog number and name of item.

FINANCIAL STANDING

To avoid a delay, a purchaser with whom Bausch & Lomb has not previously transacted business should accompany his first order with commercial references or remittance in cash.

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Unless otherwise stated on a B&L quotation, all consumer purchases, except repairs, will be shipped transportation charges prepaid to any point within Continental United States of America. Other-than-consumer purchases, all repairs, and goods for delivery outside the above specified area will be shipped f.o.b. Rochester, N. Y., U. S. A. The shipping charges on products sent on memorandum are not prepaid. There is no charge for packing unless otherwise stated. Products made on special order cannot be forwarded C. O. D.

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Electrical equipments for use on voltages other than those listed are available on special order. Send complete specifications for quotations.

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Bausch & Lomb reserves the right to make changes in instrument design in accordance with scientific progress, and to supply apparatus resultingly different from that described or illustrated in its literature.

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February 1, 1959

BAUSCH & LOMB

DYNOPTIC LABORATORY MICROSCOPES

Catalog D-185

SERIES F

Monocular Dynoptic Laboratory Microscope; Balcoted optics; monocular tube is interchangeable, by screwdriver adjustment, for use with an inclined binocular body or Triocular body; coarse focusing by extra-wide diagonal-cut rack and pinion; Dua-rol low position ball bearing fine focusing adjustment graduated in 1.0 micron divisions; plain stage 140mm x 117mm, with stage clips; plain substage equipment; plano-concave mirror in quick-on bracket; plastic dust cover, reference manual, hardwood cabinet, with lock and key. Accessory equipment as follows:

MODEL FPD-2, Cat. No. 31-20-10-02.....$253.50

10× Huygenian eyepiece; double revolving Roto-sphere nosepiece; parfocal achromatic objectives 10×, 16mm, 0.25 N.A., and 43×, 4mm, 0.65 N.A.; substage iris diaphragm.

MODEL FPM-5, Cat. No. 31-20-10-05.....$302.50

5× long eye-relief and 10× Huygenian eyepieces; triple revolving Roto-sphere nosepiece; achromatic objectives 4×, 32mm, 0.10 N.A.; parfocal 10×, 16mm, 0.25 N.A., and 43×, 4mm, 0.65 N.A.; substage condenser 0.70 N.A. with iris in focusing sleeve mount.

MODEL FPM-7, Cat. No. 31-20-10-07.....$311.00

5× long eye-relief and 10× Huygenian eyepieces; triple revolving Roto-sphere nosepiece; parfocal achromatic objectives 3.5×, 30mm, 0.09 N.A.; 10×, 16mm, 0.25 N.A., and 43×, 4mm, 0.65 N.A.; substage condenser 0.70 N.A. with iris in focusing sleeve mount.

MODEL FPS-6, Cat. No. 31-20-10-06.....$282.00

5× long eye-relief and 10× Huygenian eyepieces; double revolving Roto-sphere nosepiece; parfocal achromatic objectives 10×, 16mm, 0.25 N.A., and 43×, 4mm, 0.65 N.A.; substage Abbe 1.25 N.A. divisible condenser with iris in focusing sleeve mount.

MODEL FPS-8, Cat. No. 31-20-10-38.....$353.50

5× long eye-relief and 10× Huygenian eyepieces; triple revolving Roto-sphere nosepiece; parfocal achromatic objectives 10×, 16mm, 0.25 N.A.; 43×, 4mm, 0.65 N.A., and 97×, 1.8mm, 1.25 N.A. oil immersion; substage Abbe 1.25 N.A. divisible condenser with iris in focusing sleeve mount.

MODEL FPH-8, Cat. No. 31-20-10-08.....$366.50

5× long eye-relief and 10× Huygenian eyepieces; triple revolving Roto-sphere nosepiece; parfocal achromatic objectives 10×, 16mm, 0.25 N.A.; 43×, 4mm, 0.65 N.A., and 97×, 1.8mm, 1.25 N.A. oil immersion; substage Variable Focus Condenser 1.25 N.A. with iris in focusing tubular mount, permitting continuous control of illumination.

Graduated drawtube, instead of fixed length tube, can be supplied on monocular microscopes, at $5.50 additional.

SERIES C

Monocular Dynoptic Laboratory Microscope; Balcoted optics; monocular tube readily interchangeable, by large knurled hand screw, for use with an inclined binocular body or Triocular body; coarse focusing by extra-wide diagonal-cut rack and pinion; Dua-rol low position ball-bearing fine focusing adjustment, graduated in 1.0 micron divisions; stage 140mm x 117mm; full 360 degree substage ring mount, focusable by rack and pinion, to accommodate condenser; plano-concave mirror in quick-on bracket; plastic dust cover, reference manual, hardwood cabinet with lock and key. Accessory equipment as follows:

MODEL CPV-6, Cat. No. 31-20-53-06.....$307.00

5× long eye-relief and 10× Huygenian eyepieces; double revolving Roto-sphere nosepiece; parfocal achromatic objectives 10×, 16mm, 0.25 N.A., and 43×, 4mm, 0.65 N.A.; Variable Focus Condenser 1.25 N.A. with iris in rack and pinion mount, permitting continuous control of illumination.

MODEL CPR-6, Cat. No. 31-20-59-06.....$300.00

5× long eye-relief and 10× Huygenian eyepieces; double revolving Roto-sphere nosepiece; parfocal achromatic objectives 10×, 16mm, 0.25 N.A., and 43×, 4mm, 0.65 N.A.; Abbe 1.25 N.A. divisible condenser with iris in rack and pinion mount.

MODEL CBV-8, Cat. No. 31-20-63-08.....$428.50

5× long eye-relief and 10× Huygenian eyepieces; triple revolving Roto-sphere nosepiece; parfocal achromatic objectives 10×, 16mm, 0.25 N.A.; 43×, 4mm, 0.65 N.A., and 97×, 1.8mm, 1.25 N.A. oil immersion; ungraduated mechanical stage with low position controls and vacuum-spring slide holder; Variable Focus Condenser 1.25 N.A. with iris in rack and pinion mount, permitting continuous control of illumination.

MODEL CBR-8, Cat. No. 31-20-60-08.....$421.50

5× long eye-relief and 10× Huygenian eyepieces; triple revolving Roto-sphere nosepiece; parfocal achromatic objectives 10×, 16mm, 0.25 N.A.; 43×, 4mm, 0.65 N.A., and 97×, 1.8mm, 1.25 N.A. oil immersion; ungraduated mechanical stage with low position controls and vacuum-spring slide holder; Abbe 1.25 N.A. divisible condenser with iris in rack and pinion mount.

MODEL CPV-8, Cat. No. 31-20-53-08.....$378.50

5× long eye-relief and 10× Huygenian eyepieces; triple revolving Roto-sphere nosepiece; parfocal achromatic objectives 10×, 16mm, 0.25 N.A.; 43×, 4mm, 0.65 N.A., and 97×, 1.8mm, 1.25 N.A. oil immersion; plain stage with stage clips; Variable Focus Condenser 1.25 N.A. with iris in rack and pinion mount, permitting continuous control of illumination.

MODEL CPR-8, Cat. No. 31-20-59-08.....**$371.50**

5× long eye-relief and 10× Huygenian eyepieces; triple revolving Roto-sphere nosepiece; parfocal achromatic objectives 10×, 16mm, 0.25 N.A.; 43×, 4mm, 0.65 N.A., and 97×, 1.8mm, 1.25 N.A. oil immersion; plain stage with stage clips; Abbe 1.25 N.A. divisible condenser with iris in rack and pinion mount.

MODEL CBV-9, Cat. No. 31-20-63-09.....**$456.00**

5× long eye-relief and 10× Huygenian eyepieces; quadruple revolving Roto-sphere nosepiece; parfocal achromatic objectives 3.5×, 30mm, 0.09 N.A.; 10×, 16mm, 0.25 N.A.; 43×, 4mm, 0.65 N.A., and 97×, 1.8mm, 1.25 N.A. oil immersion; ungraduated mechanical stage with low position controls and vacuum-spring slide holder; Variable Focus Condenser 1.25 N.A., with iris in rack and pinion mount, permitting continuous control of illumination.

MODEL CBR-9, Cat. No. 31-20-60-09.....**$449.00**

5× long eye-relief and 10× Huygenian eyepieces, quadruple revolving Roto-sphere nosepiece; parfocal achromatic objectives 3.5×, 30mm, 0.09 N.A.; 10×, 16mm, 0.25 N.A.; 43×, 4mm, 0.65 N.A., and 97×, 1.8mm, 1.25 N.A. oil immersion; ungraduated mechanical stage with low position controls and vacuum-spring slide holder; Abbe 1.25 N.A. divisible condenser with iris in rack and pinion mount.

MODEL CPV-9, Cat. No. 31-20-53-09.....**$406.00**

5× long eye-relief and 10× Huygenian eyepieces, quadruple revolving Roto-sphere nosepiece; parfocal achromatic objectives 3.5×, 30mm, 0.09 N.A.; 10×, 16mm, 0.25 N.A.; 43×, 4mm, 0.65 N.A., and 97×, 1.8mm, 1.25 N.A. oil immersion; plain stage with stage clips; Variable Focus Condenser 1.25 N.A. with iris in rack and pinion mount, permitting continuous control of illumination.

MODEL CPR-9, Cat. No. 31-20-59-09.....**$399.00**

5× long eye-relief and 10× Huygenian eyepieces, quadruple revolving Roto-sphere nosepiece; parfocal achromatic objectives 3.5×, 30mm, 0.09 N.A.; 10×, 16mm, 0.25 N.A.; 43×, 4mm, 0.65 N.A. and 97×, 1.8mm, 1.25 N.A. oil immersion; plain stage with stage clips; Abbe 1.25 N.A. divisible condenser with iris in rack and pinion mount.

Graduated drawtube, instead of fixed length tube, can be supplied on monocular microscopes, at $5.50 additional.

SERIES T

Inclined binocular Dynoptic Laboratory Microscope; Balcoted optics; parallel binocular eyepiece tubes for greater visual comfort; binocular body readily interchangeable, by large knurled hand screw, for use with a monocular tube for photomicrography and micro-projection; coarse focusing by extra wide diagonal-cut rack and pinion; Dua-rol low position ball-bearing fine focusing adjustment graduated in 1.0 micron divisions; stage 140mm x 117mm; full 360 degree substage ring mount, focusable by rack and pinion, to accommodate condenser; plano-concave mirror in quick-on bracket; plastic dust cover, reference manual, hardwood cabinet with lock and key. Accessory equipment as follows:

MODEL TBV-8, Cat. No 31-20-65-08.....**$645.00**

Paired 5× long eye-relief and 10× Huygenian eyepieces; triple revolving Roto-sphere nosepiece; parfocal achromatic objectives 10×, 16mm, 0.25 N.A.; 43×, 4mm, 0.65 N.A., and 97×, 1.8mm, 1.25 N.A. oil immersion; ungraduated mechanical stage with low position controls and vacuum-spring slide holder; Variable Focus Condenser 1.25 N.A. with iris in rack and pinion mount, permitting continuous control of illumination.

MODEL TBR-8, Cat. No. 31-20-62-08.....**$638.00**

Paired 5× long eye-relief and 10× Huygenian eyepieces; triple revolving Roto-sphere nosepiece; parfocal achromatic objectives 10×, 16mm, 0.25 N.A.; 43×, 4mm, 0.65 N.A., and 97×, 1.8mm, 1.25 N.A. oil immersion; ungraduated mechanical stage with low position controls and vacuum-spring slide holder; Abbe 1.25 N.A. divisible condenser, with iris in rack and pinion mount.

MODEL TPV-8, Cat. No. 31-20-55-08.....**$595.00**

Paired 5× long eye-relief and 10× Huygenian eyepieces; triple revolving Roto-sphere nosepiece; parfocal achromatic objectives 10×, 16mm, 0.25 N.A.; 43×, 4mm, 0.65 N.A., and 97×, 1.8mm, 1.25 N.A. oil immersion; plain stage with stage clips; Variable Focus Condenser 1.25 N.A. with iris in rack and pinion mount, permitting continuous control of illumination.

MODEL TPR-8, Cat. No. 31-20-61-08.....**$588.00**

Paired 5× long eye-relief and 10× Huygenian eyepieces; triple revolving Roto-sphere nosepiece; parfocal achromatic objectives 10×, 16mm, 0.25 N.A.; 43×, 4mm, 0.65 N.A., and 97×, 1.8mm, 1.25 N.A. oil immersion; plain stage with stage clips; Abbe 1.25 N.A. divisible condenser with iris in rack and pinion mount.

MODEL TBV-9, Cat. No. 31-20-65-09.....**$672.50**

Paired 5× long eye-relief and 10× Huygenian eyepieces; quadruple revolving Roto-sphere nosepiece; parfocal achromatic objectives 3.5×, 30mm, 0.09 N.A.; 10×, 16mm, 0.25 N.A.; 43×, 4mm, 0.65 N.A., and 97×, 1.8mm, 1.25 N.A. oil immersion; ungraduated mechanical stage with low position controls and vacuum-spring slide holder; Variable Focus Condenser 1.25 N.A. with iris in rack and pinion mount, permitting continuous control of illumination.

MODEL TBR-9, Cat. No. 31-20-62-09.....**$665.50**

Paired 5× long eye-relief and 10× Huygenian eyepieces; quadruple revolving Roto-sphere nosepiece; parfocal achromatic objectives 3.5×, 30mm, 0.09 N.A.; 10×, 16mm, 0.25 N.A.; 43×, 4mm, 0.65 N.A., and 97×, 1.8mm, 1.25 N.A. oil immersion; ungraduated mechanical stage with low position controls and vacuum spring slide holder; Abbe 1.25 N.A. divisible condenser with iris in rack and pinion mount.

MODEL TPV-9, Cat. No. 31-20-55-09.....**$622.50**

Paired 5× long eye-relief and 10× Huygenian eyepieces; quadruple revolving Roto-sphere nosepiece; parfocal achromatic objectives 3.5×, 30mm, 0.09 N.A.; 10×, 16mm, 0.25 N.A.; 43×, 4mm, 0.65 N.A., and 97×, 1.8mm, 1.25 N.A. oil immersion; plain stage with stage clips; Variable Focus Condenser 1.25 N.A. with iris in rack and pinion mount, permitting continuous control of illumination.

MODEL TPR-9, Cat. No. 31-20-61-09.....**$615.50**

Paired 5× long eye-relief and 10× Huygenian eyepieces; quadruple revolving Roto-sphere nosepiece; parfocal achromatic objectives 3.5×, 30mm, 0.09 N.A.; 10×, 16mm, 0.25 N.A.; 43×, 4mm, 0.65 N.A., and 97×, 1.8mm, 1.25 N.A. oil immersion; plain stage with stage clips; Abbe 1.25 N.A. divisible condenser with iris in rack and pinion mount.

MODEL TBV-69, Cat. No. 31-20-65-69.....**$673.50**

Paired 10× wide field eyepieces; quadruple revolving Roto-sphere nosepiece; parfocal achromatic objectives 3.5×, 30mm, 0.09 N.A.; 10×, 16mm, 0.25 N.A.; 43×, 4mm, 0.65 N.A., and 97×, 1.8mm, 1.25 N.A. oil immersion; ungraduated mechanical stage with low position controls and vacuum-spring slide holder; Variable Focus Condenser 1.25 N.A. with iris in rack and pinion mount, permitting continuous control of illumination.

MODEL TBR-59, Cat. No. 31-20-62-59.....**$639.00**

Paired 10× wide field eyepieces; triple revolving Roto-sphere nosepiece; parfocal achromatic objectives 10×, 16mm, 0.25 N.A.; 43×, 4mm, 0.65 N.A., and 97×, 1.8mm, 1.25 N.A. oil immersion; ungraduated mechanical stage with low position controls and vacuum-spring slide holder; Abbe 1.25 N.A. divisible condenser with iris in rack and pinion mount.

MODEL TBV-10, Cat. No. 31-20-65-10.....**$710.00**

Paired 5× long eye-relief and 10× Huygenian eyepieces; triple revolving Roto-sphere nosepiece; parfocal achromatic objectives 10×, 16mm, 0.25 N.A., and 43×, 4mm, 0.65 N.A.; fluorite objective 98×, 1.8mm, 1.30 N.A. oil immersion; ungraduated mechanical stage with low position controls and vacuum-spring slide holder; Variable Focus Condenser 1.25 N.A. with iris in rack and pinion mount, permitting continuous control of illumination.

MODEL TBR-10, Cat. No. 31-20-62-10.....**$703.00**

Paired 5× long eye-relief and 10× Huygenian eyepieces; triple revolving Roto-sphere nosepiece; parfocal achromatic objectives 10×, 16mm, 0.25 N.A., and 43×, 4mm, 0.65 N.A.; fluorite objective 98×, 1.8mm, 1.25 N.A., oil immersion; ungraduated mechanical stage with low position controls and vacuum-spring slide holder, Abbe 1.25 N.A. divisible condenser with iris in rack and pinion mount.

SERIES TT

Triocular Dynoptic Laboratory Microscope; Balcoted optics; inclined parallel binocular eyepiece tubes for greater visual comfort and monocular vertical photographic tube for camera attachment; 2× magnification factor in Triocular Body; body readily interchangeable by screwdriver adjustment; coarse focusing by extra wide diagonal-cut rack and pinion; Dua-rol low position, ball-bearing fine focusing adjustment graduated in 1.0 micron divisions; stage 140mm x 117mm; ungraduated mechanical stage with low position controls and vacuum-spring slide holder; full 360 degree substage ring mount, focusable by rack and pinion, to accommodate condenser; plano-concave mirror in quick-on bracket; plastic dust cover, reference manual, hardwood cabinet with lock and key. Accessory equipment as follows:

MODEL TTBR-58, Cat. No. 31-20-72-58.....**$669.00**

Three 5× Huygenian long eye relief eyepieces; triple revolving Roto-sphere nosepiece; parfocal achromatic objectives 10×, 16mm, 0.25 N.A.; 43×, 4mm, 0.65 N.A., and 97×, 1.8mm, 1.25 N.A. oil immersion; Abbe 1.25 N.A. divisible condenser with iris in rack and pinion mount.

MODEL TTBR-59, Cat. No. 31-20-72-59.....**$696.00**

Three 10× wide field eyepieces; triple revolving Roto-sphere nosepiece; parfocal achromatic objectives 10×, 16mm, 0.25 N.A.; 43×, 4mm, 0.65 N.A., and 97×, 1.8mm, 1.25 N.A. oil immersion; Abbe 1.25 N.A. divisible condenser with iris in rack and pinion mount.

MODEL TTBV-69, Cat. No. 31-20-75-69.....**$730.50**

Three 10× wide field eyepieces; quadruple revolving Roto-sphere nosepiece; parfocal achromatic objectives 3.5×, 30mm, 0.09 N.A.; 10×, 16mm, 0.25 N.A.; 43×, 4mm, 0.65 N.A., and 97×, 1.8mm, 1.25 N.A. oil immersion; Variable Focus Condenser 1.25 N.A. with iris in rack and pinion mount, permitting continuous control of illumination.

MODEL TTBV-79, Cat. No. 31-20-75-79.....**$703.50**

Three 5× Huygenian long eye relief eyepieces; quadruple revolving Roto-sphere nosepiece; parfocal achromatic objectives 3.5×, 30mm, 0.09 N.A.; 10×, 16mm, 0.25 N.A.; 43×, 4mm, 0.65 N.A., and 97×, 1.8mm, 1.25 N.A. oil immersion; Variable Focus Condenser 1.25 N.A. with iris in rack and pinion mount, permitting continuous control of illumination.

MODEL N EYEPIECE CAMERA and ILLUMINATORS

42-16-11-17	Model N Eyepiece Camera Viewing Head for 35mm or 2¼ in. x 3¼ in. attachments; shutter and cable release; clear viewer, in case	$199.50
42-16-13	35mm Camera Attachment	34.00
42-16-15	2¼ in. x 3¼ in. Camera Attachment	22.00
42-15-35	Film Pack Adapter, 2¼ in. x 3¼ in.	7.00
31-33-26-12	Model PG-26 Professional Type Illuminator, 100-watt lamp; iris; blue and ground glass filters	67.00
31-33-27-21	Model PR-27 Professional Type Illuminator, 108-watt, 6-v., ribbon filament lamp; iris; three neutral and one daylight filters; adjustable transformer	139.00
31-50-54	Metal Baseboard to hold microscope and illuminator	20.00

MODEL L PHOTOMICROGRAPHIC CAMERA

(See Bausch & Lomb Catalog E-210 for complete description).

42-14-42-01	Model L Photomicrographic Camera, 5 in. x 7 in. reflex back; sliding baseboard; shutter; double plate holder; focusing magnifier; light tight connector; without illuminating unit or microscope	700.00
42-44-42-49	Ribbon Filament Illuminator with transformer for 115-v., 60-cycle, A.C.	197.00

ACCESSORIES AND REPLACEMENT PARTS

OPTI-LUME ILLUMINATOR

Any Dynoptic Laboratory Microscope listed in this catalog can be supplied without mirror but with the Opti-lume attached to the substage. The price of the microscope with Opti-lume is arrived at by deducting $9.50 for the mirror and fork and adding the cost of whichever Opti-lume is desired. To order the microscope with Opti-lume attached simply add Letter L, i.e., TBR-8L. If the Opti-lume is to be used separate from the microscope, order by Model and Cat. No., which will include the mirror. Order the Opti-lume as a separate Cat. No. and specify with or without bracket that permits use as an integral light source.

Catalog No.	Description	Price
31-33-93-47	Opti-lume Illuminator for Binocular Microscopes, with 31-34-47 bracket and adapter for H, R, and V substages; blue ground glass, clear condenser, clip-on metal reflector	$13.00*
31-33-94-47	Opti-lume Illuminator for Binocular Microscopes, with 31-34-47 bracket and adapter for H, R, and V substages; white ground glass filter, clear condenser, clip-on metal reflector	13.00*
31-33-90-47	Opti-lume Illuminator for Monocular Microscopes, with 31-34-47 bracket and adapter for H, R, and V substages; blue ground glass filter	8.50*
	*Substitute 31-58-20 H-Bracket when ordering for use on Microscopes with D, M, or S substages, at same price.	
	REPLACEMENT PARTS	
31-31-15	Lamp, clear, 15-w., 115-v.	.27
31-34-19	Daylight ground glass filter, 44mm square	1.50
31-34-21	Blue ground glass filter, 44mm square	.50
31-34-47	Bracket and adapter for attaching Opti-lume to Microscopes with substage condenser	2.50
31-34-77	Reflector, aluminized metal	3.50
31-34-79	Spherical condenser	1.00
31-34-80	Frosted white glass, 44mm square	.50
31-58-20	H-Bracket for attaching Opti-lume to Microscopes with D, M or S substage	2.50

MICRO-LITE

Catalog No.	Description	Price
31-33-01-01	Micro-Lite Illuminator, with 60-w., 115-v. lamp, switch, cord and plug	$ 11.00
71-71-13	Lamp, inside frosted, 60-w., 115-v.	.21

MICROSCOPE CASES

31-39-95	Leatherette covered, Horizontal Case for Dynoptic Microscopes	$ 29.50
31-39-96	Hardwood, Vertical Case for Dynoptic Microscopes	24.50

SIMPLE CENTERING SUBSTAGE

31-01-18	Simple, Centering Substage, when supplied as original equipment on Dynoptic Microscopes with rack and pinion substage, extra	$ 20.00

MECHANICAL STAGES

31-59-66-01	Ungraduated Mechanical Stage, for Dynoptic Microscopes, in leatherette covered case	$ 55.00
31-59-67-01	Graduated Mechanical Stage, for Dynoptic Microscopes, in leatherette covered case	73.00
31-39-22	Leatherette-covered Case only	5.00

Prices are subject to change without notice. Orders are subject to acceptance at Rochester, N. Y., U. S. A., at prices prevailing at time of shipment. Orders for standard items may be cancelled if not wanted because of price advance. Excise taxes or other governmental charges will be added wherever applicable. Shipments to points outside Continental United States of America and to its territories, dependencies and possessions, except Hawaii and Alaska, are not subject to excise taxes. Delivery dates are estimated and cannot be guaranteed.

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INSTRUMENT DIVISION
Rochester 2, New York, U.S.A.

MONOCULAR TUBES

Catalog No.	Description	Price
31-19-26	Interchangeable Monocular Body Tube with fixed length eyepiece adapter for Series F, C, and T Microscopes	$ 21.50
31-19-26-91	Interchangeable Monocular Body Tube with graduated draw tube for Series F, C, and T Microscopes	27.00

BINOCULAR AND TRIOCULAR BODIES—BALCOTED FOR SERIES F, C, AND T MICROSCOPES

31-19-61	Vertical	$175.00
31-19-55	Inclined	220.00
31-19-54	Triocular	260.00

ACHROMATIC OBJECTIVES—BALCOTED

Catalog No.	Mag'n ×	E. F. mm	N.A.	Price
31-10-05-01	2	48	0.08	$ 15.00
31-10-06-01	3.5	30	0.09	24.50
31-10-07-01	2.6	40	0.08	15.00
31-10-09-01	4	32	0.10	16.00
31-10-18-01	6	22.7	0.17	24.50
31-10-20-01*	10	16	0.25	24.50
31-10-22-01°	10	16	0.25	27.00
31-10-27-01	21	8	0.50	35.00
31-10-29-01	43	4	0.65	39.00
31-10-71-02	97	1.8	1.25	67.00

*Unitized °Divisible — For a more complete listing of objectives and eyepieces refer to Microscope Accessories Catalog D-184.

HUYGENIAN EYEPIECES—BALCOTED

31-15-08	5×, single	$ 8.00
31-15-08-02	5×, paired	17.00
31-15-09	10×, single	8.00
31-15-09-02	10×, paired	17.00

WIDE FIELD EYEPIECES—BALCOTED

31-05-51	10×, single	$ 17.00
31-05-51-02	10×, paired	35.00

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