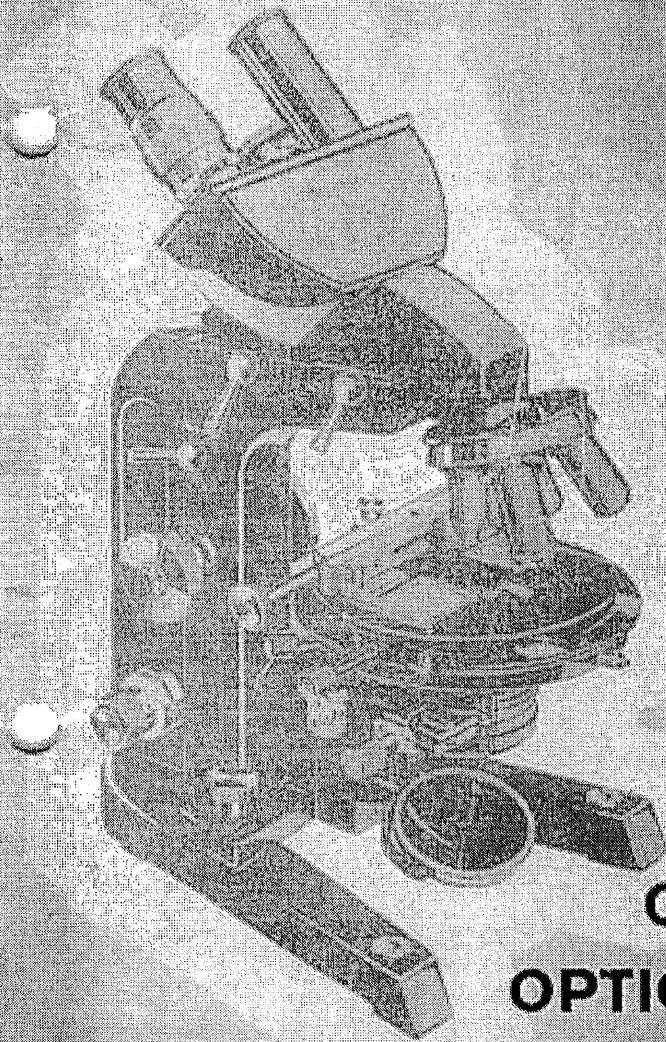


LARGE UNIVERSAL MICROSCOPE

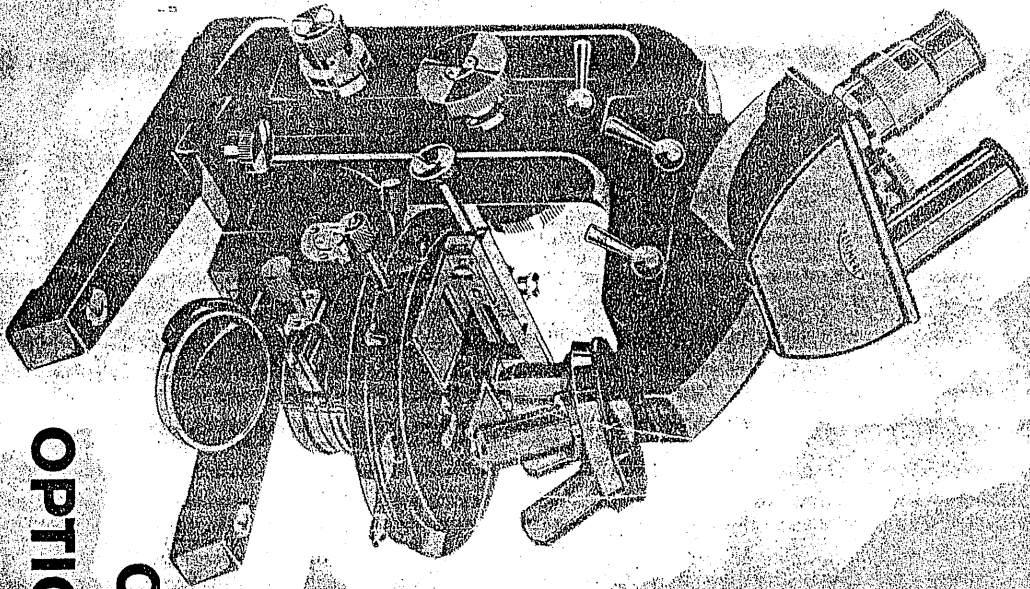
“Z”



C. REICHERT
OPTICAL WORKS
VIENNA XVII.

LARGE UNIVERSAL MICROSCOPE

"Z"



C. REICHERT
OPTICAL WORKS
VIENNA XVII.

With a view to offering our clients something better than we have produced before, we are constantly endeavouring to improve upon our existing products. For this reason, kindly note that the illustrations shown in this list are not binding as to details. By the present list all former lists for this instrument are cancelled.

LARGE UNIVER MICROSCOP

"Z"

C. REICHERT OPTICAL W
VIENNA XVII. HERNALSER HAUPTSTR.

With a view to offering our clients something better than we have produced before, we are constantly endeavouring to improve on our existing products. For this reason, we kindly note that the illustrations shown in the present list are not binding as to details. The present list all former lists for this instrument are cancelled.

**LARGE UNIVERSAL
MICROSCOPE**

“Z”

C. REICHERT OPTICAL WORKS
VIENNA XVII. HERNALSER HAUPTSTRASSE 219

The new large
Universal Microscope 'Z', 1937 Pattern
is a perfect instrument for:

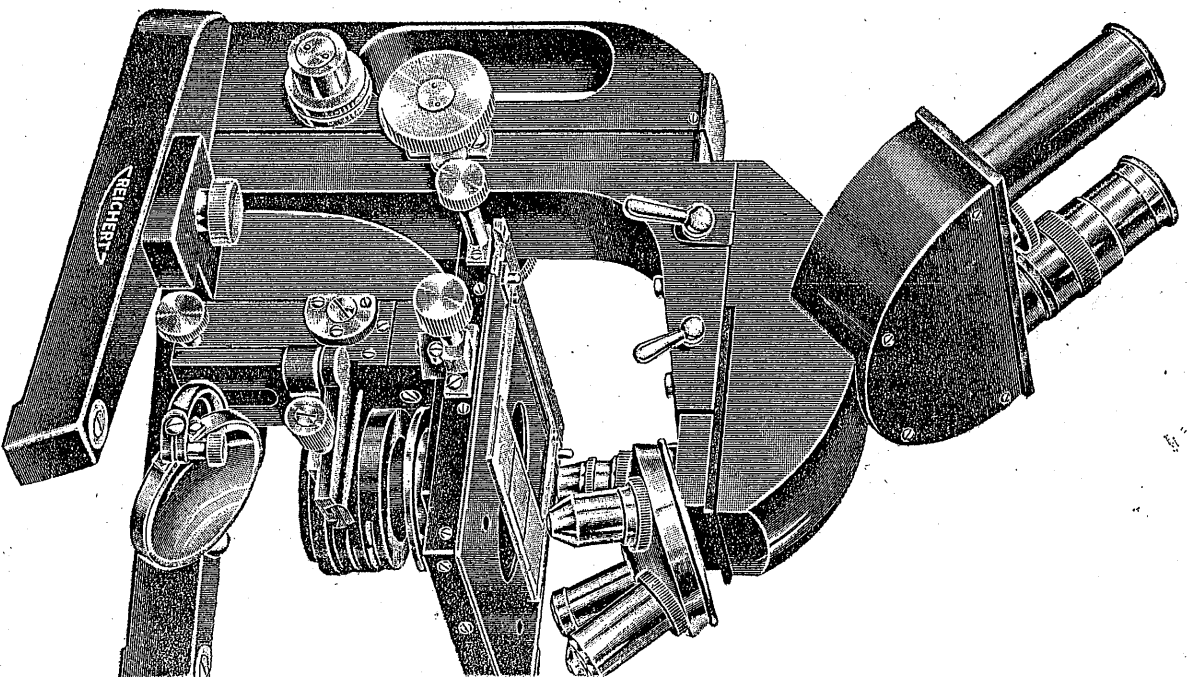
Microscopy in transmitted and incident natural light, bright and dark ground.

Microscopy in transmitted and incident polarised light.

The examination of three-dimensional objects, and for dissecting work with Greenough binocular objectives and image-erecting prism tubes.

Photomicrography and photomacrography.

The Universal Microscope "Z" is the instrument for the scientist, research man and practitioner. It enables all work — from dissecting to the finest examinations at maximum powers — to be done and the result photographed.



**The new large
Universal Microscope 'Z', 1937 Pattern**
is a perfect instrument for:

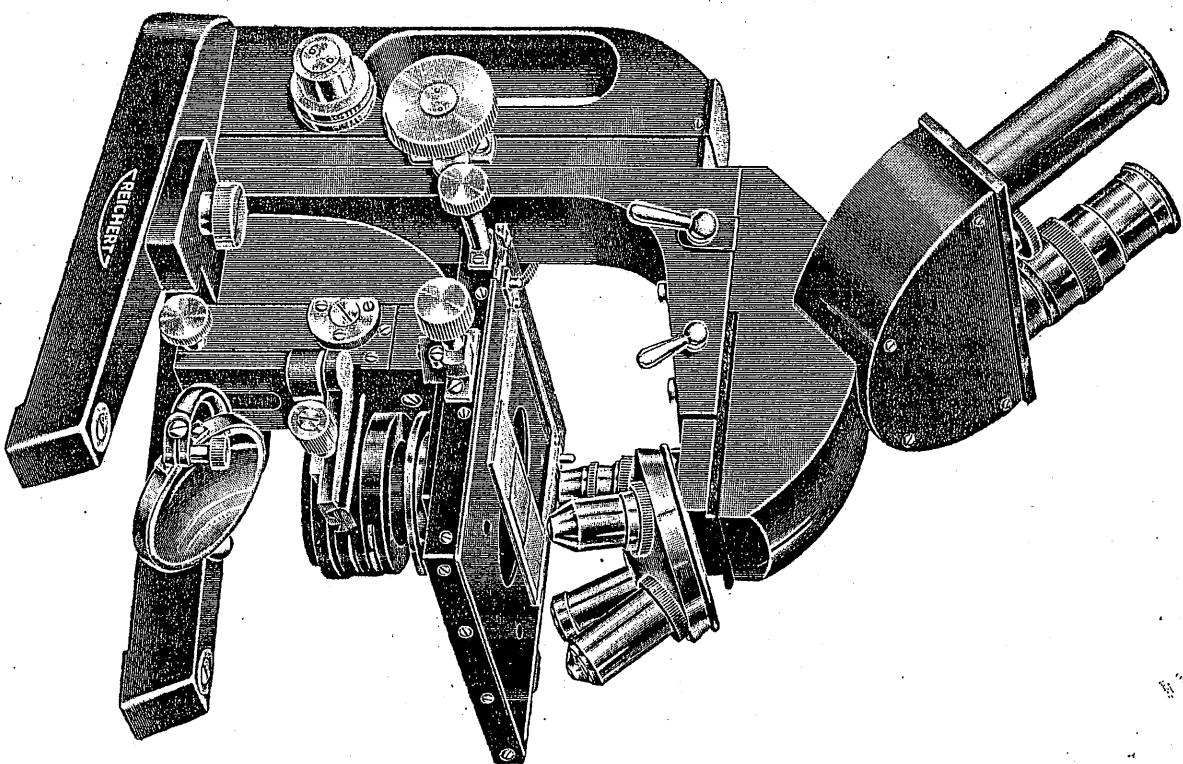
Microscopy in transmitted and incident natural
light, bright and dark ground.

Microscopy in transmitted and incident-polarised
light.

The examination of three-dimensional objects,
and for dissecting work with Greenough binocular
objectives and image-erecting prism tubes.

Photomicrography and photomacrography.

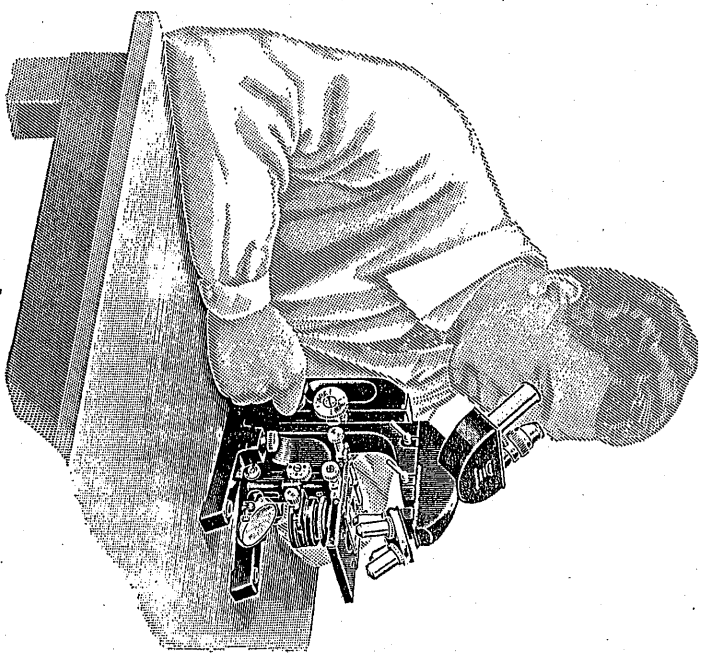
The Universal Microscope "Z" is the instrument
for the scientist, research man and practitioner.
It enables all work — from dissecting to the finest
examinations at maximum powers — to be done
and the result photographed.



Technical Details

Steady and Rigid Microscope Body

Heavy pattern. The limb and foot are made in one piece, so that no strain comes on to the focussing adjustments when the instrument is being raised or put away.



Comfortable attitude of the body. No strain to the microscopist

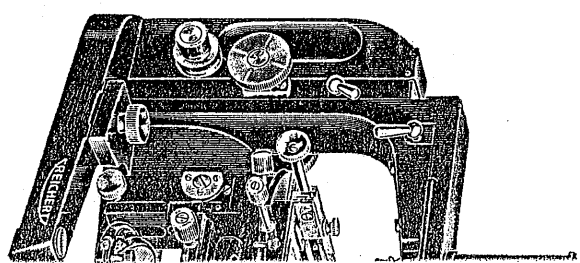
Large Tube Adjustment

The extremely long guide adopted for the limb allows a maximum adjustment of the body-tube of 95 mm ($3\frac{3}{4}$ ").

Coarse and Fine Focussing Adjustments

The rack-and-pinion coarse focussing adjustment can be clamped in any position. Accurate adjustment is ensured by the extremely long sliding guides in the limb and by guiding the fine focussing slider on rollers (Patented design). Precision micrometer screw with large drum for reading to 0.001 mm. The focussing knobs are located low down on either side of the stand for ease of manipulation, the forearms resting on top of the table.

Microscope "Z" with Vertical Monocular Body-Tube for Photomicrography



Interchangeability of Optical Parts

A horizontal sliding guide enables the observing tubes, objective and incident light illuminators to be rapidly changed.

Optimum Arrangement of Inclined Observation Tubes

The observation tubes for visual work are well set back and at an angle which detailed examinations have proved to be the best. Therefore be done with the head and body upright and relaxed and resting on the work-table, so that the microscopist is saved strain and can give his entire attention to the work of observation.

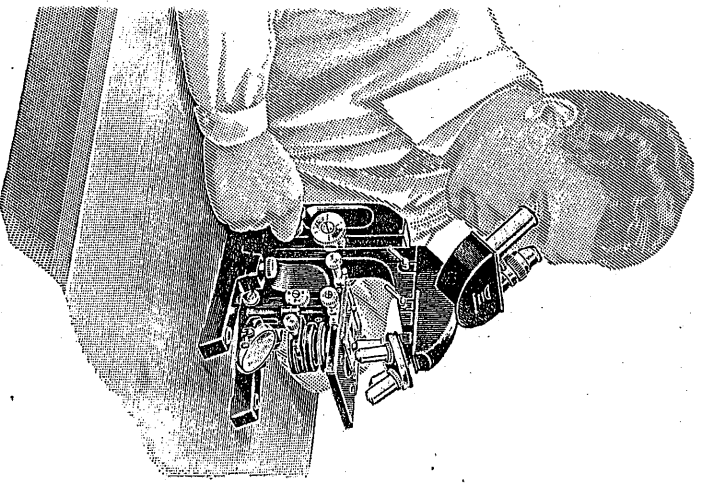
Monocular and Binocular Tubes

Inclined Binocular Tube. Binocular observation is the most comfortable. It prevents the eyes being strained or damaged through work with only one of them.

Details

Rigid Microscope Body

The limb and foot are made in one piece, so that no strain in the focussing adjustments when the instrument is being raised



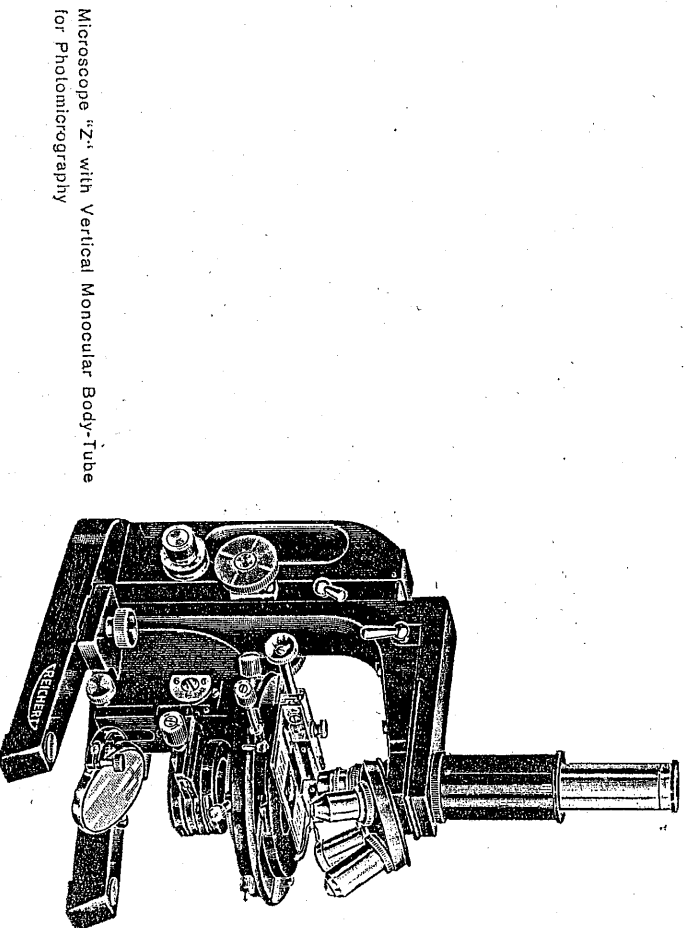
Comfortable attitude of the body. No strain to the microscopist

Adjustment

The long guide adopted for the limb allows a maximum adjustment of 95 mm ($3\frac{3}{4}$ ").

Fine Focussing Adjustments

The fine focussing adjustment can be clamped in any position. This is ensured by the extremely long sliding guides in the limb. The fine focussing slider on rollers (Patented design). The focussing screw with large drum for reading to 0.001 mm. The drum is located low down on either side of the stand for ease of use, the forearms resting on top of the table.



Microscope "Z" with Vertical Monocular Body-Tube for Photomicrography

Interchangeability of Optical Parts

A horizontal sliding guide enables the observing tubes, objective nosepieces, and incident light illuminators to be rapidly changed.

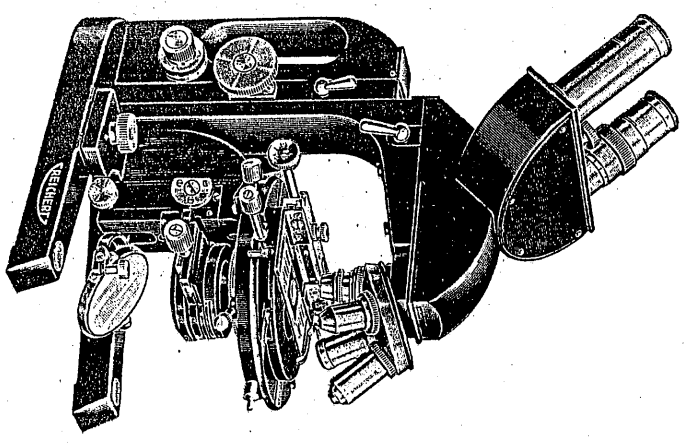
Optimum Arrangement of Inclined Observation Tubes

The observation tubes for visual work are well set back and arranged at an angle which detailed examinations have proved to be the best. Work can therefore be done with the head and body upright and relaxed and the forearms resting on the work-table, so that the microscopist is saved any physical strain and can give his entire attention to the work of observing.

Monocular and Binocular Tubes

Inclined Binocular Tube. Binocular observation is the natural way, as it prevents the eyes being strained or damaged through working too long with only one of them.

Division of Rays. The rays are divided by a set of prisms coated with a semi-translucent layer of silver, and these normally supply two identical images. If desired, and at an extra cost, prisms with a silver coating of gradually increasing density can be supplied so as to achieve a stereoscopic effect.

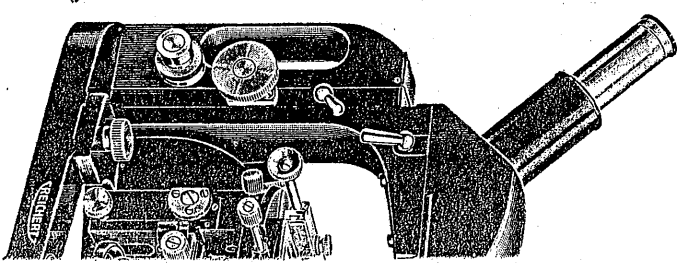


Microscope "Z" with Inclined Binocular Tube

Interpupillary Distance. The distance between the two eyepieces can be varied between 54 and 74 mm (2.125" and 2.913") and the adjustment read off on a scale. To compensate for differences in acuity of vision of the two eyes, an eyepiece can be adjusted by a worm motion and the setting also indicated by a scale.

The Inclined Monocular Tube is intended for microscopists who can only work with one eye, or else prefer to do so, owing to greater anomalies of on eye, or from habit.

The Vertical Monocular Tube is used for photomicrography in conjunction with a camera.



Microscope "Z" with Inclined Monocular Tube

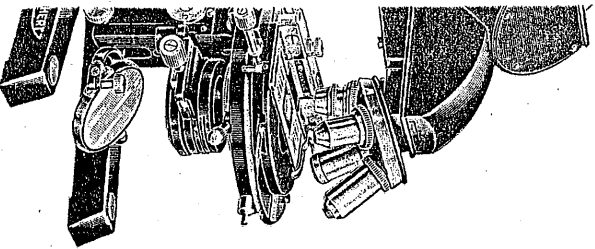
Since the inclined tubes intended for visual work give higher magnification than the inclined monocular tube, used with eyepieces of correspondingly lower power, so useless magnification of the image.

Large Reichert Universal Microscope "Equipment for Transmitted Light"

Description of the Stand

Massive microscope stand with limb, horizontal slider guide tubes and nosepieces. Rack-and-pinion coarse focussing with can be clamped in any position. Fine focussing by micrometer roller guide and low-set milled heads, with scale drum (read:

rays. The rays are divided by a set of prisms coated with a thin layer of silver, and these normally supply two identical images, one red, and at an extra cost, prisms with a silver coating of varying density can be supplied so as to achieve a stereoscopic effect.

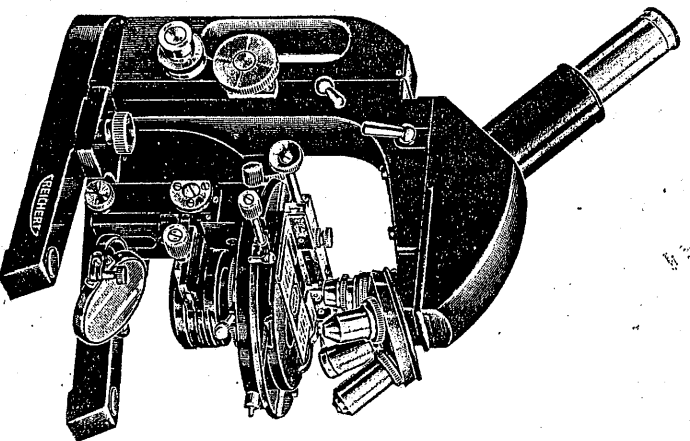
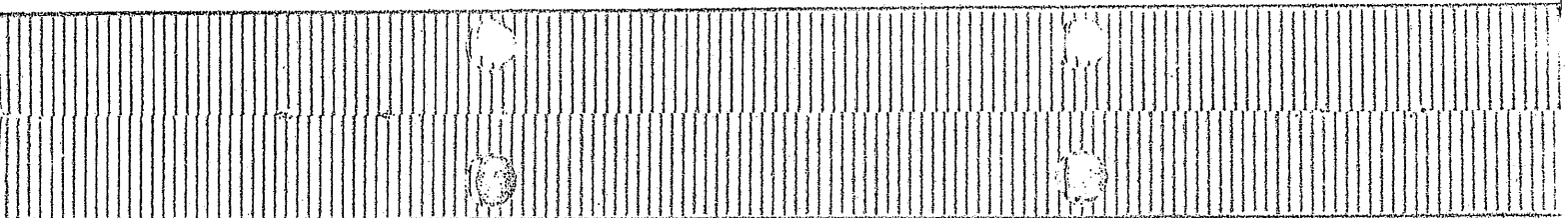


Microscope "Z" with Inclined Binocular Tube

Interocular Distance. The distance between the two eyepieces can be adjusted between 54 and 74 mm (2.125" and 2.913") and the adjustment scale. To compensate for differences in acuity of vision of the eyes, the eyepiece can be adjusted by a worm motion and the setting by a scale.

Monocular Tube is intended for microscopists who can use one eye, or else prefer to do so, owing to greater anomalies of vision.

Monocular Tube is used for photomicrography in connection with a camera.



Microscope "Z" with Inclined Monocular Tube

Since the inclined tubes intended for visual work give a 50 per cent higher magnification than the inclined monocular tube, they should be used with eyepieces of correspondingly lower power so as to obviate useless magnification of the image.

Large Reichert Universal Microscope "Z"

Equipment for Transmitted Light

Description of the Stand

Massive microscope stand with limb, horizontal slider guide for changing the tubes and nosepieces. Rack-and-pinion coarse focussing with 95 mm travel, can be clamped in any position. Fine focussing by micrometer screw with roller guide and low-set milled heads, with scale drum (reading to 0.001 mm).

Detachable stage carrier. Large illuminating Apparatus No. 22.11.14. Condenser carrier vertically adjustable by rack and pinion. Double-lens condenser N.A.1.20, with screw-off front lens and aperture iris diaphragm of the rotary, laterally adjustable type which can be cut out as required. Mirror ground plane and concave, which can be swung about two axes at right angles and clamped in position. Mahogany cabinet, with lock and key and compartments for the optical parts.

Microscope "Z" as specified, with round, Rotating and Centring Mechanical Stage No. 18, 5" diameter, travel 50 X 30 mm (2" X 1 1/4"), with scales and verniers reading accurately to 0.1 mm (Finder Stage). Without tubes, nosepieces or optical parts
Code Word: ZETRU

Microscope "Z" as specified, with square Mechanical Stage No. 22¹⁾, 120 X 120 mm (4 3/4" X 4 3/4") travel 50 X 30 mm, accurate readings to 0.1 mm by means of three scales and verniers (Finder Stage). Without tubes, nosepieces or optical parts
Code Word: ZETVI

Microscope "Z" as specified, with round Rotating and Centring Stage No. 48, 125 mm (5") diameter. Without tubes, nosepieces or optical parts
Code Word: ZETUR

Transmitted Light Condenser No. 00.11.15, N. A. 1.40, triple-lens, with screw-off front lens on carrier tube²⁾
Code Word: TREKO

Transmitted Light Condenser No. 00.11.18, N. A. 1.40, achromatic-aplanatic four-lens type, with screw-off front lens, on tube carrier²⁾
Code Word: APSEM

Triple Objective Nosepiece on slider, No. 229 z
Code Word: NORES

Quadruple Objective Nosepiece on slider, No. 230 z
Code Word: TRARS

Inclined Binocular Observing Tube "S", No. 1012
Code Word: BISRE

Inclined Monocular Observing Tube "N", No. 1013
Code Word: MOSRE

Straight Monocular Tube for Photography "M", No. 1011
Code Word: MOGRA

¹⁾ This stage is specially suitable in cases where it is desired subsequently to extend the scope of the instrument to microscopy in incident light. Solid adaptor stage for this purpose Code Word V O T I P
²⁾ When one of these condensers is ordered, the double-lens condenser N. A. 1.20 included in the Complete Sets can be omitted.

Sets of Optical Parts recommended for Bright Transmitted Light Microscopy

For the Finest Research Work:

Apochromatic Optical Parts; magnifications with the X 30—2400¹⁾ with the straight tube X 20—1600
Quadruple Objective Nosepiece on Slider

Achromatic Objective X 4
Apochromatic Objectives X 12, X 45, X 60
Apochromatic Oil Immersion Objective X 100, N. A. 1.30
Pair of Huyghenian Eyepieces X 5
Pair of Compensating Eyepieces X 5, X 12, X 16
Pair of Micrometer Compensating Eyepieces X 8
The same Set, but with single Eyepieces for the inclined microscope
Code

For Clinical Work and Diagnosis:

Fluorite Optical Parts; magnifications with the inclined tube with the straight tube X 50—1600
Quadruple Objective Nosepiece on Slider

Achromatic Objective X 10
Fluorite Objectives X 40, X 60
Fluorite Oil Immersion X 100, N. A. 1.30
Pairs of Compensating Eyepieces X 8, X 16
Code

The same Set, but with single Eyepieces for the inclined microscope
Code

For Medical Practitioners:

Achromatic Optical Parts; magnifications with the inclined tube with the straight tube X 50—1200
Triple Objective Nosepiece on Slider
Achromatic Objectives X 10, X 45
Achromatic Oil Immersion X 100, N. A. 1.25
Pairs of Huyghenian Eyepieces X 5, X 10, X 12
Code

The same Set, but with single Eyepieces for the inclined microscope
Code

¹⁾ To avoid useless magnifications, the eyepieces should be selected so that given for the straight tube are not appreciably exceeded for the inclined tubes

Stage carrier. Large Illuminating Apparatus No. 22.11.14. Condenser
adjustable by rack and pinion. Double-lens condenser N.A.1.20,
front lens and aperture iris diaphragm of the rotary, laterally
which can be cut out as required. Mirror ground plane and
which can be swung about two axes at right angles and clamped
Mahogany cabinet, with lock and key and compartments for the

**"Z" as specified, with round, Rotating and Centring
Stage No. 18,** 5" diameter, travel 50 X 30 mm (2" X 1 1/4"), with
verniers reading accurately to 0.1 mm (Finder Stage). Without
pieces or optical parts
Code Word: ZETRU

"Z" as specified, with square Mechanical Stage No. 22"),
(4 3/4" X 4 3/4") travel 50 X 30 mm, accurate readings to 0.1 mm by
stage scales and verniers (Finder Stage). Without tubes, nosepieces
parts
Code Word: ZETVI

**"Z" as specified, with round Rotating and Centring
Stage No. 18,** 125 mm (5") diameter. Without tubes, nosepieces or optical
parts
Code Word: ZETUR

1 Light Condenser No. 00.11.15, N. A. 1.40, triple-lens, with
front lens on carrier tube?)
Code Word: TREKO

1 Light Condenser No.00.11.18, N. A. 1.40, achromatic-coplanatic
with screw-off front lens, on tube carrier?)
Code Word: APSEM

Objective Nosepiece on slider, No. 229 z
Code Word: NORES

Objective Nosepiece on slider, No. 230 z
Code Word: TRARS

ocular Observing Tube "S", No. 1012
Code Word: BISRE

ocular Observing Tube "N", No. 1013
Code Word: MOSRE

ocular Tube for Photography "M", No. 1011
Code Word: MOGRA

pecially suitable in cases where it is desired subsequently to extend the scope of the
microscopy in incident light. Solid adaptor stage for this purpose
Code Word V O T I P
these condensers is ordered, the double-lens condenser N. A. 1.20 included in the
price is omitted.

**Sets of Optical Parts recommended for Bright Ground
Transmitted Light Microscopy**

For the Finest Research Work:

Apochromatic Optical Parts; magnifications with the inclined tubes,
X 30—2400) with the straight tube X 20—1600

Quadruple Objective Nosepiece on Slider

Achromatic Objective X 4

Apochromatic Objectives X 12, X 45, X 60

Apochromatic Oil Immersion Objective X 100, N. A. 1.30

Pair of Huyghenian Eyepieces X 5

Pairs of Compensating Eyepieces X 5, X 12, X 16

Pair of Micrometer Compensating Eyepieces X 8
The same Set, but with single Eyepieces for the inclined
monocular tube
Code Word: ZEFOB
Code Word: ZEFOM

For Clinical Work and Diagnosis:

Fluorite Optical Parts; magnifications with the inclined tubes X 75—2400),
with the straight tube X 50—1600

Quadruple Objective Nosepiece on Slider

Achromatic Objective X 10

Fluorite Objectives X 40, X 60

Fluorite Oil Immersion X 100, N. A. 1.30

Pairs of Compensating Eyepieces X 8, X 16

The same Set, but with single Eyepieces for the inclined
monocular tube
Code Word: ZEKIB
Code Word: ZEKIM

For Medical Practitioners:

Achromatic Optical Parts; magnifications with the inclined tubes X 75—1800),
with the straight tube X 50—1200

Triple Objective Nosepiece on Slider

Achromatic Objectives X 10, X 45

Achromatic Oil Immersion X 100, N. A. 1.25

Pairs of Huyghenian Eyepieces X 5, X 10, X 12

The same Set, but with single Eyepieces for the inclined
monocular tube
Code Word: ZEPAB
Code Word: ZEPAM

1) To avoid useless magnifications, the eyepieces should be selected so that the maximum powers
given for the straight tube are not appreciably exceeded for the inclined tubes.

The same Set as ZEPAB, except that the X45 Achromatic Objective is replaced by the X60 Achromat, which is specially recommended for histological work
Code Word: ZEHIB

The same set as ZEHIB, but with single eyepieces for the inclined monocular tube
Code Word: ZEHIM

Stands are not supplied without Optical Parts. For latter, see Price Key.

Supplementary Equipment for above Sets for Dark Ground, Transmitted Light Microscopy

Double-surface Dark Ground Condenser No. 706 and 5 special Object Holders (Slides), in case
Code Word: DUFKO

Dark Ground Stops for the higher-powered Objectives. These should be ordered to suit the optical equipment selected:

Funnel Stop No. 1703 for Achromatic Objective X45 Code Word: TR1FO
Funnel Stop No. 1704 for Achromatic Objective X60 Code Word: TRASP
Funnel Stop No. 1710 for Achromatic Oil Immersion Objective X100
Code Word: TREGY

Funnel Stop No. 1706 for Fluorite Objective X40 Code Word: TRAFI
Funnel Stop No. 1705 for Fluorite Objective X60 Code Word: TRASO
Funnel Stop No. 1711 for Fluorite Oil Immersion Objective X100
Code Word: TROEL

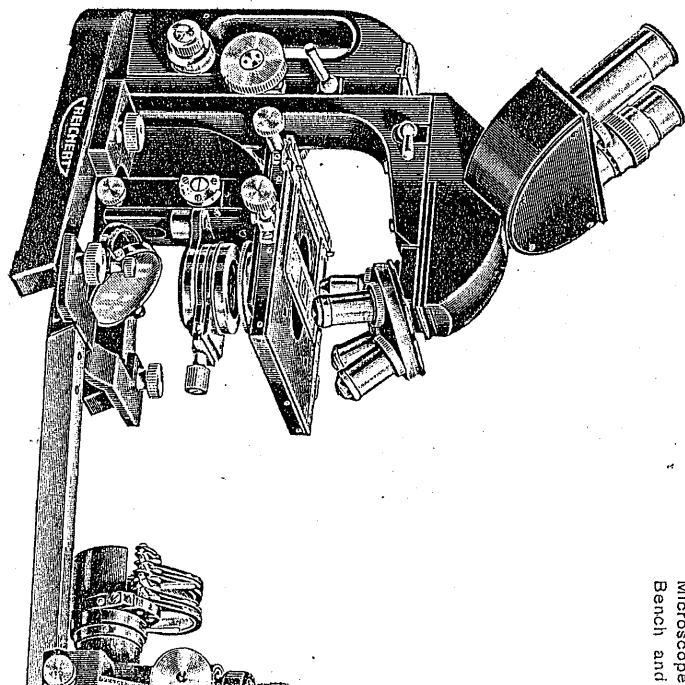
Funnel Stop No. 1712 for Apochromatic Objective X45 Code Word: TRAPF
Funnel Stop No. 1713 for Apochromatic Objective X60 Code Word: TROPS
Funnel Stop No. 1725 for Apochromatic Oil Immersion Objective X100
Code Word: TROAP

Light Sources for Transmitted Light

Microscopy Lamp for visual work with transmitted light, for connecting up direct to the mains supply. Well ventilated and light-tight lamp casing, with cable, switch and connector, blue glass, and carrier for clamping to the microscope base.
In Preparation

Photomicrography Lamp "Lux FN", for visual work with transmitted light, dark ground work, and photomicrography, for low-voltage bulb, with adjustable, aplanatic-achromatic condenser lens, iris diaphragm and swing-out set of filter glasses comprising ground glass, yellow, green and blue filters. (For this item, the Small Optical Bench No. 6111 or Table Stand No. 8100 is absolutely necessary)
Code Word: LUFNE

Microscope Bench and



Microscopy Lamp "Lux FDN" for visual work with transmitted dark-ground work, for low-voltage bulb as "Lux FN", without the or set of swing-out filters, but only with filter carrier, frosted filter. (For this item, the Small Optical Bench No. 6111 or Table Stand No. 8100 is absolutely necessary)
Code \

1 Low-voltage Bulb No. 7705, 6 Volt, 5 Amperes, with special resistance
Code \

Resistance No. 7806, 5 Amperes, for connecting up to 110, 115 D. C. or A. C. Mains)
Code \

Transformer No. 7822, for 110 and 220 Volt A. C. Mains only
Code \

When ordering electrical equipment, please state the mains voltage, and (in the case of the frequency of the supply (cycles per second) as well.

as ZEPAB, except that the X 45 Achromatic Objective is X 60 Achromat, which is specially recommended for histology. ZEHIB, but with single eyepieces for the inclined monocular supplied without Optical Parts. For latter, see Price Key.

Code Word: ZEHIB
Code Word: ZEHIM

Primary Equipment for above Sets for Dark Ground, Light Microscopy

Dark Ground Condenser No. 706 and 5 special Objectives, in case
Code Word: DUFKO

Stops for the higher-powered Objectives. These should suit the optical equipment selected:

No. 1703 for Achromatic Objective X 45 Code Word: TRIFO
No. 1704 for Achromatic Objective X 60 Code Word: TRASP
No. 1710 for Achromatic Oil Immersion Objective X 100

No. 1706 for Fluorite Objective X 40 Code Word: TREGY
No. 1705 for Fluorite Objective X 60 Code Word: TRASF
No. 1711 for Fluorite Oil Immersion Objective X 100 Code Word: TRASS

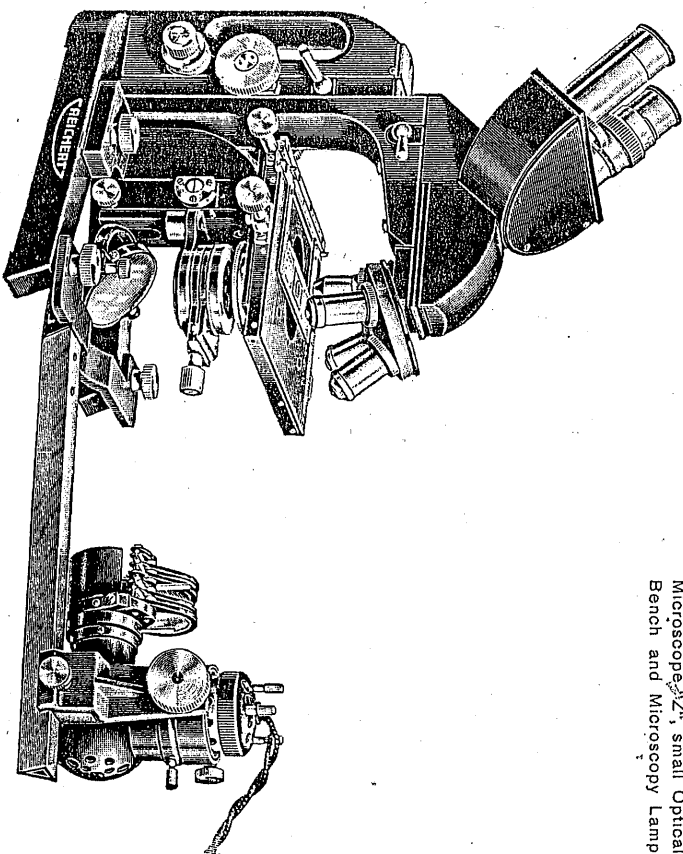
No. 1712 for Apochromatic Objective X 45 Code Word: TROEL
No. 1713 for Apochromatic Objective X 60 Code Word: TROPS
No. 1725 for Apochromatic Oil Immersion Objective X 100 Code Word: TROAP

Accessories for Transmitted Light

Lamp for visual work with transmitted light, for connecting up mains supply. Well ventilated and light-tight lamp casing, with standard connector, blue glass, and carrier for clamping to the microscope. In Preparation

Special Lamp "Lux FN", for visual work with transmitted light, for low-voltage, for low-voltage bulb, with adjustable, automatic condenser lens, iris diaphragm and swing-out set of filtering ground glass, yellow, green and blue filters. (For this item, see Bench No. 6111 or Table Stand No. 8100 is absolutely necessary.) Code Word: LUFNE

Microscope "M2", small Optical Bench and Microscopy Lamp



Microscopy Lamp "Lux FDN" for visual work with transmitted light and dark-ground work, for low-voltage bulb as "Lux FN"; without the iris diaphragm or set of swing-out filters, but only with filter carrier, frosted glass and blue filter. (For this item, the Small Optical Bench No. 6111 or Table Stand No. 8100 is absolutely necessary.) Code Word: LUNAD

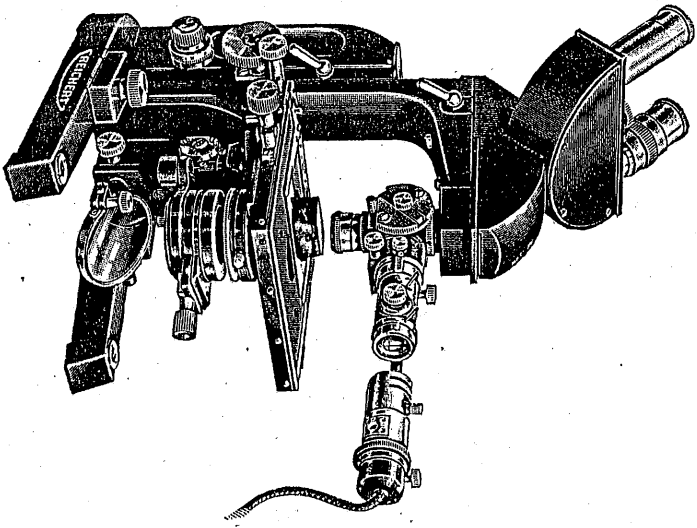
Low-voltage Bulb No. 7705, 6 Volt, 5 Amperes, with special socket Code Word: MALUZ
Resistance No. 7806, 5 Amperes, for connecting up to 110, 150 and 220 Volt D. C. or A. C. (Mains*) Code Word: WIDIA

OR:
Transformer No. 7822, for 110 and 220 Volt A. C. Mains only) Code Word: TROMA

*) When ordering electrical equipment, please state the mains voltage, and (in the case of transformers) the frequency of the supply (cycles per second) as well.

Small Optical Bench No. 6111, for fixing to the microscope base parallel to the plane of symmetry of the microscope (in the forward direction). Including securing device for the lamps "Lux FN" or "Lux FDN" Code Word: OPBAP

Table Stand No. 8100 with crosshead, to enable the lamps to be used apart from the microscope and to be tilted and adjusted in any direction Code Word: T1STA



Microscope "Z" with Universal Opaque Illuminator

Equipment for Incident Light

I. The new Universal Opaque Illuminator No. 1402 for all Types of Incident Light Illumination

The new Universal Opaque Illuminator No. 1402 is provided with a slide portion for inserting in the long horizontal sliding change device of the microscope, and can be easily and quickly substituted for the revolving nosepiece. It comprises a casing and an illuminating attachment.

1. The **Casing** contains, arranged at an angle of 45°:
 - (a) A **Plane Glass Plate** for vertical internal illumination, for finest structures and details at the highest powers, the r of the microscope being fully exploited.
 - (b) A **Strip Mirror** for steeply inclined, single-sided illumini purpose of achieving bright and well contrasted images with
 - (c) A **Ring Mirror** for the "Eplium" external illumination. gives conical illumination from all sides so as to achieve effect with reflecting objects, and highly contrasted im reflex effects, and with true colour reproduction, in the having a dull, non-reflecting surface. At the lower end a slider guide into which the objectives are slipped (Changer). The various types of illumination are changed placing the reflector holder between marked stops located guide.
 2. The **Illuminating Attachment** contains a field stop iris diaphragm, together with a deflecting system of var guiding the rays obliquely in the case of internal illumine when the strip mirror is being used, and a swing-out "Eplium" external illumination. An attachable, rotary sect oblique external illumination from on side and of variabl "Eplium" objectives are being used.
- II. **Light Sources for the Universal Opaque Illuminat**
 - (a) **Visual Work.** The small lamp No. 1413 should be use which is secured to the Universal Opaque Illuminator carrier bar.
 - (b) **Photomicrography.** The deflecting mirror system is use with the low-voltage lamps "Lux FN", "Lux FDN" or so powered light source, the lamps being mounted on the sme
 - III. **Objectives for above:**

For **bright-ground work** only: simple **Incident Light** centring slides,

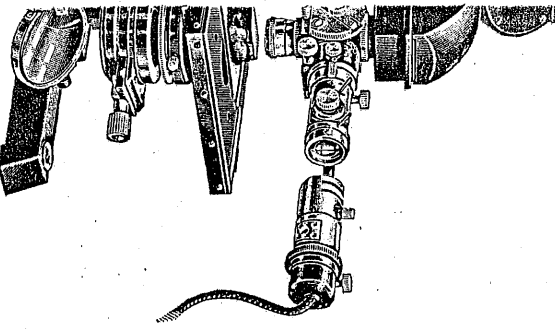
or:

For **bright-ground and dark-ground work:** "Eplium" (ring condenser, also on centring slides.

Bench No. 6111, for fixing to the microscope base parallel (in the forward direction). Including for the lamps "Lux FN" or "Lux FDN" Code Word: OPBAP

No. 8100 with crosshead, to enable the lamps to be used and to be tilted and adjusted in any direction

Code Word: TISTA



Microscope "Z" with Universal
Opaque Illuminator

for Incident Light

Universal Opaque Illuminator No. 1402 for all Types of Illumination

The universal Opaque Illuminator No. 1402 is provided with a slide portion which can be moved horizontally to change the angle of the microscope, and a revolving nosepiece. It is provided with a revolving attachment for incident and an illuminating attachment.

1. The **Casing** contains, arranged at an angle of 45°:
 - (a) A **Plane Glass Plate** for vertical internal illumination, for revealing the finest structures and details at the highest powers, the revolving power of the microscope being fully exploited.
 - (b) A **Strip Mirror** for steeply inclined, single-sided illumination, for the purpose of achieving bright and well contrasted images with a relief effect.
 - (c) A **Ring Mirror** for the "Epiillum" external illumination. The ring mirror gives conical illumination from all sides so as to achieve a dark-ground effect with reflecting objects, and highly contrasted images, free from reflex effects, and with true colour reproduction, in the case of objects having a dull, non-reflecting surface. At the lower end of the casing is a slider guide into which the objectives are slipped (Objective Slide Changer). The various types of illumination are changed merely by displacing the reflector holder between marked stops in a diagonally located guide.
 2. The **Illuminating Attachment** contains a field stop and an aperture iris diaphragm, together with a deflecting system of variable effect for guiding the rays obliquely in the case of internal illumination, especially when the strip mirror is being used, and a swing-out central stop for "Epiillum" external illumination. An attachable, rotary sector stop provides oblique external illumination from on side and of variable azimuth when "Epiillum" objectives are being used.
- ## II. Light Sources for the Universal Opaque Illuminator
- (a) **Visual Work.** The small lamp No. 1413 should be used, the casing of which is secured to the Universal Opaque Illuminator by means of a carrier bar.
 - (b) **Photomicrography.** The deflecting mirror system is used in conjunction with the low-voltage lamps "Lux FN", "Lux FDN" or some similar high-powered light source, the lamps being mounted on the small optical bench.
- ## III. Objectives for above:
- For **bright-ground work** only: simple **Incident Light Objectives** on centring slides,
or:
For **bright-ground and dark-ground work:** "**Epiillum**" **Objectives** with ring condenser, also on centring slides.

Description of Stand

Massive microscope stand with limb. Horizontal slider guide for changing the tubes and the Universal Opaque Illuminator. Rack-and-pinion coarse focusing, travel 95 mm, can be clamped in any position. Fine focussing by micrometer screw with roller guide and low-set milled heads with graduated drum (reading to 0.001 mm). Detachable stage carrier. Mahogany cabinet with lock and key and compartments for the optical parts.

Microscope "Z" as specified, with Mechanical Stage No. 23, size 120 X 120 mm (4³/₄" X 4³/₄"), travel 50 X 30 mm (2" X 1¹/₄"), reading accurately to 0.1 mm by means of three scales and verniers (Finder Stage). Without tubes or optical parts. Code Word: ZETOP

Further stages, particularly for very large and heavy objects, are now in course of preparation.

Inclined Binocular Observing Tube "S" No. 1012 Code Word: BISRE

Inclined Monocular Observing Tube "N" No. 1013 Code Word: MOSRE

Vertical Monocular Tube "M" No. 1011 (for Photomicrography)

Code Word: MOGRA

Universal Opaque Illuminator No. 1402, as described Code Word: UNOPI

Slide Portion No. 1410 for the Universal Opaque Illuminator No. 1402

Code Word: SUNOP

Sector Stop No. 1407 for one-sided external illumination Code Word: SEKOP

Suggested Sets of Optical Components

A. Bright-ground and Dark-ground (for the examination of Steel and Iron)

1. For Binocular Microscopy

Universal Incident Light Optical Components on Centring Slides with Handles:

Achromatic Objective X 5.5

Epilum Objectives X 11, X 45

Fluorite Objective X 62

Fluorite Oil Immersion Objective X 100, N. A. 1.30

Pairs of Huyghenian Eyepieces X 5, X 8, X 12

Code Word: ZEDUS

2. For Monocular Microscopy:

The same set as above, but with single eyepieces Code Word: ZEDUN

B. Bright Ground (for the examination of Steel and Iron)

1. For Binocular Microscopy

Incident Light Optical Components, on Centring Slide

Achromatic Objectives X 5.5, X 11, X 45

Fluorite Objective X 62

Fluorite Oil Immersion Objective X 100, N. A. 1.30

2. For Monocular Microscopy:

The same set as above, but with single eyepieces Code

C. Bright-ground and Dark-ground (for examining Non-f

1. For Binocular Microscopy:

Epilum Optical Components on Centring Slides with

Epilum Objectives X 5.5, X 11, X 45

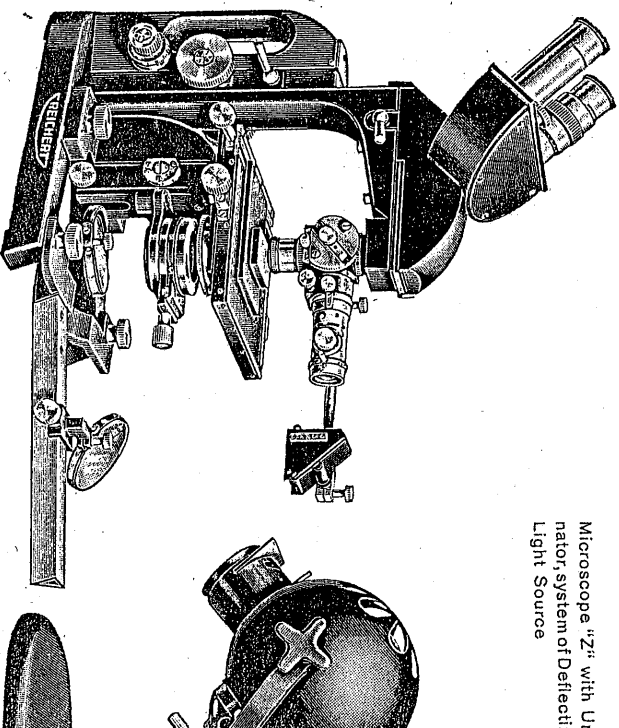
Epilum Oil Immersion Objective X 62, N. A. 1.00

Pairs of Huyghenian Eyepieces X 5, X 8, X 10

2. Monocular Microscopy

The same set as above, but with single eyepieces Code

Microscope "Z" with Un-
nator, system of Deflection
Light Source



f Stand

cope stand with limb. Horizontal slider guide for changing the Universal Opaque Illuminator. Rack-and-pinion coarse focussing, can be clamped in any position. Fine focussing by micro-roller guide and low-set milled heads with graduated drum (1 mm). Detachable stage carrier. Mahogany cabinet with lock compartments for the optical parts.

Z¹ as specified, with Mechanical Stage No. 23, size $\frac{3}{4}$ " \times $4\frac{3}{4}$ "⁽¹⁾, travel 50 \times 30 mm ($2\frac{1}{4}$ " \times $1\frac{1}{4}$ "⁽²⁾), reading accurately means of three scales and verniers (Finder Stage). Without 1 parts. Code Word: ZETOP

particularly for very large and heavy objects, are now in circulation.

ular Observing Tube "S" No. 1012 Code Word: BISR
ular Observing Tube "N" No. 1013 Code Word: MOSRE
cular Tube "M" No. 1011 (for Photomicrography)
 Code Word: MOGRA

que Illuminator No. 1402, as described Code Word: UNOPI
 No. 1410 for the Universal Opaque Illuminator No. 1402
 Code Word: SUNOP

1407 for one-sided external illumination Code Word: SEKOP

sets of Optical Components

nd and Dark-ground (for the examination of Steel and Iron)

lar Microscopy

Incident Light Optical Components on Centring Slides

Objective \times 5.5
 ctives \times 11, \times 45
 ctive \times 62

mmersion Objective \times 100, N.A. 1.30
 ghenian Eyepieces \times 5, \times 8, \times 12

ular Microscopy:

it as above, but with single eyepieces Code Word: ZEDUN

B. Bright Ground (for the examination of Steel and Iron)

1. For Binocular Microscopy

Incident Light Optical Components, on Centring Slides with Handles:
 Achromatic Objectives \times 5.5, \times 11, \times 45
 Fluorite Objective \times 62
 Fluorite Oil Immersion Objective \times 100, N.A. 1.30
 Pairs of Huyghenian Eyepieces \times 5, \times 8, \times 10 Code Word: ZELSE

2. For Monocular Microscopy:

The same set as above, but with single eyepieces Code Word: ZELMO

C. Bright-ground and Dark-ground (for examining Non-ferrous Metals)

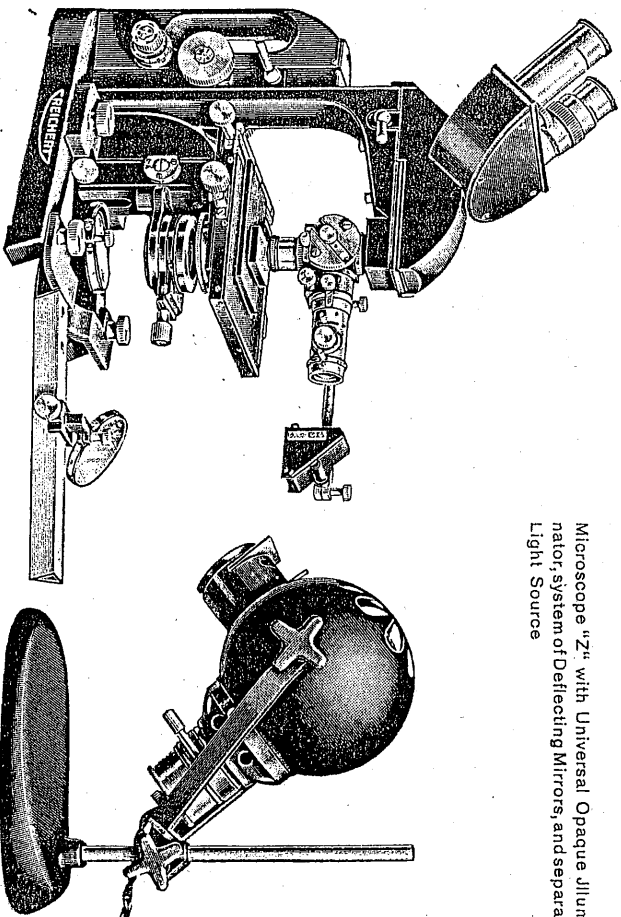
1. For Binocular Microscopy:

Epilum Optical Components on Centring Slides with Handles:
 Epilum Objectives \times 5.5, \times 11, \times 45
 Epilum Oil Immersion Objective \times 62, N.A. 1.00
 Pairs of Huyghenian Eyepieces \times 5, \times 8, \times 10 Code Word: ZENEB

2. Monocular Microscopy

The same set as above, but with single eyepieces Code Word: ZENEM

Microscope "Z¹" with Universal Opaque Illuminator; system of Deflecting Mirrors, and separate Light Source



D. Bright Ground (for the examination of Non-ferrous Metals)

1. For Binocular Microscopy Incident Light Achromatic Optical Components on Centring Slides with Handles:

- Achromatic Objectives X 5.5, X 11, X 15
- Achromatic Oil Immersion Objective X 62, N.A. 1.00
- Pairs of Huyghenian Eyepieces X 5, X 8, X 10

2. For Monocular Microscopy

The same set as above, but with single eyepieces Code Word: ZENIM
 For separate Objectives and Eyepieces, see Price Key.

Light Sources for Incident Light

(a) For Visual Work:

Small Lamp Body No. 1413, with adjustable triple-lens aplanatic-achromatic collector, together with cable and connector
 Code Word: KLOPL

For above:
5 Low Voltage Bulbs No. 761 h (for the Small Lamp), 10 Volt, 0.65 Amp.
 Code Word: KLENY

Green Filter No. 8002
 Code Word: GUFIZ

Yellow Filter No. 8015
 Code Word: GEFIZ

Blue Filter No. 8020
 Code Word: BAFIZ

Universal Resistance No. 782, for connecting up to mains supplies between 110 and 220 Volts D. C. or A. C.¹⁾
 Code Word: UNWID

or:
Transformer No. 7820, for 110 and 220 Volt A. C. supplies only¹⁾
 Code Word: TORAN

(b) For Photomicrography

Photomicrography Lamp "Lux FN", for low-voltage bulb, with adjustable, aplanatic-achromatic collector, iris diaphragm and set of tip-up filters, comprising frosted glass, yellow, green and blue filters. (For this item, it is indispensable to have the Small Optical Bench No. 6111 or the Table Stand No. 8100)
 Code Word: LUFNE

¹⁾ When ordering electrical appliances, etc., please state the voltage of the mains supply available and, in the case of transformers, the frequency as well.

Microscopy Lamp "Lux FDN", as Lux "FN" except that it has a filter carrier, iris diaphragm or set of tip-up filters, but only a filter carrier, frosted glass, yellow, green and blue filters. (For this item it is indispensable to have the Small Optical Bench No. 6111 or the Table Stand No. 8100.)
 Code Word: LUFNE

1 Low-voltage Bulb No. 7705 (for "Lux FN" or "Lux FDN") with special socket
 Code Word: LUFNE

Resistance No. 7806, 5 Amperes, for connecting up to 110, 220, or A. C. supplies¹⁾
 Code Word: UNWID

Transformer No. 7822, for 110 and 220 Volt A. C. supplies only¹⁾
 Code Word: TORAN

Small Optical Bench No. 6111, for securing to the base of the instrument (facing the microscope) a parallel to the plane of symmetry of the instrument (facing the microscope) with securing device for the lamps "Lux FN" or "Lux FDN"
 Code Word: KLOPL

Deflecting Mirror System (for photomicrography), for use with "Lux FN" or any other strong source of light; consisting of a **movable mirror No. 1984**, with holder, for placing on the bench, and **upper, fixed mirror No. 1985**, with auxiliary lamp, to the Opaque Illuminator in place of the small lamp
 Code Word: KLOPL

The Small Optical Bench and the Deflecting Mirrors are necessary for photomicrography with incident light, irrespective of the light sources specified ("Lux FN" or "Lux FDN") or is to be utilised.

Filter Carrier No. 8104 with device for clamping it to the microscope when an independent source of light, arc lamp, etc. is used.

Table Stand No. 8100 with crosshead, to enable the microscope to be moved apart from the microscope and tilted and adjusted in any direction.
 Code Word: LUFNE

¹⁾ When ordering electrical appliances or components, please always state the voltage of the mains supply available and, in the case of transformers, the frequency (in cycles per second).

und (for the examination of Non-ferrous Metals)

ular Microscopy

ight Achromatic Optical Components on Centring Slides

Objectives X 5.5, X 11, X 15

Oil Immersion Objective X 62, N.A. 1.00

ghenian Eyepieces X 5, X 8, X 10

ular Microscopy

et as above, but with single eyepieces Code Word: ZENIM

bjectives and Eyepieces, see Price Key.

es for Incident Light

Work:

mp Body No. 1413, with adjustable triple-lens aplanetic-collector, together with cable and connector
Code Word: KLOPL

tage Bulbs No. 761h (for the Small Lamp), 10 Volt, 0.65 Amp.
Code Word: KLENY

er No. 8002
Code Word: GUFIZ

ter No. 8015
Code Word: GEFIZ

er No. 8020
Code Word: BAFIZ

Resistance No. 782, for connecting up to mains supplies
() and 220 Volts D. C. or A. C.¹⁾ Code Word: UNWID

er No. 7820, for 110 and 220 Volt A. C. supplies only¹⁾
Code Word: TORAN

micrography

ography Lamp "LuxFN" for low-voltage bulb, with adjustable, achromatic collector, iris diaphragm and set of tip-up filters, colored glass, yellow, green and blue filters. (For this item, it is to have the Small Optical Bench No. 6111 or the Table (100)
Code Word: LUFNE

tical appliances, etc.. please state the voltage of the mains supply available transformers, the frequency as well.

Microscopy Lamp "LuxFDN", as Lux "FN" except that it has no iris diaphragm or set of tip-up filters, but only a filter carrier, frosted glass and blue filter. (For this item it is indispensable to have the Small Optical Bench No. 6111 or the Table Stand No. 8100.)
Code Word: LUNAD

1 Low-voltage Bulb No. 7705 (for "LuxFN" or "LuxFDN"), 6 Volt, 5 Amp., with special socket
Code Word: MALUZ

Resistance No. 7806, 5 Amperes, for connecting up to 110, 150 and 220 Volt D. C. or A. C. supplies¹⁾
Code Word: WILDIA

Transformer No. 7822, for 110 and 220 Volt A. C. supplies only¹⁾
Code Word: TROMA

Small Optical Bench No. 6111, for securing to the base of the microscope parallel to the plane of symmetry of the instrument (facing forward), together with securing device for the lamps "LuxFN" or "LuxFDN" Code Word: OPBAP

Deflecting Mirror System (for photomicrography), for use with the lamps "LuxFN", "LuxFDN" or any other strong source of light; consisting of **lower, movable mirror No. 1984**, with holder, for placing on the small optical bench, and **upper, fixed mirror No. 1985**, with auxiliary lens, for attaching to the Opaque Illuminator in place of the small lamp Code Word: UMSPI

The Small Optical Bench and the Deflecting Mirrors are absolutely necessary for photomicrography with incident light, irrespective of whether one of the light sources specified ("LuxFN" or "LuxFDN") or any other source is to be utilised.

Filter Carrier No. 8104 with device for clamping it to the optical bench when an independent source of light, arc lamp, etc. is used. In preparation.

Table Stand No. 8100 with crosshead, to enable the lamps to be used apart from the microscope and tilted and adjusted in any direction.
Code Word: TISTA

¹⁾ When ordering electrical appliances or components, please always state the voltage of the supply available and, in the case of transformers, the frequency (in cycles per second).

Supplementing a Transmitted Light Microscope "Z" for Working with Incident Light

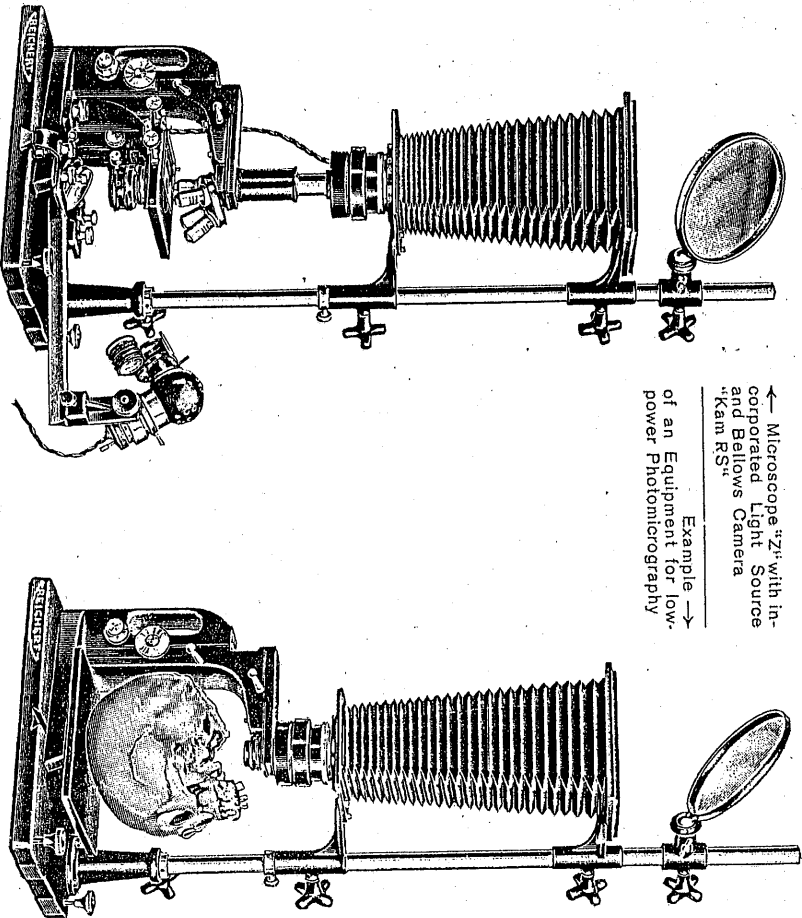
Universal Opaque Illuminator No. 1402 as described on page 14

Code Word: UNOPI

Code Word: SUNOP

Slide Portion No. 1410 for the Universal Opaque Illuminator No. 1402

Code Word: SEKOP



← Microscope "Z" with incorporated Light Source and Bellows Camera "Kam RS"
 Example → of an Equipment for low-power Photomicrography

Objectives

Either, for bright-ground work only: Simple Incident Light on centring slides;

or

For bright- and dark-ground work: "Epilum" Objective condenser, also on centring slides.

For single object glasses and eyepieces for transmitted and see Price Key.

Light Sources for Incident light — see page 18 (a) and (f)

Completing the Instrument for Photomicro with Transmitted and Incident Light

Photomicrographic Apparatus "Kam RS"

on base with clamping cheeks for attaching the microscope, is vertical and the camera can be swung out on the bar. With clear glass focussing screens, two single dark slides, one exposures; to take plates 9 X 12 cm

Shutter No. 345 for time and instantaneous exposures, with r (Cannot be supplied separately)

Observing Mirror No. 6106 s

Suggested Accessories for the Photomicrographic Apparatus "Kam RS"

Bent Focussing Glass No. 6225, X 4.5

or: Straight Focussing Glass No. 6116, X 4.5, with adjustable eye.

2 Stop Rings No. 377 for the Camera Carrier

Adaptors No. 316, for 6.5 X 9 cm plates (One)

Adaptors No. 317, for 4.5 X 6 cm plates (One)

Dark Patch No. 6184, for limiting the image field of the camera

Grey Wedge Exposure Meter No. 6180, 9 X 12 cm

Spare Dark Slide No. 6408, 9 X 12 cm (One)

Mounting a Transmitted Light Microscope "Z" with Incident Light

Opaque Illuminator No. 1402 as described on page 14

Code Word: UNOPI

No. 1410 for the Universal Opaque Illuminator No. 1402

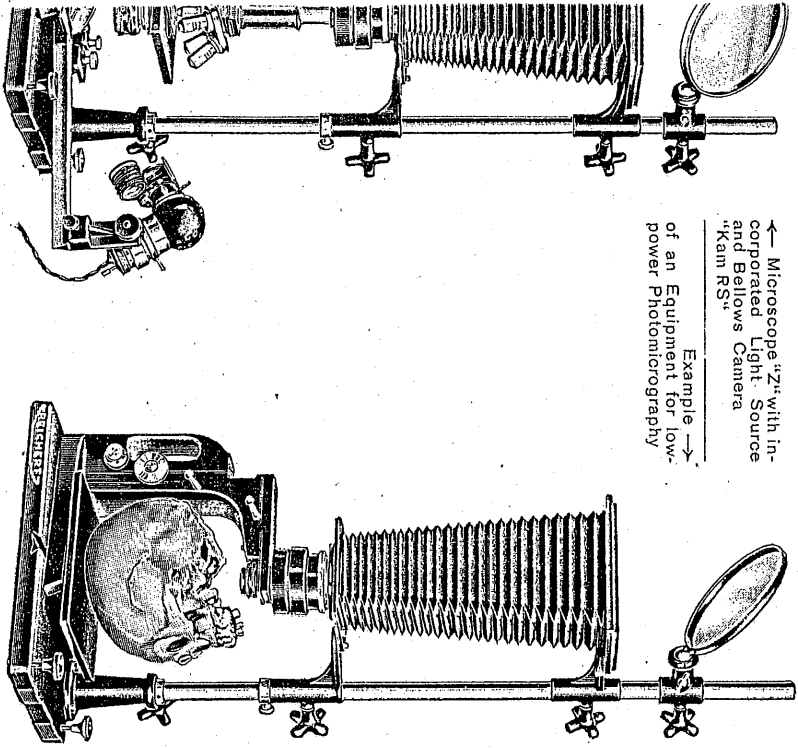
Code Word: SUNOP

No. 1407 for external illumination from one side

Code Word: SEKOP

← Microscope "Z" with incorporated Light Source and Bellows Camera "Kam RS"

Example → of an Equipment for low-power Photomicrography



Objectives

Either, for bright-ground work only: Simple Incident Light Objectives on centring slides;

or

For bright- and dark-ground work: "Epilum" Objectives, with ring condenser; also on centring slides.

For single object glasses and eyepieces for transmitted and incident light, see Price Key.

Light Sources for incident light — see page 18 (a) and (b)

Completing the Instrument for Photomicrography with Transmitted and Incident Light

Photomicrographic Apparatus "Kam RS"

on base with clamping cheeks for attaching the microscope. The runner bar is vertical and the camera can be swung out on the bar. With frosted and clear glass focussing screens, two single dark slides, one for graduated exposures; to take plates 9 X 12 cm

Code Word: KAMSE

Shutter No. 345 for time and instantaneous exposures, with remote release. (Cannot be supplied separately)

Code Word: VERSU

Observing Mirror No. 6106 s

Code Word: SUSPI

Suggested Accessories for the Photomicrographic Apparatus "Kam RS"

Bent Focussing Glass No. 6225, X 4.5

Code Word: KNILLU

or: Straight Focussing Glass No. 6116, X 4.5, with adjustable eye-lens

Code Word: STELU

2 Stop Rings No. 377 for the Camera Carrier

Code Word: RINGE

Adaptors No. 316, for 6.5 X 9 cm plates (One)

Code Word: RAMEN

Adaptors No. 317, for 4.5 X 6 cm plates (One)

Code Word: EINRA

Dark Patch No. 6184, for limiting the image field of the camera

Code Word: EINMA

Grey Wedge Exposure Meter No. 6180, 9 X 12 cm

Code Word: GRAKE

Spare Dark Slide No. 6408, 9 X 12 cm (One)

Code Word: METAN

Spare Ground Glass Focussing Screen No. 327, without frame 9 X 12 cm
Code Word: MATSE

or:
Attachable Camera "Kam VAX"

Complete equipment, together with distance piece and focussing telescope, Ibsor shutter, ground glass screen, 2 metal dark slides, wire release, smoked glass in slip-on mount, dark patch; Size 4.5 X 6 cm
Code Word: VAMAK

The same Camera, but without the observing telescope ("Kam VAY"¹²)
Code Word: VAMUS

or:
Attachable Camera "Kam VBX"

The same equipment as under "VAMAK", but for size 6.5 X 9 cm
Code Word: VABOK

The same Camera, but without observing telescope ("Kam VBY"¹²)
Code Word: VABUF

or:
Attachable Camera "Kam VCX"

The same equipment as under "VAMAK", but for 9 X 12 cm format
Code Word: VACET

The same Camera, but without the observing telescope ("Kam VCY"¹²)
Code Word: VACUR

Suggested Accessories for the Attachable Cameras

- Focussing Glass No. 6116, 4.5, with adjustable eye-lens Code Word: STELU
- Adaptors No. 316 for 6.5 X 9 cm plates (One) Code Word: RAMEN
- Adaptors No. 317 for 4.5 X 6 cm plates (One) Code Word: EINRA
- Plain Focussing Screen No. 6403, 4.5 X 6 cm Code Word: BLAVI
- Plain Focussing Screen No. 6194, 6.5 X 9 cm Code Word: BLASE
- Plain Focussing Screen No. 6195, 9 X 12 cm Code Word: BLANU
- Grey Wedge Exposure Meter No. 6178, 4.5 X 6 cm Code Word: GRAVI
- Grey Wedge Exposure Meter No. 6179, 6.5 X 9 cm Code Word: GRAEX
- Grey Wedge Exposure Meter No. 6180, 9 X 12 cm Code Word: GRAKE
- Ground-glass Focussing Screen No. 6402, 4.5 X 6 cm Code Word: MASIV
- Ground-glass Focussing Screen No. 6191, 6.5 X 9 cm Code Word: MASEX
- Ground-glass Focussing Screen No. 6192, 9 X 12 cm Code Word: MANEU
- Metal Dark Slide No. 6401, 4.5 X 6 cm Code Word: METIV
- Metal Dark Slide No. 6407, 6.5 X 9 cm Code Word: METEX
- Metal Dark Slide No. 6408, 9 X 12 cm Code Word: METAN

Eyepieces for Photomicrography

In order to obtain pictures of sufficiently flat definition, we to use the Plane Eyepieces listed below in place of the us eyepieces. These Plane Eyepieces are, however, only suitab Achromatic Object Glasses from X 10 upwards and with all Glasses.

- Plane Eyepiece X 5 Code
- Plane Eyepiece X 8 Code
- Plane Eyepiece X 12 Code

Light Sources for Photomicrography

For these, please refer to the equipments for transmitted an on pp. 12 and 18.

Particulars of Additional Equipments for Microscopy with Polarised Light and for Low-power

Photomicrography (Photomacrography) supplied on application



Screen Focussing Screen No. 327, without frame 9 X 12 cm
Code Word: MATSE

era "Kam VAX"

nt, together with distance piece and focussing telescope,
nd glass screen, 2 metal dark slides, wire release, smokd
ount, dark patch; Size 4.5 X 6 cm Code Word: VAMAK
; but without the observing telescope ("Kam VAY")
Code Word: VAMUS

era "Kam VBX"

ent as under "VAMAK", but for size 6.5 X 9 cm
Code Word: VABOK
; but without observing telescope ("Kam VBY")
Code Word: VABUF

era "Kam VCX"

ent as under "VAMAK", but for 9 X 12 cm format
Code Word: VACET
; but without the observing telescope ("Kam VCY")
Code Word: VACUR

Accessories for the Attachable Cameras

o. 6116, X 4.5, with adjustable eye-lens Code Word: STELU
for 6.5 X 9 cm plates (One) Code Word: RAMEN
for 4.5 X 6 cm plates (One) Code Word: EINRA
Screen No. 6403, 4.5 X 6 cm Code Word: BLAVI
Screen No. 6194, 6.5 X 9 cm Code Word: BLASE
Screen No. 6195, 9 X 12 cm Code Word: BLANU
Screen Meter No. 6178, 4.5 X 6 cm Code Word: GRAVI
Screen Meter No. 6179, 6.5 X 9 cm Code Word: GRAEX
Screen Meter No. 6180, 9 X 12 cm Code Word: GRAKE
Screen No. 6402, 4.5 X 6 cm Code Word: MASIV
Screen No. 6191, 6.5 X 9 cm Code Word: MASEX
Screen No. 6192, 9 X 12 cm Code Word: MANEU
Screen No. 6401, 4.5 X 6 cm Code Word: METIV
Screen No. 6407, 6.5 X 9 cm Code Word: METEX
Screen No. 6408, 9 X 12 cm Code Word: METAN

Eyepieces for Photomicrography

In order to obtain pictures of sufficiently flat definition, we advise workers to use the Plane Eyepieces listed below in place of the usual Huyghenian eyepieces. These Plane Eyepieces are, however, only suitable for use with Achromatic Object Glasses from X 10 upwards and with all Fluorite Object Glasses.
Plane Eyepiece X 5 Code Word: PLADU
Plane Eyepiece X 8 Code Word: PLANE
Plane Eyepiece X 12 Code Word: PLAVI

Light Sources for Photomicrography

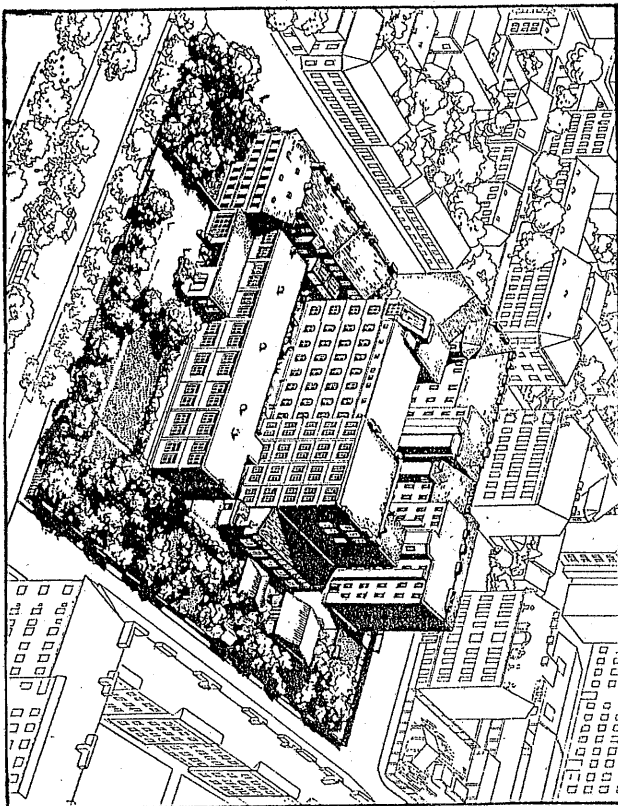
For these, please refer to the equipments for transmitted and incident light on pp. 12 and 18.

Particulars of Additional Equipments for Microscopy with Polarised Light and for Low-power

Photomicrography (Photomacrography) supplied on application



REICHERT



REICHERT

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AUSTRIA
M. B. SEIBER & CO. PTY. LTD.
GRINER AND WEDGWOOD

Mikro 498e — 2000337 M.U.

Printed in Austria

"Large Universal Microscope Z - C.Reichert Optical Works, Vienna, XVII."

This is an original detailed sales brochure for the Reichert Universal Z Microscope.

Date: Covers the 1937 pattern, and printing number indicates 1937.

24 pages, this measures 6.25" x 8.25".

This is a well detailed brochure giving technical details, details of associated equipment including for transmitted light, optical parts, incident light equipment, and attachable cameras. All extras include the code words for ordering. Condition: Cover shows quite a bit of wear with chipping at the top and heavy wear along the spine, corners show bumping and wear, inside shows useage but is clean and tidy, fair plus to reasonable condition overall.