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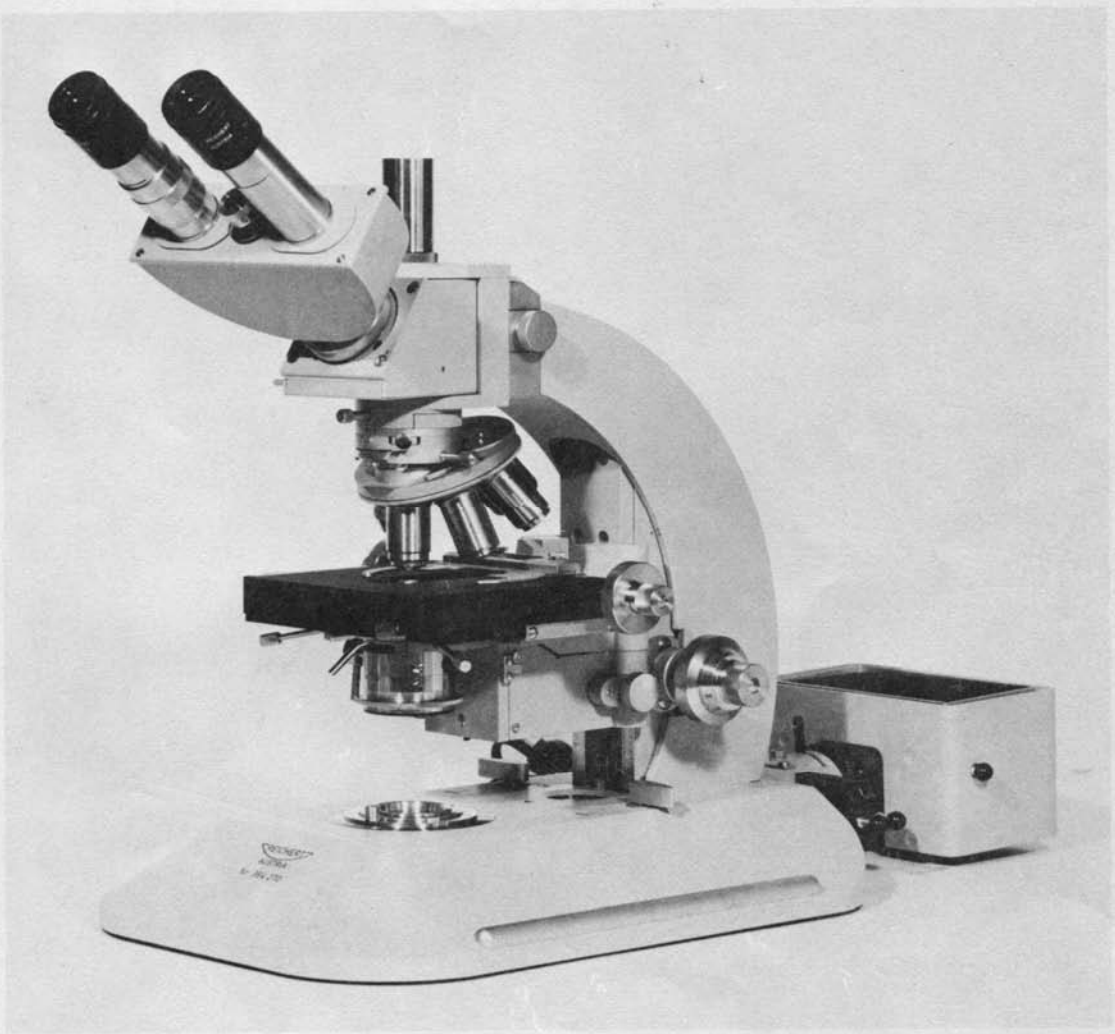
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*Effective December 1, 1976*

KENNETH A. DAWSON CO., INC.
TEL. 484-7900
106 CONCORD AVE. BOX 106
BELMONT, MASS. 02178

# ZETOPAN
## Research Microscope



**Zetopan 127 US-A**

AO American Optical
Reichert Products
SCIENTIFIC INSTRUMENT DIVISION • BUFFALO, N.Y. 14215

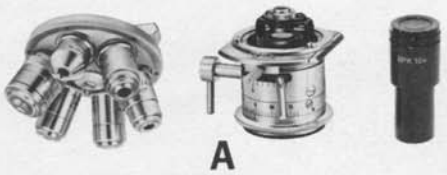
# TRANSMITTED LIGHT ZETOPAN FOR BRIGHT-FIELD / PHASE / ANOPTRAL PHASE

**BASIC STAND** | HYPHEN | **OPTICS**



## ZETOPAN 127 US

**Microscope stand,** illumination optics for transmitted, incident and mixed light, tube head with deviating prism and Bertrand lens, protective cover, binocular body, straight photo tube, condenser carrier, specimen holder, square mechanical stage No. 27, "Lux US" lamp housing, 2 filter slides, lamp holder, 100W., low-voltage halogen lamp, regulating transformer.



## A
### PLAN ACHROMATIC OBJECTIVES

**9 03 12 06** **Sextuple nosepiece,** on slider

**9 99 00 01** **Two-diaphragm condenser,** N.A. = 0.95, top element swing-out and interchangeable on slider.

**Objectives:**

| | | |
|---|---|---|
| **9 22 32 01** | Plan | 4/0.10 160/– |
| **9 22 34 01** | Plan | 10/0.25 160/– |
| **9 22 37 01** | Plan | 40/0.65 160/0.17 fed |
| **9 22 38 01** | Plan | 63/0.80 160/0.17 fed |
| **9 22 40 02** | Plan Oil Iris | 100/1.25 160/0.17 fed |

**9 25 35 51** **Wide field, high eyepoint eyepieces:** BPK 10X, pair

## B
### SEMPLAN OBJECTIVES

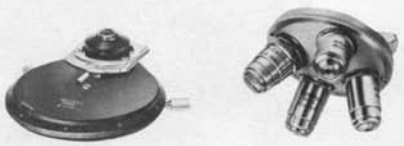
**9 03 12 05** **Quadruple nosepiece,** on slider

**9 99 00 14** **Two-lens condenser,** N.A. = 0.90, with swing-out top element, aperture-iris diaphragm, filter holder, on slider

**Objectives:**

| | | |
|---|---|---|
| **9 22 32 01** | Plan | 4/0.10 160/– |
| **9 22 04 01** | SPl | 10/0.25 160/– |
| **9 22 07 01** | SPl | 40/0.65 160/0.17 fed |
| **9 22 20 02** | SPl Oil Iris | 100/1.30 160/0.17 fed |

**9 25 35 51** **Wide field, high eyepoint eyepieces:** BPK 10X, pair



## PH
### PHASE CONTRAST

**9 03 12 05** **Quadruple nosepiece,** on slider

**9 99 00 05** **Contrast condenser,** N.A. = 0.98, turret with 6 centerable annuli (1-6), 3 empty apertures, aperture-iris diaphragm, on slider.

**9 25 50 01** **Auxiliary telescope**

**Objectives:**

| | | | |
|---|---|---|---|
| **9 22 32 01** | Plan | 4/0.10 160/– | |
| **9 22 04 06** | SPl Ph | 10/0.25 160/– | (1) |
| **9 22 07 06** | SPl Ph | 40/0.65 160/0.17 fed | **(3)** |
| **9 22 20 06** | SPl Oil Ph | 100/1.30 160/0.17 fed | (5) |

**9 25 35 51** **Wide field, high eyepoint eyepieces:** BPK 10X, pair

## PHA
### ANOPTRAL PHASE CONTRAST

**9 03 12 05** **Quadruple nosepiece,** on slider

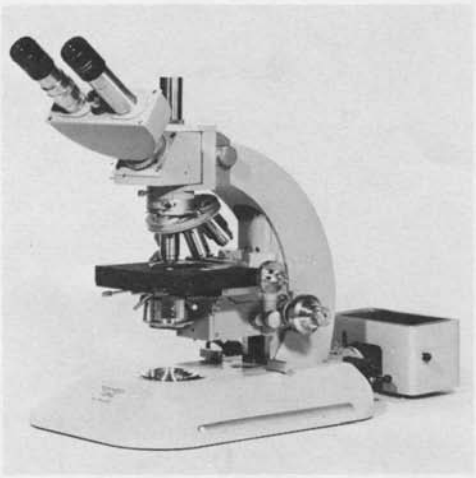
**9 99 00 05** **Contrast condenser,** N.A. = 0.98, turret with 6 centerable annuli (1-6), 3 empty apertures, aperture-iris diaphragm, on slider.

**9 25 50 01** **Auxiliary telescope**

**Objectives:**

| | | | |
|---|---|---|---|
| **9 22 32 01** | Plan | 4/0.10 160/– | |
| **9 22 04 05** | SPl PhA | 10/0.25 160/– | (1) |
| **9 22 07 05** | SPl PhA | 40/0.65 160/0.17 fed | (4) |
| **9 22 20 05** | SPl Oil PhA | 100/1.30 160/0.17 fed | (5) |

**9 25 35 51** **Wide field, high eyepoint eyepieces:** BPK 10X, pair



Zetopan 127 US-A

| Model | Catalog No. | Price |
|---|---|---|
| Zetopan 127 US-A | 9 92 00 64 | $8375.00 |
| Zetopan 127 US-B | 9 92 00 66 | 6967.00 |



Zetopan 127 US-PH

| Model | Catalog No. | Price |
|---|---|---|
| Zetopan 127 US-PH | 9 92 00 61 | $7744.00 |
| Zetopan 127 US-PHA | 9 92 00 62 | 7744.00 |

## TRANSMITTED LIGHT ZETOPAN FOR INTERFERENCE CONTRAST

**BASIC STAND** — HYPHEN — **OPTICS**



### ZETOPAN 127 US

**Microscope stand,** illumination optics for transmitted, incident and mixed light, tube head with deviating prism and Bertrand lens, protective cover, binocular body, straight photo tube, condenser carrier, specimen holder, square mechanical stage No. 27, "Lux US" lamp housing, 2 filter slides, lamp holder, 100W., low-voltage halogen lamp, regulating transformer.



### IC

| | |
|---|---|
| 9 03 12 10 | **Sextuple nosepiece** for I.C., on slider |
| 9 99 00 08 | **Interference contrast condenser,** N.A. = 0.70, turret with 4 built-in quartz double prisms, 4 empty apertures, centering device, aperture-iris diaphragm, on slider. |
| 9 46 31 01 | **Quartz double prism,** in slider |
| 9 17 90 01 | **Transmitted light filter polarizer,** rotatable through 360° |
| 9 46 04 01 | **Filter analyzer,** rotatable through 360°, 0.1° vernier. |
| | **Objectives:** |
| 9 22 32 01 | Plan 4/0.10 160/– |
| 9 22 34 51 | Plan 10/0.25 160/– IK* |
| 9 22 37 51 | Plan 40/0.65 160/0.17 fed IK |
| 9 22 38 51 | Plan 63/0.80 160/0.17 fed IK |
| 9 22 40 52 | Plan Oil Iris 100/1.25 160/0.17 fed IK |
| 9 25 35 51 | **Wide field, high eyepoint eyepieces:** BPK 10X, pair |

*IK denotes strain free objectives especially selected for Interference Contrast.



Zetopan 127 US-IC

| Model | Catalog No. | Price |
|---|---|---|
| Zetopan 127 US-IC | 9 92 00 69 | $11,110.00 |

## TRANSMITTED LIGHT ZETOPAN FOR POLARIZATION

**BASIC STAND** — HYPHEN — **OPTICS**



### ZETOPAN 130 US

**Microscope stand,** illumination optics for transmitted, incident and mixed light, tube head with deviating prism and Bertrand lens, protective cover, binocular body, straight photographic tube, condenser carrier, round rotary stage No. 30, attachable mechanical stage, "Lux US" lamp housing, 2 filter slides, lamp holder, 100W., low-voltage halogen lamp, regulating transformer.



### T POL

| | |
|---|---|
| 9 03 12 06 | **Sextuple nosepiece,** on slider |
| 9 99 00 02 | **Two-diaphragm condenser,** N.A. = 0.95 np,* swing-out and interchangeable top element, on slider |
| 9 17 90 01 | **Transmitted light filter polarizer,** rotatable through 360° |
| 9 46 04 01 | **Filter analyzer,** rotatable through 360°, 0.1° vernier |
| 9 02 80 01 | **Compensator,** gypsum plate red 1st order |
| | **Objectives:** |
| 9 22 32 51 | Plan 4/0.10 160/– np* |
| 9 22 04 51 | SPl 10/0.25 160/– np |
| 9 22 17 53 | Pol 40/0.90 160/0.17 fed np |
| 9 22 08 51 | SPl 63/0.80 160/0.17 fed np |
| 9 22 20 52 | SPl Oil Iris 100/1.30 160/0.17 fed np |
| 9 19 77 03 | **Inclined, monocular polarizing tube P,** swing-in and axially displaceable Bertrand lens, iris diaphragm |
| 9 18 26 03 | **Clamping bridge** |
| 9 25 04 03 | **PK 8X+** cross line eyepiece |
| 9 25 04 01 | **PK 8X eyepiece** |

*np denotes strain-free (non polarizing) optics

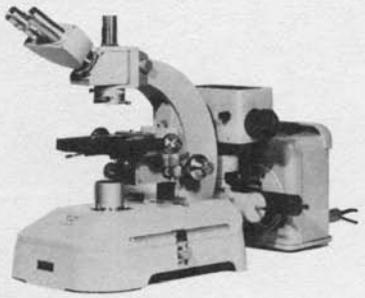


Zetopan 130 US-T POL

| Model | Catalog No. | Price |
|---|---|---|
| Zetopan 130 US-T POL | 9 92 99 81 | $9347.00 |

# TRANSMITTED LIGHT ZETOPAN FOR FLUORESCENCE

**BASIC STAND** | HYPHEN | **OPTICS**



## ZETOPAN 127 CH

**Microscope stand,** illumination optics for transmitted, incident and mixed light, tube head with deviating prism and Bertrand lens, protective cover, binocular body, straight photo tube, condenser carrier, specimen holder, square mechanical stage No. 27. "Binolux 3" dual lamp housing, with HBO200 lamp housing, filter slide with green filter, 3 neutral filters (1NG3, 2NG3, 2.5NG9). Filter slide with UV heat absorbing filter (2KG2 + 5GG385) and 3 exciter filters (2X3BG12, 1.5UG1, 3UG1 + 2.5BG38), HBO200 burner, spacer, power supply. "Lux US" lamp housing with filter slide, 100W low voltage lamp, lamp holder, regulating transformer. Microscope sub-base, light shield tube.

## TF

### TRANSMITTED-CONVENTIONAL BRIGHT-FIELD MICROSCOPY AND DARK-FIELD FLUORESCENCE





| | |
|---|---|
| 9 03 12 05 | **Quadruple nosepiece,** on slider |
| 9 48 12 01 | **Barrier filter slide,** with 3 barrier filters: 1GG9, 3KV418, 1GG9 + 1.50G530 |
| 9 48 02 23 | **Hinged screen** |
| 9 99 00 14 | **Two-lens condenser,** N.A. = 0.90, with swing-out top element, aperture-iris diaphragm, filter holder, condenser slide |
| 9 99 00 18 | **Wide-field immersion dark-field condenser,** N.A. = 1.18/1.42/D, toric lens, condenser sleeve, 2 DF object slides, condenser slide |

**Objectives:**

| | | |
|---|---|---|
| 9 22 25 01 | Fluor | 16/0.50 160/0.17 fed |
| 9 22 17 02 | Iris | 40/0.90 160/0.17 fed |
| 9 22 09 08 | Glyc Iris | 60/0.95 160/– fed |
| 9 22 20 08 | SPI Glyc Iris | 100/1.25 160/0.17 fed |
| 9 25 03 51 | **PK6.3X eyepieces,** pair | |
| 9 25 35 51 | **BPK10X wide field, high eyepoint eyepieces,** pair | |



## TIF

### INCIDENT AND TRANSMITTED LIGHT FLUORESCENCE

| | |
|---|---|
| 9 44 07 02 | **Incident light fluorescence illuminator,** on slide (tube factor q = 1.6X), illuminator housing, mirror slide with 4 dichroic interference beam splitters and 4 barrier filters, deviating mirror, housing accepting an interchangeable filter turret, hinged screen, nosepiece 6X |
| 9 46 40 03 | **Distance piece** |
| 9 99 00 18 | **Wide-field immersion dark-field condenser,** N.A. = 1.18/1.42/D, with toric lens, condenser sleeve, 2 DF object slides, on slider |

**Objectives:**

| | | |
|---|---|---|
| 9 22 25 01 | Fluor | 16/0.50 160/0.17 fed |
| 9 22 17 02 | Iris | 40/0.90 160/0.17 fed |
| 9 22 09 08 | Glyc Iris | 60/0.95 160/– fed |
| 9 22 20 08 | SPI Glyc Iris | 100/1.25 160/0.17 fed |
| 9 25 03 51 | **PK6.3X Eyepieces,** pair | |
| 9 25 35 51 | **BPK10X wide field, high eyepoint eyepieces,** pair | |

HYPHEN

HYPHEN

## A

### FILTER SET, for Immunofluorescence

| | |
|---|---|
| 9 91 00 83 | **Filter turret,** green exciter filter 56 (546nm.), red barrier filter 60 (2.5BG38), blue exciter filter 49 (3BG12 + 3KV418) and cover disk 0 |
| 9 46 41 03 | **Blue exciter filter FITC-3,** in slip-on mount |
| 9 02 44 67 | **Red subduing filter** |
| 9 46 41 05 | **Green exciter filter** (546nm), in slip-on mount |

## B

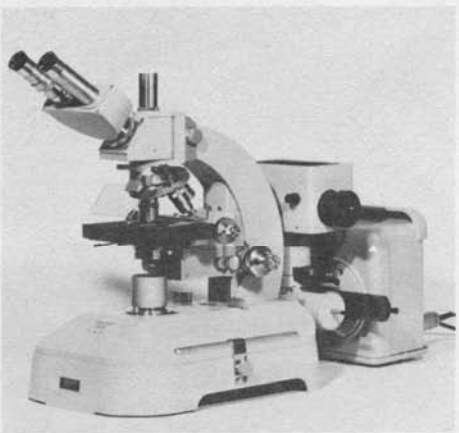
### FILTER SET, for Aromatic Amines

| | |
|---|---|
| 9 91 00 85 | **Filter turret,** UV exciter filter 40 (2UG1), red barrier filter 60 (2.5BG38), violet exciter filter 45 (405nm) and cover disk 0 |
| 9 46 41 04 | **Violet exciter filter** (405nm), in slip-on mount |

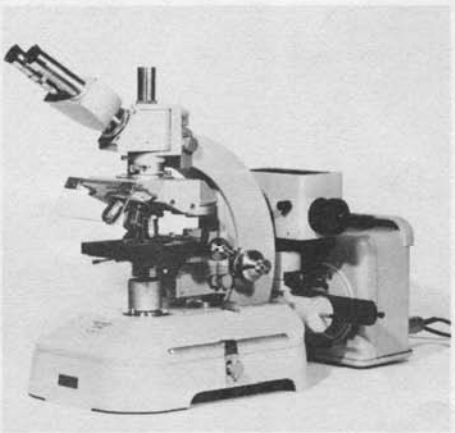
## C

### FILTER SET, Conventional Fluorescence

| | |
|---|---|
| 9 91 00 87 | **Filter turret,** blue exciter filter 49 (3BG12), red barrier filter 60 (2.5BG38), UV exciter filter 40 (2UG1), and cover disk 0 |
| 9 02 44 63 | **Blue exciter filter** |



Zetopan 127CH-TF



Zetopan 127CH-TIF-C

| Model | Catalog No. | Price |
|---|---|---|
| Zetopan 127CH-TF | 9 92 99 40 | $10,987.00 |

| | | |
|---|---|---|
| Zetopan 127CH-TIF-A | 9 92 99 76 | 14,041.00 |
| Zetopan 127CH-TIF-B | 9 92 99 77 | 13,679.00 |
| Zetopan 127CH-TIF-C | 9 92 99 78 | 13,301.00 |

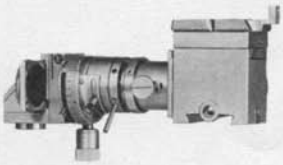
# INCIDENT LIGHT ZETOPAN – BRIGHT-FIELD / DARK-FIELD / INTERFERENCE CONTRAST

**BASIC STAND** — HYPHEN — **OPAQUE ILLUMINATOR** — HYPHEN — **OPTICS**



## ZETOPAN 227 US

**Microscope stand,** illumination optics for transmitted, incident and mixed light, tube head with deviating prism and Bertrand lens, protective cover, binocular body, straight photo tube, incident light cover plate, distance piece, square mechanical stage No. 27, "Lux US" lamp housing, 2 filter slides, lamp holder, 100W, low-voltage halogen lamp, regulating transformer.



## U

**9 90 00 08**

**Universal Opaque Illuminator** on slider, aperture iris diaphragm with centering control and Illumination lens control, field iris diaphragm, swing-in dark-field stop. Slider with rotatable sector diaphragm, aperture for polarizer, open aperture.

### BF
**BRIGHT-FIELD**



**Objectives** on slide:

| | | | | | |
|---|---|---|---|---|---|
| 9 22 82 01 | Plan | 2.8/0.08 190/– | 9 22 57 01 | SPI | 28/0.55 190/0 fed |
| 9 22 54 01 | SPI | 5.5/0.15 190/– | 9 22 89 01 | Plan | 56/0.90 190/0 fed |
| 9 22 55 01 | SPI | 11/0.25 190/– | | | |

**9 25 35 51** **Wide field, high eyepoint eyepieces:** BPK10X, pair

### EPI
**DARK-FIELD/BRIGHT-FIELD**

**Objectives** on slide:

| | | | | | |
|---|---|---|---|---|---|
| 9 22 82 01 | Plan | 2.8/0.08 190/– | 9 22 57 02 | SPI Epi | 28/0.55 190/0 |
| 9 22 54 02 | SPI Epi | 5.5/0.15 190/0 | 9 22 89 02 | Plan Epi | 56/0.90 190/0 |
| 9 22 55 02 | SPI Epi | 11/0.25 190/0 | | | |

**9 25 35 51** **Wide field, high eyepoint eyepieces:** BPK10X, pair



### IK
**INTERFERENCE CONTRAST/ BRIGHT-FIELD**

**9 03 34 21** **Incident-light filter polarizer**
**9 46 04 01** **Filter analyzer,** rotatable through 360°, 0.1° vernier
**9 46 09 03** **Interference contrast equipment,** on slide, adjustable quartz double prism, rotary knob for adjustment to the objective, lever for adjustment to bright, dark and color contrasts (tube factor q = 1.25X)

**Objectives** on slide:

| | | | |
|---|---|---|---|
| 9 22 82 01 | Plan | 2.8/0.08 190/– | |
| 9 22 54 51 | SPI | 5.5/0.15 190/– | np |
| 9 22 55 51 | SPI | 11/0.25 190/– | np |
| 9 22 57 51 | SPI | 28/0.55 190/0 fed | np |
| 9 22 89 51 | Plan | 56/0.90 190/0 fed | np |

**9 25 35 51** **Wide field, high eyepoint eyepieces:** BPK10X, pair

**OPAQUE ILLUMINATOR WITH REVOLVING NOSEPIECE** — **OPTICS**

HYPHEN — HYPHEN



## SN

**9 44 07 05**

**Opaque Illuminator** with built-in sextuple nosepiece, on slider, aperture iris diaphragm with centering control and illumination lens control, field iris diaphragm, swing-in dark-field stop. Slider with rotatable sector diaphragm, aperture for polarizer, open aperture.

**NOTE:** This illuminator is not suitable for Interference Contrast or Nomarski Interferometer.

### BFR
**BRIGHT-FIELD**

**Objectives:**

| | | |
|---|---|---|
| 9 22 82 05 | Plan | 3.2/0.08 210/– |
| 9 22 54 05 | SPI | 6.3/0.15 210/– |
| 9 22 55 05 | SPI | 12.5/0.25 210/– |
| 9 22 57 05 | SPI | 32/0.55 210/0 fed |
| 9 22 89 05 | Plan | 63/0.90 210/0 fed |

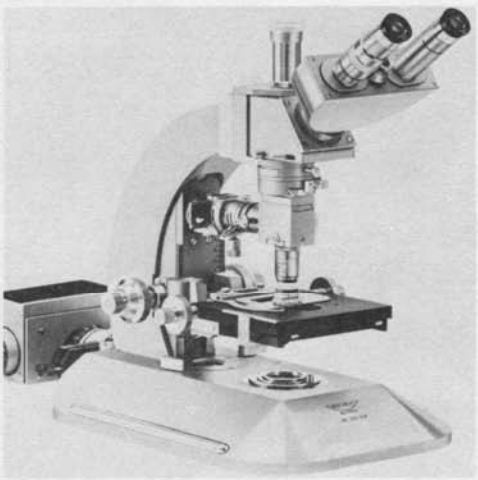
**9 25 35 51** **Wide field, high eyepoint eyepieces:** BPK10X, pair

### EPIR
**DARK-FIELD/BRIGHT-FIELD**

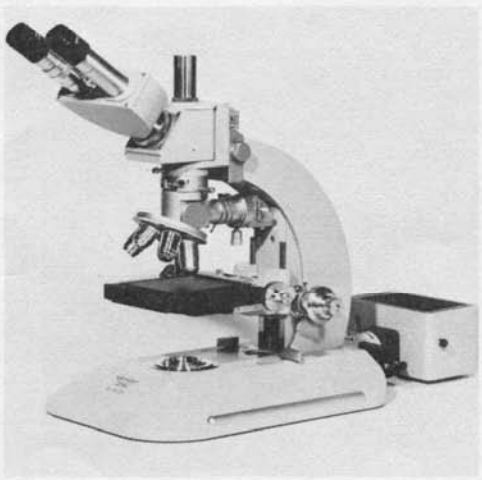
**Objectives:**

| | | |
|---|---|---|
| 9 22 82 05 | Plan | 3.2/0.08 210/– |
| 9 22 54 06 | SPI Epi | 6.3/0.15 210/0 |
| 9 22 55 06 | SPI Epi | 12.5/0.25 210/0 |
| 9 22 57 06 | SPI Epi | 32/0.55 210/0 |
| 9 22 89 06 | Plan Epi | 63/0.90 210/0 |

**9 25 35 51** **Wide field, high eyepoint eyepieces:** BPK10X, pair



Zetopan 227US-U-BF
(shown with optional PK8X eyepieces)



Zetopan 227US-SN-BFR

| Model | Catalog No. | Price |
|---|---|---|
| Zetopan 227US-U-BF | 9 92 99 86 | $7683.00 |
| Zetopan 227US-U-EPI | 9 92 99 87 | 8124.00 |
| Zetopan 227US-U-IK | 9 92 99 88 | 9576.00 |

| | | |
|---|---|---|
| Zetopan 227US-SN-BFR | 9 92 99 89 | 7913.00 |
| Zetopan 227US-SN-EPIR | 9 92 99 90 | 8356.00 |

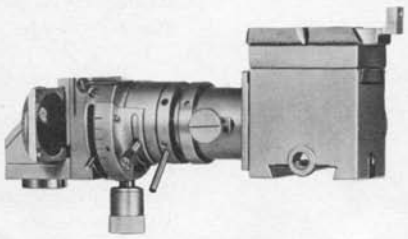
# INCIDENT LIGHT ZETOPAN FOR POLARIZATION

**BASIC STAND** | HYPHEN | **OPAQUE ILLUMINATOR** | HYPHEN | **OPTICS**



## ZETOPAN 230 US

**Microscope stand,** illumination optics for transmitted, incident and mixed light, tube head with deviating prism and Bertrand lens, protective cover, binocular body, straight photographic tube, distance piece, round rotary stage No. 30, attachable mechanical stage, "Lux US" lamp housing, 2 filter slides, lamp holder portion, 100W, low-voltage halogen lamp, regulating transformer.



## U

**9 90 00 08**

**Universal Opaque Illuminator,** on slider, aperture iris diaphragm with centering control and illumination lens control, field iris diaphragm, swing-in dark-field stop. Slider with rotatable sector diaphragm, aperture for polarizer, open aperture.

### POL
### BRIGHT-FIELD

| | |
|---|---|
| **9 03 34 21** | **Incident light filter polarizer** |
| **9 46 04 01** | **Filter analyzer,** rotatable through 360°, 0.1° vernier |
| | **Objectives** on slides: |
| **9 22 82 01** | Plan 2.8/0.08 190/– |
| **9 22 54 51** | SPI 5.5/0.15 190/– np* |
| **9 22 55 51** | SPI 11/0.25 190/– np |
| **9 22 57 51** | SPI 28/0.55 190/0 fed np |
| **9 22 89 51** | Plan 56/0.90 190/0 fed np |
| **9 18 26 03** | **Clamping bridge** |
| **9 25 35 51** | **BPK10X wide field, high eyepoint eyepieces,** pair |

### POL-EPI
### DARK-FIELD/BRIGHT-FIELD

| | |
|---|---|
| **9 03 34 21** | **Incident light filter polarizer** |
| **9 46 04 01** | **Filter analyzer,** rotatable through 360°, 0.1° vernier |
| | **Objectives** on slides: |
| **9 22 82 01** | Plan 2.8/0.08 190/– |
| **9 22 54 52** | SPI Epi 5.5/0.15 190/0 np |
| **9 22 55 52** | SPI Epi 11/0.25 190/0 np |
| **9 22 57 52** | SPI Epi 28/0.55 190/0 np |
| **9 22 89 52** | Plan Epi 56/0.90 190/0 np |
| **9 18 26 03** | **Clamping bridge** |
| **9 25 35 51** | **BPK10X wide field, high eyepoint eyepieces,** pair |

**HYPHEN** | **OPAQUE ILLUMINATOR WITH REVOLVING NOSEPIECE** | **HYPHEN** | **OPTICS**



## SN

**9 44 07 05**

**Opaque Illuminator** with built-in sextuple nosepiece, on slider, aperture iris diaphragm with centering control and illumination lens control, field iris diaphragm, swing-in dark-field stop. Slider with rotatable sector diaphragm, aperture for polarizer, open aperture.

**NOTE:** This illuminator is not suitable for Interference Contrast or Nomarski Interferometer.

### POLR
### BRIGHT-FIELD

| | |
|---|---|
| **9 03 34 21** | **Incident light filter polarizer** |
| **9 46 04 01** | **Filter analyzer,** rotatable through 360°, 0.1° vernier |
| | **Objectives:** |
| **9 22 82 05** | Plan 3.2/0.08 210/– |
| **9 22 54 55** | SPI 6.3/0.15 210/– np |
| **9 22 55 55** | SPI 12.5/0.25 210/– np |
| **9 22 57 55** | SPI 32/0.55 210/0 fed np |
| **9 22 89 55** | Plan 63/0.90 210/0 fed np |
| **9 18 26 03** | **Clamping bridge** |
| **9 25 35 51** | **BPK10X wide field, high eyepoint eyepieces,** pair |

### POL-EPIR
### DARK-FIELD/BRIGHT-FIELD

| | |
|---|---|
| **9 03 34 21** | **Incident light filter polarizer** |
| **9 46 04 01** | **Filter analyzer,** rotatable through 360°, 0.1° vernier |
| | **Objectives:** |
| **9 22 82 05** | Plan 3.2/0.08 210/– |
| **9 22 54 56** | SPI Epi 6.3/0.15 210/0 np |
| **9 22 55 56** | SPI Epi 12.5/0.25 210/0 np |
| **9 22 57 56** | SPI Epi 32/0.55 210/0 np |
| **9 22 89 56** | Plan Epi 63/0.90 210/0 np |
| **9 18 26 03** | **Clamping bridge** |
| **9 25 35 51** | **BPK10X wide field, high eyepoint eyepieces,** pair |

*np denotes strain-free (non polarizing) optics

# INCIDENT LIGHT ZETOPAN FOR POLARIZATION

| BASIC STAND | HYPHEN | OPTICS WITH POL-OPAQUE ILLUMINATOR ESPECIALLY SUITED FOR EARTH SCIENCE APPLICATIONS |
|---|---|---|

## ZETOPAN 230 US

**Microscope stand,** illumination optics for transmitted, incident and mixed light, tube head with deviating prism and Bertrand lens, protective cover, binocular body, straight photographic tube, distance piece, round rotary stage No. 30, attachable mechanical stage, "Lux US" lamp housing, 2 filter slides, lamp holder portion, 100W, low-voltage halogen lamp, regulating transformer.



## IPOL
### DARK-FIELD/BRIGHT-FIELD

**9 44 01 01** **Universal polarizing opaque illuminator,** on slider, Berek prism, on slide, interchangeable with a Gauss mirror, swing-in central diaphragm and sliding lens, swing-in and fully rotatable polarizer with 45° click stops, field-iris diaphragm, aperture-iris diaphragm, 5 central diaphragms according to Stach on turret, sector diaphragm, filter slot, deviating prism, centering clutch, 2 hexagon wrenches.

**Objectives,** in centering mounts (strain free):

| | | | |
|---|---|---|---|
| **9 22 54 58** | Spl Epi | 5.5/0.15 190/0 | np |
| **9 22 65 58** | Spl Epi | 11/0.25 190/0 | np |
| **9 22 57 58** | Spl Epi | 25/0.55 190/0 | np |
| **9 22 59 69** | Fluor | 50/0.90 190/0 | np |
| **9 22 60 69** | Fluor Oil | 80/1.30 190/0 | np |

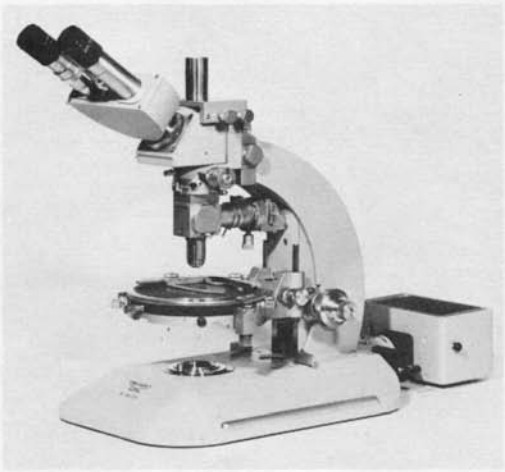
**9 46 04 01** **Filter analyzer,** rotatable through 360°, 0.1° vernier.

**9 19 77 03** **Inclined, monocular polarizing tube P,** swing-in and axially displaceable Bertrand lens, iris diaphragm

**9 18 26 03** **Clamping bridge**

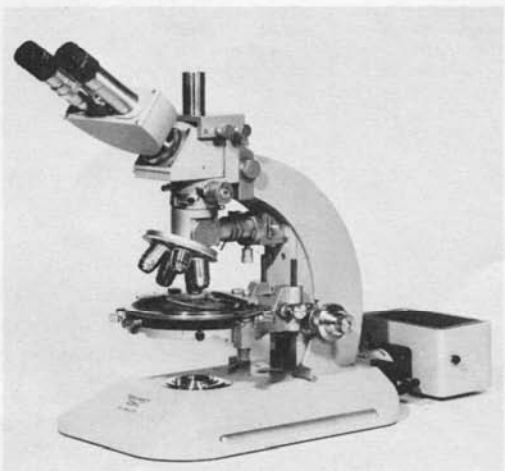
**9 25 04 03** **PK8X+ cross line eyepiece**

**9 25 04 01** **PK8X eyepiece**



Zetopan 230US-U-POL

| Model | Catalog No. | Price |
|---|---|---|
| Zetopan 230US-U-POL | 9 92 99 83 | $9168.00 |
| Zetopan 230US-U-POL-EPI | 9 92 99 84 | 9639.00 |
| Zetopan 230US-SN-POLR | 9 92 99 91 | $9398.00 |
| Zetopan 230US-SN-POL-EPIR | 9 92 99 92 | 9870.00 |
| Zetopan 230US-IPOL | 9 92 99 70 | $11,979.00 |

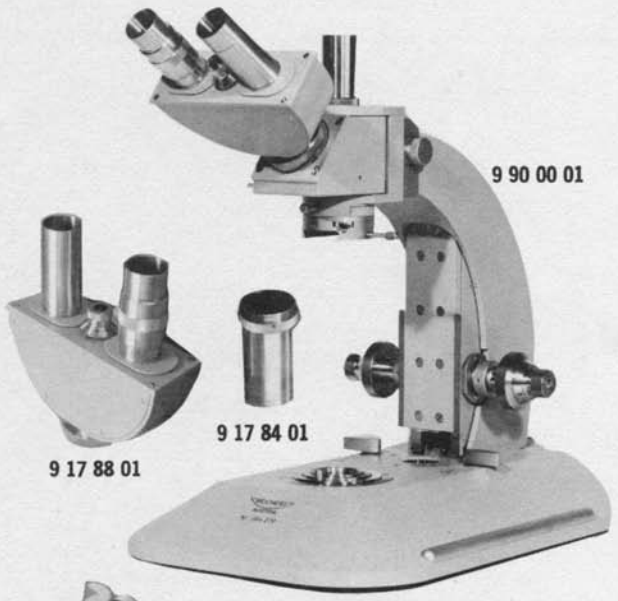


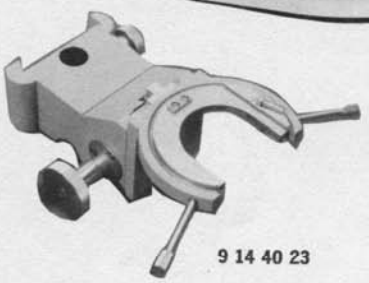
Zetopan 230US-SN-POLR



Zetopan 230US-IPOL

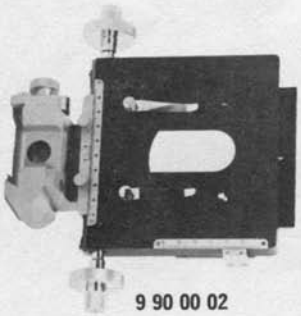
# Stand and Stages





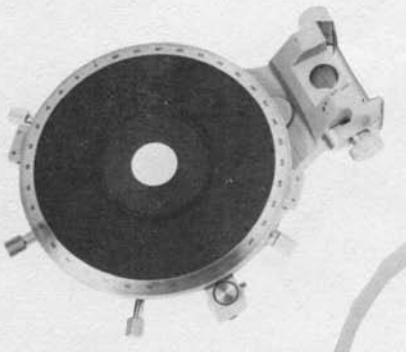


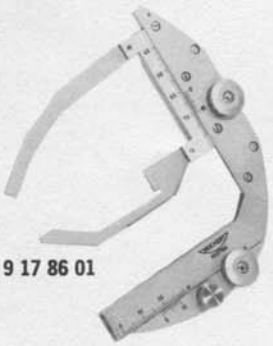






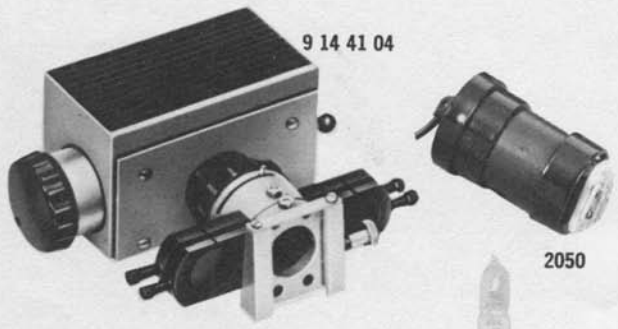



| Catalog Number | Description | List Price |
|---|---|---|
| | **ZETOPAN STAND** | |
| 9 90 00 01 | **Microscope stand,** co-axial coarse and fine focusing adjustment, built-in illumination optics for transmitted light, incident and mixed light, tube head, swing-out tube carrier, deviating prism for observation and photomicrography, swing-out Bertrand lens, protective cover of polyethylene | $2505.00 |
| 9 17 88 01 | **Binocular body,** tube factor q = 1X | 505.00 |
| 9 17 84 01 | **Straight photo tube,** tube factor q = 1X | 9.00 |
| 9 90 00 15 | **ZETOPAN stand outfit** | 3019.00 |
| | **SQUARE STAGE:** | |
| | **127 OUTFIT - Square Stage/ Transmitted Light** | |
| 9 90 00 02 | **Square mechanical stage No. 27,** stage surface 120 X 130 mm with coaxial controls on both sides, coordinate movements 50 X 75 mm, with stage carrier. | 750.00 |
| 9 14 40 23 | **Condenser carrier,** adjustable to height, centering device | 295.00 |
| 9 19 48 01 | **Specimen holder,** interchangeable | 67.00 |
| 9 00 00 16 | **127 square stage outfit** for use with transmitted light | 1112.00 |
| | **227 OUTFIT - Square Stage/Incident Light** | |
| 9 90 00 02 | **Square mechanical stage No. 27,** with stage carrier | 750.00 |
| 9 19 48 02 | **Incident light cover plate** | 33.00 |
| 9 46 40 03 | **Distance piece** | 33.00 |
| 9 00 00 17 | **227 square stage outfit** for use with incident light | 816.00 |
| | **ROTARY STAGE:** | |
| | **130 OUTFIT - Rotary Stage/ Transmitted Light** | |
| 9 19 46 02 | **Large, round rotary stage No. 30,** on stage carrier, stage rotation through 360°, ball bearings, 2 verniers reading to 0.1°, fine focusing control, 45° click stops, locking device for stage rotation, centering device, stage surface 135 mm diameter, 2 stage inserts | 905.00 |
| 9 17 86 01 | **Attachable mechanical stage,** coordinate movements 20 X 30 mm | 463.00 |
| 9 14 40 23 | **Condenser carrier,** adjustable to height, centering device | 295.00 |
| 9 00 00 18 | **130 Rotary Stage outfit** for use with transmitted light | 1663.00 |
| | **230 OUTFIT - Rotary Stage/Incident Light** | |
| 9 19 46 02 | **Large, round rotary stage No. 30,** on stage carrier | 905.00 |
| 9 17 86 01 | **Attachable mechanical stage** | 463.00 |
| 9 46 40 03 | **Distance piece** | 33.00 |
| 9 00 00 19 | **230 Rotary Stage outfit** for use with incident light | 1401.00 |

# LIGHT SOURCES











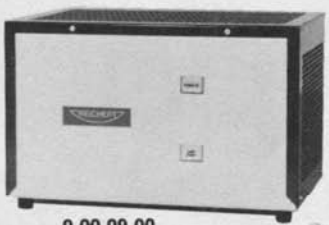
















*when ordering a 9 00 09 00 power supply for an already existing instrument, please specify whether it is to be used with an XBO150 or HBO200.

| Catalog Number | Description | List Price |
|---|---|---|
| | **US 100W, low voltage halogen light source** | |
| 9 14 41 04 | **"Lux US"** lamp housing, on slider, adjustable collector, field iris diaphragm, reflecting mirror, frosted glass in slide. Filter slide with frosted daylight filter, neutral filter N4 and one open aperture. Filter slide with green filter 2VG9, neutral filter N6 and one open aperture. | $ 799.00 |
| 2050 | **Lamp holder** | 63.00 |
| 2052 | **Low-voltage halogen lamp,** 12V, 100W | 10.00 |
| 9 00 09 17 | **Regulating transformer** with voltmeter | 231.00 |
| 9 90 00 06 | **US 100W, low voltage halogen light source** | 1103.00 |
| | **FOR FLUORESCENCE:** | |
| | **CH COMBINATION LIGHT SOURCE, "Binolux 3", HBO200W/2 Mercury with "Lux US", 100W, 12V Halogen.** | |
| 9 60 05 21 | **"Binolux 3" dual lamp housing.** High energy burner lamp housing, adjustable collector of quartz glass, field iris diaphragm, heat absorbing filter, filter housing, mirror housing with mirror and cover slide, filter slide, with green filter, 3 neutral filters, 1NG3, 2NG3, 2.5NG9, "Lux US" lamp housing, adjustable collector, reflecting mirror, frosted glass in slide, field iris diaphragm, heat absorbing filter. Filter slide with frosted daylight filter, neutral filter N4 and one open aperture. Filter slide with green filter 2VG9, neutral filter N6 and one open aperture. | 2529.00 |
| 9 60 05 32 | **Filter slide** for use with HBO200 mercury burner, with UV-heat absorbing filter 2KG2 + 5GG385, and 3 exciter filters, 2X3BG12, 1.5UG1, 3UG1 + 2.5BG38 | 168.00 |
| 9 86 00 12 | **Super pressure mercury vapor burner HBO200W/2** | 83.00 |
| 9 60 05 25 | **Spacer,** for mercury burner | 21.00 |
| *9 00 09 00 | **Power supply unit,** for D.C., HBO200/XBO150 | 612.00 |
| 2052 | **Low-voltage halogen lamp,** 12V, 100W | 10.00 |
| 2050 | **Lamp holder** | 63.00 |
| 9 00 09 17 | **Regulating transformer,** with voltmeter | 231.00 |
| 9 18 87 01 | **Microscope sub-base** | 135.00 |
| 9 48 02 21 | **Light shield tube** | 21.00 |
| 9 00 00 44 | **CH Combination Light Source,** "Binolux 3", with HBO200W/2 Mercury and 100W Halogen | 3873.00 |
| | **ALTERNATIVE "BINOLUX 3", XBO150W with 100W Halogen for Microprojection and special techniques.** | |
| | **AX COMBINATION LIGHT SOURCE, "Binolux 3", XBO150W Xenon with "Lux US" 100W, 12V Halogen.** | |
| 9 60 05 21 | **"Binolux 3" Dual Lamp Housing** | 2529.00 |
| 9 60 05 35 | **Filter slide** for use with XBO150 xenon burner, with UV-heat absorbing filter, 2KG2 + 5GG385 and 3 open apertures | 63.00 |
| 9 00 09 08 | **Xenon high pressure burner XBO150W/1** | 127.00 |
| 9 03 61 03 | **Neutral filter,** in slip-on mount for eyepieces, 2 pcs. | 42.00 |
| *9 00 09 00 | **Power supply unit,** for D.C. HBO200/XBO150 | 612.00 |
| 2052 | **Low-voltage halogen lamp,** 12V, 100W | 10.00 |
| 2050 | **Lamp holder** | 63.00 |
| 9 00 09 17 | **Regulating transformer,** with voltmeter | 231.00 |
| 9 18 87 01 | **Microscope sub-base** | 135.00 |
| 9 48 02 21 | **Light shield tube** | 21.00 |
| 9 00 00 26 | **AX Combination Light Source,** "Binolux 3", with XBO150W Xenon and 100W Halogen | 3833.00 |

# OBJECTIVES and NOSEPIECES




9 22 20 02




9 22 07 01




9 22 04 01




9 22 40 02




9 22 34 01




9 22 37 01




9 22 10 09




9 22 07 05




9 22 04 05




9 22 20 06




9 22 04 06




9 22 07 06



9 03 12 05
(shown with objectives)



9 03 12 06
(shown with objectives)

| Catalog Number | Description | | | Working Distance mm. | List Price | Strain Free Objectives engraved "np" Catalog Number | Strain Free Objectives engraved "np" List Price |
|---|---|---|---|---|---|---|---|
| **OBJECTIVES** | | | | | | | |
| | **Semplan objectives:** | | | | | | |
| 9 22 04 01 | SPI | 10/0.25 160/– | | 6.8 | $ 97.00 | 9 22 04 51 | $135.00 |
| 9 22 05 01 | | 16/0.32 160/– | | 1.2 | 107.00 | | |
| 9 22 06 01 | SPI | 25/0.45 160/0.17 fed | * | 0.85 | 177.00 | 9 22 06 51 | 227.00 |
| 9 22 07 01 | SPI | 40/0.65 160/0.17 fed | | 0.55 | 160.00 | 9 22 07 51 | 219.00 ✓ |
| 9 22 17 02 | Iris | 40/0.90 160/0.17 fed | | 0.52 | 320.00 | | |
| | Pol | 40/0.90 160/0.17 fed | | 0.52 | | 9 22 17 53 | 346.00 |
| 9 22 08 01 | SPI | 63/0.80 160/0.17 fed | | 0.15 | ✓227.00 | 9 22 08 51 | 291.00 |
| 9 22 08 04 | SPI | 63/0.80 160/0 fed | | 0.15 | 244.00 | | |
| 9 22 18 01 | SPI Oil | 50/1.00 160/– fed | | 0.25 | 585.00 | 9 22 18 51 | 662.00 |
| 9 22 20 02 | SPI Oil Iris | 100/1.30 160/0.17 fed | | 0.10 ✓ | 632.00 | 9 22 20 52 | 715.00 ✓ |
| 9 22 09 08 | SPI Glyc Iris | 60/0.95 160/– fed | | 0.36 | 400.00 | | |
| 9 22 10 08 | SPI Glyc Iris | 95/1.18 160/0.17 fed | | 0.11 | 400.00 | | |
| 9 22 20 08 | SPI Glyc Iris | 100/1.25 160/0.17 fed | | 0.10 ✓ | 694.00 | | |
| | **Plan achromatic objectives:** | | | | | | |
| 9 22 31 01 | Plan | 2.5/0.08 160/– | | 5.0 | ✓168.00 | | |
| 9 22 32 01 | Plan | 4/0.10 160/– | | 11.0 | 122.00 | 9 22 32 51 | 169.00 |
| 9 22 34 01 | Plan | 10/0.25 160/– | | 1.4 ✓ | ✓303.00 | 9 22 34 51† | 353.00 |
| 9 22 36 01 | Plan | 25/0.45 160/0.17 fed | | 0.27 | 370.00 | | |
| 9 22 37 01 | Plan | 40/0.65 160/0.17 fed | | 0.20 | 421.00 | 9 22 37 51† | 505.00 |
| 9 22 38 01 | Plan | 63/0.80 160/0.17 fed | | 0.11 | 505.00 | 9 22 38 51† | 590.00 |
| 9 22 40 02 | Plan Oil Iris | 100/1.25 160/0.17 fed | | 0.09 ✓ | 883.00 | 9 22 40 52† | 989.00 ✓ |
| | †These objectives are engraved with IK and are for use with transmitted light interference contrast only. | | | | | | |
| | **Fluorite objectives:** | | | | | | |
| 9 22 25 01 | Fluor | 16/0.50 160/0.17 fed | | 2.0 | 346.00 | | |
| | **Anoptral contrast Semplan objectives:** | | | | | | |
| 9 22 04 05 | PhA | 10/0.25 160/– | (1)‡ | 6.8 ✓ | 160.00 | | |
| 9 22 06 05 | PhA | 25/0.45 160/0.17 fed | (3) | 0.85 | 253.00 | | |
| 9 22 07 05 | PhA | 40/0.65 160/0.17 fed | (4) | 0.55 | 269.00 | | |
| 9 22 17 05 | PhA | 40/0.90 160/0.17 fed | (4) | 0.52 | 395.00 | | |
| 9 22 08 05 | PhA | 63/0.80 160/0.17 fed | (5) | 0.15 ✓ | 337.00 | | |
| 9 22 20 05 | Oil PhA | 100/1.30 160/0.17 fed | (6) | 0.10 | 694.00 | | |
| 9 22 10 09 | Oil PhA | 100/1.25 160/0.17 fed | (5) | 0.12 ✓ | 339.00 | | |
| 9 22 09 11 | Glyc PhA | 60/0.95 160/– fed | (5) | 0.36 | 548.00 | | |
| 9 22 20 11 | Glyc PhA | 100/1.25 160/0.17 fed | (5) | 0.10 | 757.00 | | |
| | **Anoptral contrast plan achromatic objectives:** | | | | | | |
| 9 22 34 05 | Plan PhA | 10/0.25 160/– | (1) | 1.4 ✓ | 395.00 | | |
| 9 22 37 05 | Plan PhA | 40/0.65 160/0.17 fed | (4) | 0.20 | 602.00 | | |
| 9 22 38 05 | Plan PhA | 63/0.80 160/0.17 fed | (5) | 0.11 | 692.00 | | |
| 9 22 40 05 | Plan Oil PhA | 100/1.25 160/0.17 fed | (5) | 0.09 | 1116.00 | | |
| | **Anoptral contrast fluorite objectives:** | | | | | | |
| 9 22 25 05 | Fluor PhA | 16/0.50 160/0.17 fed | (2) | 2.0 | 413.00 | | |
| | **Phase contrast Semplan objectives:** | | | | | | |
| 9 22 04 06 | Ph | 10/0.25 160/– | (1) | 6.8 ✓ | 160.00 | | |
| 9 22 06 06 | Ph | 25/0.45 160/0.17 fed | (2) | 0.85 | 253.00 | | |
| 9 22 07 06 | Ph | 40/0.65 160/0.17 fed | (3) | 0.55 | 269.00 | | |
| 9 22 08 06 | Ph | 63/0.80 160/0.17 fed | (4) | 0.15 | 337.00 | | |
| 9 22 20 06 | SPI Oil Ph | 100/1.30 160/0.17 fed | (5) | 0.10 | 694.00 | | |
| | **Phase contrast plan achromatic objectives:** | | | | | | |
| 9 22 40 06 | Plan Oil Ph | 100/1.25 160/0.17 fed | (5) | 0.09 | 1116.00 | | |
| | *fed - designates objectives with spring loaded front element. ‡number in parenthesis, e.g. (1), designates corresponding annulus in phase condenser. | | | | | | |

| Catalog Number | Description | List Price |
|---|---|---|
| **NOSEPIECES** | | |
| 9 03 12 05 | **Quadruple nosepiece,** on slider | $168.00 ← |
| 9 03 12 06 | **Sextuple nosepiece,** on slider | 235.00 |
| 9 03 12 10 | **Sextuple nosepiece,** for use with interference contrast, engraved "IK", on slider | 257.00 |

## TRANSMITTED LIGHT
# EYEPIECES and CONDENSERS



9 25 03 01 9 25 04 01 9 25 06 01

| Catalog Number | Description | List Price | Eyepiece Pairs Catalog Number | Eyepiece Pairs List Price |
|---|---|---|---|---|
| **EYEPIECES** | | | | |
| **Plan compensating eyepieces:** with eyecups for visual observation and photomicroghaphy | | | | |
| **9 25 02 01** | PK 5 X H.E.P.* | $ 76.00 | **9 25 02 51** | $152.00 |
| **9 25 03 01** | PK 6.3X H.E.P. | 67.00 | **9 25 03 51** | 134.00 |
| **9 25 04 01** | PK 8 X | 76.00 | **9 25 04 51** | 152.00 |
| **9 25 15 01** | Wide field WK 10 X | 76.00 | **9 25 15 51** | 152.00 |
| **9 25 06 01** | PK 12.5X H.E.P. | 135.00 | **9 25 06 51** | 270.00 |
| **9 25 07 01** | PK 16 X | 102.00 | **9 25 07 51** | 204.00 |
| **9 25 09 01** | PK 25 X | 118.00 | **9 25 09 51** | 236.00 |
| **9 25 35 01** | Wide field BPK 10 X H.E.P. | 151.00 | **9 25 35 51** | 302.00 |



426C



9 25 50 01

| Catalog Number | Description | List Price |
|---|---|---|
| **SPECIAL EYEPIECES** | | |
| With adjustable eyelens mount and eyecups. These eyepieces can be combined with standard plan compensating eyepieces of equal magnification. | | |
| | **Cross-line eyepiece:** | |
| **9 25 03 03** | PK 6.3X + p | $ 135.00 |
| **9 25 04 03** | PK 8 X + p | 143.00 |
| **9 25 06 03** | PK 12.5X + p H.E.P.* | 202.00 |
| | **Measuring eyepieces:** Scale 10mm ruled to 0.1mm | |
| **9 25 03 04** | PK 6.3X m | 151.00 |
| **9 25 04 04** | PK 8 X m | 160.00 |
| **9 25 06 04** | PK 12.5X m H.E.P.* | 219.00 |
| | **Counting eyepieces:** 5 X 5 mm square divided into 100 squares | |
| **9 25 03 05** | PK 6.3X mn | 151.00 |
| **9 25 04 05** | PK 8 X mn | 160.00 |
| **9 25 06 05** | PK 12.5X mn H.E.P.* | 219.00 |
| **426C** | **Filar micrometer eyepiece 10X,** with magnification compensator, Metric scale | 276.00 |
| **424C** | **Filar micrometer eyepiece 10X,** with magnification compensator, English scale | 276.00 |
| **9 89 00 39** | **Eyepiece with adjustable counting lines Kpl 8X** | 129.00 |
| **9 25 50 01** | **Auxiliary telescope** | 105.00 |
| | *These eyepieces have a High Eye Point and are suitable for use with eyeglasses. | |



9 99 00 01



9 99 00 14



9 17 14 01



9 99 00 09



9 99 00 11

| Catalog Number | Description | List Price |
|---|---|---|
| **CONDENSERS** | | |
| **BRIGHT-FIELD CONDENSERS** | | |
| **9 99 00 01** | **Two-diaphragm condenser,** N.A. = 0.95, top element swing-out and interchangeable, on slider | 370.00 |
| **9 17 14 01** | **Condenser top element,** N.A. = 1.30, (must be ordered with condenser No. 99 00 01) | 105.00 |
| **9 99 00 14** | **Two-lens condenser,** N.A. = 0.90, with swing-out top element, aperture-iris diaphragm, filter holder, on slider | 185.00 |
| **9 99 00 09** | **Two-lens wide field condenser,** N.A. = 0.22, f = 55 mm, on slider | 135.00 |
| **9 99 00 11** | **Achromatic aplanatic condenser,** N.A. = 1.35/MSPM, six lens condenser, centering mount, aperture iris diaphragm with division, filter holder, on slider. For use with Microspectrophotometer. | 455.00 |
| **BRIGHT-FIELD CONDENSERS, STRAIN FREE** | | |
| **9 99 00 02** | **Two-diaphragm condenser,** N.A. = 0.95 np, swing-out and interchangeable top element, on slider | 442.00 |
| **9 17 14 51** | **Condenser top element,** N.A. = 1.30 np, (must be supplied with condenser 99 00 02) | 118.00 |
| **9 99 00 21** | **Two-lens condenser,** N.A. = 0.92 np, swing-out top element, aperture-iris diaphragm, filter holder, on slider | 261.00 |
| **9 99 00 10** | **Two-lens wide field condenser,** N.A. = 0.22 np, f = 55 mm, on slider | 151.00 |

# CONDENSERS (Cont.)



9 99 00 18



9 99 00 05



9 46 31 01

9 99 00 08



9 99 00 17



9 28 28 60



9 99 00 16



9 28 28 35

| Catalog Number | Description | List Price |
|---|---|---|
| | **DARK-FIELD CONDENSERS** | |
| 9 99 00 18 | **Wide-field immersion dark-field condenser** N.A. = 1.18/1.42/D, with toric lens, fixed condenser sleeve on slider, 2 dark-field object slides | $ 278.00 |
| 9 99 00 03 | **Immersion dark-field condenser,** N.A. = 1.18/1.42/D, fixed condenser sleeve on slider, 2 dark-field object slides. For use on microspectrophotometer. | 244.00 |
| | **PHASE/ANOPTRAL PHASE CONTRAST CONDENSERS** | |
| 9 99 00 05 | **Contrast condenser,** N.A. = 0.98, turret with 6 annular aperture diaphragms (1-6), 3 empty apertures, centering device, aperture iris diaphragm, with wide field optics, on slider. | 690.00 |
| 9 99 00 06 | **Long focus contrast condenser,** N.A. = 0.60, turret with 6 annular aperture diaphragms (1a, 1-5), 3 empty apertures, centering device, aperture iris diaphragm, on slider. | 615.00 |
| 9 99 00 07 | **Contrast fluorescence condenser,** N.A. = 0.92, turret with 5 annular aperture diaphragms (1-5) transparent to UV, aperture with red excluding filter (B), 3 empty apertures, centering device and aperture iris diaphragm, on slider. | 883.00 |
| | **INTERFERENCE CONTRAST CONDENSER** | |
| 9 99 00 08 | **Interference contrast condenser,** N.A. = 0.70, turret with 4 built-in quartz double prisms for IK plan achromatic objectives, wide field optics, 4 empty apertures, centering device and aperture iris diaphragm, on slider. | 1810.00 |
| 9 46 31 01 | **Quartz double prism,** in slider | 337.00 |
| | **MULTISYSTEM CONDENSERS** | |
| 9 99 00 17 | **Two-lens condenser,** N.A. = 0.65/MS, condenser sleeve with magnetic plate, centering key, aperture iris diaphragm with filter holder, on slider. | 193.00 |
| | **Magnetic Inserts for dark-field examinations:** | |
| 9 28 28 60 | **Insert with central stop D 0.25** | 46.00 |
| 9 28 28 63 | **Insert with central stop D 0.65** | 46.00 |
| 9 28 28 81 | **Insert with central stop 0.50** | 46.00 |
| | **Magnetic Inserts for phase and Anoptral contrast examinations:** | |
| 9 28 28 64 | **Insert with annular diaphragm D1,** for PhA 10/0.25<br>Ph 10/0.25<br>Ph 16/0.32 | 46.00 |
| 9 28 28 67 | **Insert with annular diaphragm D2,** for PhA 16/0.32<br>Fluor PhA 16/0.50<br>Ph 25/0.45 | 46.00 |
| 9 28 28 65 | **Insert with annular diaphragm D3,** for PhA 25/0.45<br>Ph 40/0.65 | 46.00 |
| 9 28 28 66 | **Insert with annular diaphragm D4,** for Ph 40/0.65<br>PhA 40/0.90<br>Ph 63/0.80 | 46.00 |
| 9 90 00 16 | **Three-lens condenser,** N.A. = 1.40/UV/MS, condenser sleeve with magnetic plate, centering key, aperture iris diaphragm with filter holder, on slider | 266.00 |
| | **Magnetic Inserts for contrast fluorescence examinations:** | |
| 9 28 28 35 | **Insert with filter diaphragm UV3,** for PhA 25/0.45<br>Ph 40/0.65 | 93.00 |
| 9 28 28 36 | **Insert with filter diaphragm UV4,** for PhA 40/0.65<br>PhA 40/0.90<br>Ph 63/0.80 | 93.00 |
| 9 28 28 37 | **Insert with filter diaphragm UV5,** for PhA 63/0.80<br>Oil PhA 100/1.30<br>Glyc PhA 60/0.95<br>Glyc PhA 95/1.18<br>Oil Ph 100/1.30 | 93.00 |
| 9 28 28 38 | **Insert with filter diaphragm UV6,** for Oil PhA 100/1.25 | 93.00 |

TRANSMITTED LIGHT

# INCIDENT LIGHT FLUORESCENCE COMPONENTS



9 44 07 02



9 91 00 83



9 46 40 03

| Catalog Number | Description | List Price |
|---|---|---|
| 9 44 07 02 | **Incident light fluorescence illuminator,** on slide (tube factor q = 1.6X), illuminator housing, mirror slide with 4 dichroic interference beam splitters and 4 barrier filters, deviating mirror, housing accepting an interchangeable filter turret, hinged screen, nosepiece 6X | $2651.00 |
| 9 91 00 83 | **Filter turret a,** with green exciter filter 56 (546nm), red barrier filter 60 (2.5BG38), blue exciter filter 49 (3BG12 + 3KV418) and cover disk 0 | 257.00 |
| 9 91 00 85 | **Filter turret b,** with UV exciter filter 40 (2UG1), red barrier filter 60 (2.5BG38), violet exciter filter 45 (405nm), and cover disk 0 | 244.00 |
| 9 91 00 87 | **Filter turret c,** with blue exciter filter 49 (3BG12), red barrier filter 60 (2.5BG38), UV exciter filter 40 (2UG1) and cover disk 0 | 122.00 |
| 9 46 40 03 | **Distance piece** | 33.00 |

TRANSMITTED LIGHT

# PARTS and ACCESSORIES



9 17 90 01



9 46 07 01



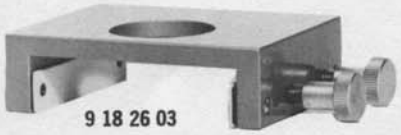
9 46 04 01



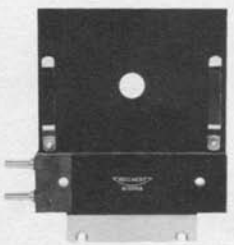
9 02 80 01



9 19 77 03 (shown with eyepiece)



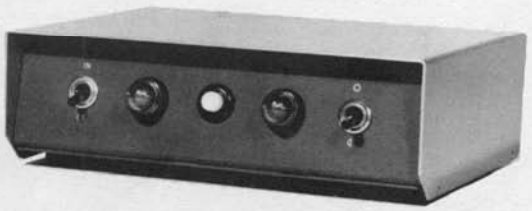
9 18 26 03



9 67 07 23



9 65 06 21 with 9 65 06 22



9 65 05 21

| Catalog Number | Description | List Price |
|---|---|---|
| | **POLARIZING ACCESSORIES** | |
| 9 17 90 01 | **Transmitted light polarizer,** rotatable through 360°, graduated in 5°, and click stops at 0°, 90°, 180° and 270° | $ 169.00 |
| 9 46 07 01 | **Filter analyzer,** fixed, in standard slide | 105.00 |
| 9 46 04 01 | **Filter analyzer,** rotatable through 360°/0.1° vernier, in standard slide | 442.00 |
| | **Compensators,** in metal mount: | |
| 9 02 78 01 | Quartz wedge, 1st to 3rd order | 202.00 |
| 9 02 79 01 | Mica plate 1/4 λ | 63.00 |
| 9 02 80 01 | Gypsum plate, red, 1st order | 63.00 |
| 9 19 77 03 | **Inclined, monocular polarizing tube P,** swing-in and axially displaceable Bertrand lens, iris diaphragm | 277.00 |
| 9 18 26 03 | **Clamping bridge,** for Zetopan tube head | 59.00 |
| 9 19 24 01 | **Auxiliary magnifier,** 12X, scale 10mm, divided into 0.1mm, with adjustable eyelens, swing-out type with mounting bracket | 303.00 |
| | **BIOTHERM, BIOLOGICAL HOTPLATE** | |
| 9 67 07 23 | **Biological hotplate,** with attached specimen clamps, intermediate portion for attachment to stage No. 27 (outfits 127 and 227). | 118.00 |
| 9 67 07 31 | **Thermometer shoe** | 21.00 |
| 9 86 10 01 | **Thermometer,** gauged from +30° to +45°C | 25.00 |
| 9 00 10 02 | **Specimen clamp** | 4.00 |
| 9 67 08 01 | **Regulating transformer,** with regulating device and scale for temperature | 160.00 |
| 9 67 07 03 | **Biotherm biological hotplate** | 328.00 |
| | **MICROFLASH EQUIPMENT** | |
| 9 65 06 21 | **Flash tube insert,** pilot lamp insert with collector and protective cover | 421.00 |
| 9 65 06 22 | **Flash tube** | 67.00 |
| 9 65 05 21 | **Control unit,** with voltage selector for 110, 150 and 220V | 610.00 |
| 9 65 05 22 | **Synchronizing cable** | 21.00 |
| 9 02 63 01 | **Low-voltage bulb,** 6V, 15W, 2 pieces | 39.00 |
| 9 03 03 02 | **Bulb holder,** with cable and plug | 33.00 |
| 9 65 06 23 | **Filter slide** with neutral filter N1, green filters G1 and G2 | 72.00 |
| 9 65 06 24 | **Filter slide** with neutral filters N2, N4 and N6 | 72.00 |
| 9 00 00 54 | **Microflash equipment** | 1335.00 |

## TRANSMITTED LIGHT
# PARTS and ACCESSORIES


9 18 29 01

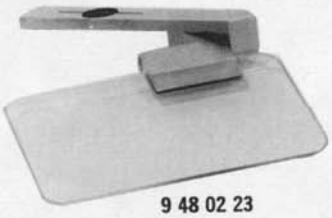

9 13 48 01


9 16 93 01



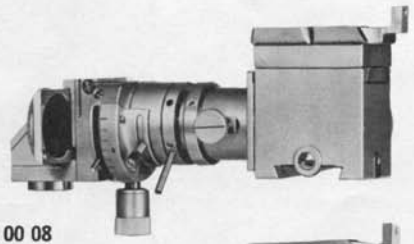
9 17 96 21


9 17 89 01


9 48 02 23

| Catalog Number | Description | List Price |
|---|---|---|
| | **VIEWING SCREEN** | |
| 9 18 29 01 | **Viewing screen housing** with clamping collar, adjusting screws for the deviating prism, built-in Fresnel lens, frosted screen, anti-dazzle screen, adapter ring | $619.00 |
| 9 03 61 03 | **Neutral filter,** in slip-on mount for eyepieces, 2 pieces | 42.00 |
| 9 25 04 01 | **Plan compensating eyepiece** PK 8X | 76.00 |
| 9 90 01 35 | **Viewing screen outfit** | 737.00 |
| | **MICROPROJECTION ACCESSORIES** | |
| 9 13 48 01 | **Projection prism,** oriented at 45° to the optical axis | 93.00 |
| 9 16 93 01 | **Projection mirror,** can be set at any desired angle to the optical axis | 89.00 |
| 9 17 96 21 | **Cinephotomicrographic lens flange,** with standard C thread | 135.00 |
| | **OTHER ACCESSORIES** | |
| 9 89 00 01 | **Transmitted light stage micrometer,** of glass scale 2 mm, ruled to 0.01 mm | 59.00 |
| 9 17 89 01 | **Inclined, monocular body M** | 67.00 |
| 9 89 00 11 | **Immersion oil,** normal | 2.00 |
| 9 89 00 13 | **Immersion glycerin,** non-fluorescent | 4.00 |
| 9 89 00 07 | **Object slides,** of UV glass, 26 X 75 mm, 50 pieces | 21.00 |
| 9 99 00 23 | **Dark-field object slides,** 26 X 76 mm, polished on both sides (0.7-1.0 mm), 10 pieces | 13.00 |
| 9 48 12 01 | **Barrier filter slide,** with 3 barrier filters: 1GG9, 3KV418, 1GG9 + 1.5OG530 | 93.00 |
| 9 48 02 23 | **Hinged screen** of yellow glass for fluorescent work | 63.00 |
| 9 19 32 01 | **UV barrier eyeglasses** | 51.00 |

## INCIDENT LIGHT
# OPAQUE ILLUMINATORS


9 90 00 08


9 44 07 05


9 44 01 01

| Catalog Number | Description | List Price |
|---|---|---|
| | **ILLUMINATORS** | |
| 9 90 00 08 | **"U" Unversal Opaque Illuminator** on slider, aperture iris diaphragm with centering control and illumination lens control, field iris diaphragm, swing-in dark field stop. Slider with rotatable sector diaphragm, aperture for polarizer, open aperture. (For use with 190mm objectives) | $ 981.00 |
| 9 44 07 05 | **"SN" Opaque Illuminator** with built-in Sextuple nosepiece, on slider, aperture iris diaphragm with centering control and illumination lens control, field iris diaphragm, swing-in dark-field stop. Slider with rotatable sector diaphragm, aperture for polarizer, open aperture (for use with 210mm objectives) **NOTE:** This illuminator is not suitable for Nomarski Interference Contrast or Nomarski Interferometer. | 1318.00 |
| 9 44 01 01 | **"IPOL" Universal Polarizing opaque illuminator,** on slider, Berek prism, on slide, interchangeable with a Gauss mirror, swing-in central diaphragm and sliding lens, swing-in and fully rotatable polarizer with 45° click stops, field-iris diaphragm, aperture-iris diaphragm, 5 central diaphragms according to Stach on turret, sector diaphragm, filter slot, deviating prism, centering clutch, 2 hexagon wrenches | 2871.00 |

# INCIDENT LIGHT
# OBJECTIVES




9 22 90 01




9 22 88 51




9 22 55 01




9 22 89 52




9 22 57 52




9 22 54 52




9 22 59 69




9 22 57 58




9 22 65 58




9 22 90 55




9 22 89 55




9 22 54 55




9 22 89 06




9 22 55 06




9 22 54 06

| Catalog Number | Description | Working Distance mm | List Price | Strain Free Objectives engraved "np" Catalog Number | Strain Free Objectives engraved "np" List Price |
|---|---|---|---|---|---|
| | **OBJECTIVES, 190mm, with objective slide, for use with "U" Opaque Illuminator** | | | | |
| | **BRIGHT-FIELD** | | | | |
| | **SEMPLAN objectives:** | | | | |
| 9 22 54 01 | SPl 5.5/0.15 190/– | 17.2 | $160.00 | 9 22 54 51 | $ 215.00 |
| 9 22 55 01 | SPl 11/0.25 190/– | 4.6 | 198.00 | 9 22 55 51 | 248.00 |
| 9 22 57 01 | SPl 28/0.55 190/0 fed | 0.7 | 328.00 | 9 22 57 51 | 391.00 |
| | **FLUORITE objectives:** | | | | |
| 9 22 58 01 | Fluor 45/0.75 190/0 fed | 0.29 | 273.00 | 9 22 58 51 | 337.00 |
| 9 22 60 01 | Fluor Oil 90/1.30 190/0 fed | 0.23 | 295.00 | 9 22 60 51 | 357.00 |
| | **PLAN ACHROMATIC objectives:** | | | | |
| 9 22 82 01 | Plan 2.8/0.08 190/– | 5.0 | 224.00 | | |
| 9 22 88 01 | Plan 45/0.85 190/0 fed | 0.27 | 459.00 | 9 22 88 51 | 577.00 |
| 9 22 89 01 | Plan 56/0.90 190/0 fed | 0.22 | 552.00 | 9 22 89 51 | 686.00 |
| 9 22 90 01 | Plan Oil 90/1.25 190/0 fed | 0.26 | 1031.00 | 9 22 90 51 | 1136.00 |
| | **DARK-FIELD/BRIGHT-FIELD** | | | | |
| | **EPI-SEMPLAN objectives:** | | | | |
| 9 22 54 02 | Epi 5.5/0.15 190/0 | 17.2 | 273.00 | 9 22 54 52 | 349.00 |
| 9 22 55 02 | Epi 11/0.25 190/0 | 4.6 | 341.00 | 9 22 55 52 | 391.00 |
| 9 22 57 02 | Epi 28/0.55 190/0 | 0.7 | 413.00 | 9 22 57 52 | 475.00 |
| | **EPI PLAN ACHROMATIC objective:** | | | | |
| 9 22 89 02 | Plan Epi 56/0.90 190/0 | 0.22 | 652.00 | 9 22 89 52 | 796.00 |
| | **OBJECTIVES, 190mm, with quick changer, for use with "I-POL" Opaque Illuminator** | | | | |
| | Epi 5.5/0.15 190/0 | 17.2 | | 9 22 54 58 | 366.00 |
| | Epi 11/0.25 190/0 | 4.6 | | 9 22 65 58 | 408.00 |
| | Epi 25/0.55 190/0 | 0.7 | | 9 22 57 58 | 492.00 |
| | Fluor 50/0.90 190/0 | 0.23 | | 9 22 59 69 | 632.00 |
| | Fluor Oil 80/1.30 190/0 | 0.23 | | 9 22 60 69 | 690.00 |
| | **OBJECTIVES, 210mm, for use with "SN" Opaque Illuminator** | | | | |
| | **BRIGHT-FIELD** | | | | |
| | **SEMPLAN objectives:** | | | | |
| 9 22 54 05 | SPl 6.3/0.15 210/– | 17.2 | 139.00 | 9 22 54 55 | 193.00 |
| 9 22 55 05 | SPl 12.5/0.25 210/– | 4.6 | 177.00 | 9 22 55 55 | 227.00 |
| 9 22 57 05 | SPl 32/0.55 210/0 fed | 0.7 | 307.00 | 9 22 57 55 | 370.00 |
| | **FLUORITE objectives:** | | | | |
| | Fluor 50/0.75 210/0 fed | 0.29 | | 9 22 58 55 | 497.00 |
| | Fluor Oil 100/1.30 210/0 fed | 0.23 | | 9 22 60 55 | 652.00 |
| | **PLAN ACHROMATIC objectives:** | | | | |
| 9 22 82 05 | Plan 3.2/0.08 210/– | 5.0 | 202.00 | | |
| 9 22 88 05 | Plan 50/0.85 210/0 fed | 0.27 | 437.00 | 9 22 88 55 | 555.00 |
| 9 22 89 05 | Plan 63/0.90 210/0 fed | 0.22 | 530.00 | 9 22 89 55 | 665.00 |
| 9 22 90 05 | Plan Oil 100/1.25 210/0 fed | 0.26 | 1010.00 | 9 22 90 55 | 1116.00 |
| | **DARK-FIELD/BRIGHT-FIELD** | | | | |
| | **EPI-SEMPLAN objectives:** | | | | |
| 9 22 54 06 | Epi 6.3/0.15 210/0 | 17.2 | 253.00 | 9 22 54 56 | 328.00 |
| 9 22 55 06 | Epi 12.5/0.25 210/0 | 4.6 | 320.00 | 9 22 55 56 | 370.00 |
| 9 22 57 06 | Epi 32/0.55 210/0 | 0.7 | 391.00 | 9 22 57 56 | 455.00 |
| | **EPI PLAN ACHROMATIC objectives:** | | | | |
| 9 22 89 06 | Plan Epi 63/0.90 210/0 | 0.22 | 632.00 | 9 22 89 56 | 774.00 |



9 46 07 01



9 46 04 01




9 02 80 01



9 18 26 03



9 19 77 03



9 19 23 01

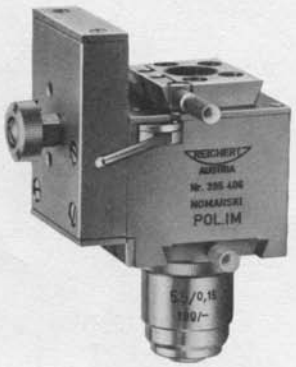


9 19 24 01

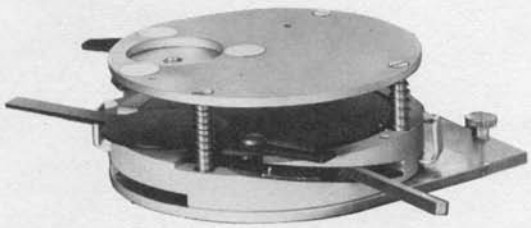



9 46 09 03
(shown with objective)

| Catalog Number | Description | List Price |
|---|---|---|
| | **POLARIZING ACCESSORIES** | |
| 9 03 34 21 | **Incident light filter polarizer,** in threaded mount | $ 97.00 |
| 9 46 07 01 | **Filter analyzer,** fixed, in standard slide | 105.00 |
| 9 46 04 01 | **Filter analyzer,** rotatable through 360°/0.1° vernier, in standard slide | 442.00 |
| | **Compensators,** in metal mount: | |
| 9 02 78 01 | Quartz wedge, 1st to 3rd order | 202.00 |
| 9 02 79 01 | Mica plate 1/4 λ | 63.00 |
| 9 02 80 01 | Gypsum plate, red, 1st order | 63.00 |
| 9 18 26 03 | **Clamping bridge,** for Zetopan tube head | 59.00 |
| 9 19 77 03 | **Inclined, monocular polarizing tube P,** swing-in and axially displaceable Bertrand lens, iris diaphragm | 277.00 |
| | **Accessories for conoscopic examinations:** | |
| 9 19 23 01 | **Czapski eyepiece,** Huygenian eyepiece 4X, with field-iris diaphragm and adjustable eyelens | 108.00 |
| 9 19 24 01 | **Auxiliary magnifier,** 12X, scale 10mm, 0.1mm divisions, with adjustable eyelens, swing-out type with mounting bracket | 303.00 |
| | **INTERFERENCE CONTRAST** | |
| 9 46 09 03 | **Interference Contrast Equipment,** on slider, adjustable quartz double prism, rotary knob for adjustment to the objective, lever for adjustment to bright, dark and color contrasts (tube factor q = 1.25X) | 1052.00 |
| | **NOTE:** This equipment must be used in conjunction with a polarizer, analyzer. It is for use with all strain free objectives with magnifications of 11/0.25 and higher. | |




**9 46 09 02**
**(shown with objective)**



**9 46 13 21**



**9 18 65 01**

| Catalog Number | Description | List Price |
|---|---|---|
| | **NOMARSKI POLARIZATION INTERFEROMETER** | |
| 9 46 09 02 | **Interferometer body,** on slider, adjustable quartz double prism, rotary knob for altering the spacing of the interference fringes, lever for adjusting the system of interference fringes | $ 821.00 |
| 9 46 41 02 | **Interference Monochromatic Filter** (546nm), in mount | 135.00 |
| | **Objectives,** on slider, for use with Nomarski Interferometer only: | |
| 9 22 54 51 | SPI 5.5/0.15 190/– | 215.00 |
| 9 22 65 57 | SPI 11/0.25 190/– IM | 286.00 |
| 9 22 57 57 | SPI 25/0.55 190/0 IM | 426.00 |
| 9 22 59 57 | Fluor 50/0.90 190/0 IM | 665.00 |
| 9 90 02 10 | **Nomarski Interferometer Outfit** | 2548.00 |
| | **NOTE:** This equipment must be used in conjunction with a polarizer and analyzer. See "POLARIZING ACCESSORIES" above. | |
| | **TOLANSKY MULTIPLE BEAM INTERFEROMETER** | |
| 9 46 13 21 | **Basic unit,** tilting stage plate, fine adjustment of the spacing and direction of the interference bands, specimen holder, signal lamp, swing-out holder for reference plates, connecting cable with plug and spacer for thin specimens | 1284.00 |
| 9 46 13 30 | **Set of reference plates,**<br>R = 40% No. 9 46 13 42<br>R = 65% No. 9 46 13 33<br>R = 75% No. 9 46 13 34<br>R = 90% No. 9 46 13 35<br>R = 95% No. 9 46 13 36 | 232.00 |
| | **Lamp insert, with Hg spectral lamp:** | |
| 9 60 24 01 | **Lamp holder** | 126.00 |
| 9 86 00 18 | **Mercury spectral lamp,** 50V, 40W, Hg/10 | 118.00 |
| 9 62 16 02 | **Power supply,** with line cable, for 100 to 240V | 337.00 |
| 9 46 41 02 | **Interference monochromatic filter** (546nm), in mount | 135.00 |
| 9 02 44 42 | **UV barrier filter** | 13.00 |
| 9 90 52 12 | **Multiple beam interferometer, according to Tolansky,** with spectral mercury lamp insert | 2245.00 |
| | **NOTE:** This equipment is for use with incident light objectives 2.8X to 11X (190mm) and objectives 3.2X to 12.5X (210mm) | |
| | **Reference plates:** | |
| 9 46 13 31 | R = 10 %, plan | 76.00 |
| 9 46 13 32 | R = 40 %, plan | 42.00 |
| 9 46 13 33 | R = 65 %, plan | 42.00 |
| 9 46 13 34 | R = 75 %, plan | 46.00 |
| 9 46 13 35 | R = 90 %, plan | 51.00 |
| 9 46 13 36 | R = 95 %, plan | 51.00 |
| 9 46 13 37 | R = 98.5%, plan | 76.00 |
| | **For measuring the spacing of the interference bands:** | |
| 426C | **Filar micrometer eyepiece 10X,** with magnification compensator | 276.00 |
| | **OTHER ACCESSORIES** | |
| 9 18 65 01 | **Mounting press,** with adjustable stop, for mounting and aligning polished specimens with plasticine on object slides | 118.00 |
| 9 18 71 22 | **Soft iron object slides,** 26 X 76mm, 3 pieces | 13.00 |
| 9 48 16 01 | **Incident light stage micrometer,** of steel, scale 1mm, ruled to 0.01mm | 84.00 |

**EYEPIECES** ..... see page 11
**SPECIAL EYEPIECES** ..... see page 11
**MICROPROJECTION** ..... see page 14

# MICROSPECTROPHOTOMETER

## for measurements in transmitted light

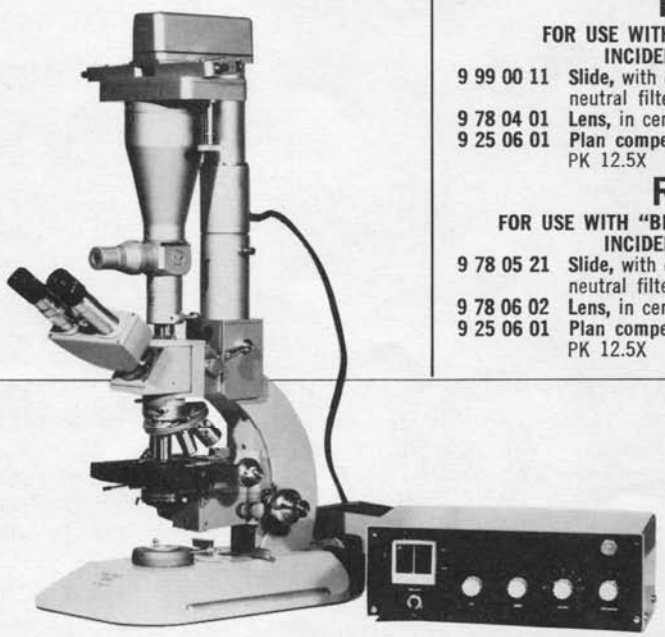
| MICROSPECTROPHOTOMETER | PHOTOMULTIPLIER AND CONTROL UNIT | SUPPLEMENTARY EQUIPMENT |
|---|---|---|
| **MSPM** | **10** | **T1** |
| 9 78 01 23 **Microspectrophotometer,** with focusing telescope, turret with measuring diaphragms, interference wedge filter, adapter ring, housing for the photomultiplier, with cable and plug | 9 78 01 33 **Photomultiplier XP 1010,** cathode type S 11 | 9 78 05 21 **Slide,** with diaphragm turret and neutral filter |
| 9 78 02 01 **Photometer support,** with clamping jaw and clamping sleeve | 9 78 01 43 **Control unit,** illuminated scale indicator (scales linear and for extinction) provision for connection to a recorder or digital display instrument, input 100 or 200 mV (linear response) for 110, 125, 150, 200, 220 and 250 V A.C., 50/60 Hz. | 9 99 00 11 **Achromatic aplanatic condenser,** N.A. = 1.35/MSPM, 6-lens condenser, centering mount, aperture. iris diaphragm with division, filter holder, condenser slide |
| 9 78 01 24 **Connecting tube** to the microspectrophotometer | | 9 78 04 01 **Lens,** in centering mount |
| | | 9 25 06 01 **Plan compensating eyepiece** PK 12.5X |

## for measurements in incident light

| MICROSPECTROPHOTOMETER | PHOTOMULTIPLIER AND CONTROL UNIT | SUPPLEMENTARY EQUIPMENT |
|---|---|---|
| **MSPM** | **10** | **R1** |
| 9 78 01 23 **Microspectrophotometer,** with focusing telescope, turret with measuring diaphragms, interference wedge filter, adapter ring, housing for the photomultiplier, with cable and plug | 9 78 01 33 **Photomultiplier XP 1010,** cathode type S 11 | **FOR USE WITH THE "LUX US"** |
| 9 78 02 01 **Photometer support,** with clamping jaw and clamping sleeve | 9 78 01 43 **Control unit,** illuminated scale indicator (scales linear and for extinction) provision for connection to a recorder or digital display instrument, input 100 or 200 mV (linear response) for 110, 125, 150, 200, 220 and 250 V A.C., 50/60 Hz. | 9 78 05 21 **Slide,** with diaphragm turret and neutral filter |
| 9 78 01 24 **Connecting tube** to the microspectrophotometer | | 9 78 06 01 **Lens,** in centering mount |
| | | 9 25 06 01 **Plan compensating eyepiece** PK 12.5X |
| | | **R2** |
| | | **FOR USE WITH "BINOLUX 3", XBO150W** |
| | | 9 78 05 21 **Slide,** with diaphragm turret and neutral filter |
| | | 9 78 06 02 **Lens,** in centering mount |
| | | 9 25 06 01 **Plan compensating eyepiece** PK 12.5X |

## for measurements with extremely dark specimens

| MICROSPECTROPHOTOMETER | PHOTOMULTIPLIER AND CONTROL UNIT | SUPPLEMENTARY EQUIPMENT |
|---|---|---|
| **MSPM** | **10S** | **T1** |
| 9 78 01 23 **Microspectrophotometer,** with focusing telescope, turret with measuring diaphragms, interference wedge filter, adapter ring, housing for the photomultiplier, with cable and plug | 9 78 01 34 **Photomultiplier XP 1010 special,** cathode type S 11 | **TRANSMITTED LIGHT** |
| 9 78 02 01 **Photometer support,** with clamping jaw and clamping sleeve | 9 78 01 44 **Control unit,** of increased sensitivity, factor abt. 30X, illuminated scale indicator (scales linear and for extinction) provision for connection to a recorder or digital display instrument, input 100 or 200 mV (linear response) for 110, 125, 150, 200, 220 and 250 V A.C., 50/60 Hz. | 9 78 05 21 **Slide,** with diaphragm turret and neutral filter |
| 9 78 01 24 **Connecting tube** to the microspectrophotometer | | 9 99 00 11 **Achromatic aplanatic condenser,** N.A. = 1.35/MSPM, 6-lens condenser, centering mount, aperture-iris diaphragm with division, filter holder, condenser slide |
| | | 9 78 04 01 **Lens,** in centering mount |
| | | 9 78 05 21 **Plan compensating eyepiece** PK 12.5X |
| | | **R1** |
| | | **FOR USE WITH THE "LUX US" INCIDENT LIGHT** |
| | | 9 99 00 11 **Slide,** with diaphragm turret and neutral filter |
| | | 9 78 04 01 **Lens,** in centering mount |
| | | 9 25 06 01 **Plan compensating eyepiece** PK 12.5X |
| | | **R2** |
| | | **FOR USE WITH "BINOLUX 3", XBO150W INCIDENT LIGHT** |
| | | 9 78 05 21 **Slide,** with diaphragm turret and neutral filter |
| | | 9 78 06 02 **Lens,** in centering mount |
| | | 9 25 06 01 **Plan compensating eyepiece** PK 12.5X |



| Model | Catalog No. | List Price |
|---|---|---|
| MSPM 10 T1 | 9 90 00 36 | $11,533.00 |
| MSPM 10 R1 | 9 90 00 38 | 11,111.00 |
| MSPM 10 R2 | 9 90 00 39 | 11,111.00 |
| MSPM 10S T1 | 9 92 99 41 | 14,605.00 |
| MSPM 10S R1 | 9 92 99 43 | 14,183.00 |
| MSPM 10S R2 | 9 92 99 45 | 14,183.00 |

# MICROSPECTROPHOTOMETER PARTS and ACCESSORIES



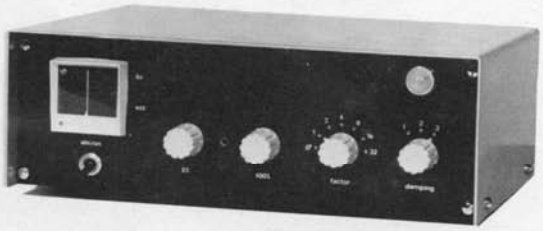
9 78 01 23



9 78 02 01



9 78 01 24



9 78 01 43



9 78 05 21



9 78 06 01



9 78 06 02



9 99 00 11



9 78 04 01



2051

| Catalog Number | Description | List Price |
|---|---|---|
| | **MSPM** | |
| 9 78 01 23 | **Microspectrophotometer,** with focusing telescope, turret with measuring diaphragms, interference wedge filter, adapter ring, housing for the photomultiplier, with cable and plug | $5535.00 |
| 9 78 02 01 | **Photometer support** with clamping jaw and clamping sleeve | 231.00 |
| 9 78 01 24 | **Connecting tube** | 21.00 |
| | **10** | |
| 9 78 01 33 | **Photomultiplier XP 1010,** cathode type S 11 | 779.00 |
| 9 78 01 43 | **Control unit,** illuminated scale indicator (scales linear and for extinction) provision for connection to a recorder or digital display instrument, input 100 or 200 mV (linear response) for 110, 125, 150, 200, 220 and 250 V A.C., 50/60 Hz. | 3998.00 |
| | **10S** | |
| 9 78 01 34 | **Photomultiplier XP 1010 special,** cathode type S 11 | 1368.00 |
| 9 78 01 44 | **Control unit** of increased sensitivity, factor abt. 30X, illuminated scale indicator (scales linear and for extinction) provision for connection to a recorder or digital display instrument, input 100 or 200 mV (linear response) for 110, 125, 150, 200, 220 and 250 V A.C., 50/60 Hz. | 6481.00 |
| | **For examination of particularly dark specimens in the red spectral range the following photomultiplier is suggested. This is to be used in conjunction with the high sensitivity control unit, No. 9 78 01 44:** | |
| 9 78 01 35 | **Photomultiplier XP 1016,** cathode type S 20 | 3157.00 |
| | **SUPPLEMENTARY EQUIPMENT** | |
| 9 78 05 21 | **Slide,** with diaphragm turret and neutral filter | 244.00 |
| 9 78 06 01 | **Lens,** in centering mount, for use with Lux US (incident light) | 168.00 |
| 9 78 06 02 | **Lens,** in centering mount, for use with Binolux, XBO150 (incident light) | 168.00 |
| 9 78 04 01 | **Lens,** in centering mount (transmitted light) | 135.00 |
| 9 99 00 11 | **Achromatic aplanatic condenser,** N.A. = 1.35/MSPM, 6-lens condenser, centering mount, aperture-iris diaphragm with division, filter holder, condenser slide | 455.00 |
| 9 25 06 01 | **Plan compensating eyepiece,** PK 12.5X | 135.00 |
| 9 25 03 01 | **Plan compensating eyepiece,** PK 6.3X | 67.00 |
| 9 78 02 38 | **Comparison standard for transmitted light fluorescence** | 84.00 |
| 9 78 02 39 | **Comparison standard for incident light fluorescence** | 102.00 |
| | **Standards,** for the determination of reflection: (with calibration sheet) | |
| 9 78 13 01 | **Reflection standard quartz glass** $R_{AIR}$ abt. 4% | 105.00 |
| 9 78 13 02 | **Reflection standard high-refringent glass,** (for coal determ.) $R_{OIL}$ abt. 1.5% $R_{AIR}$ abt. 10% | 168.00 |
| 9 89 00 57 | **Reflection standard silicium carbide** $R_{AIR}$ abt. 20% | 211.00 |
| 9 89 00 58 | **Reflection standard tungsten carbide** $R_{AIR}$ abt. 50% | 353.00 |
| | **For work with the "Lux US" light source a step transformer must be used in lieu of the regulating transformer (No. 9 00 09 17)** | |
| 2051 | **Step transformer** | 133.00 |
| | **Accessories for photomicrography through the Microspectrophotometer:** | |
| 9 78 09 01 | **Intermediate piece,** with focusing telescope with double cross-lines, sector shutter for "T", "B" and instantaneous exposures from 1 to 1/125 sec. | 1018.00 |
| 9 85 00 01 | **Cable release** | 5.00 |
| 9 95 00 07 | **Lens flange,** p = 0.80X, with clamping bayonet | 176.00 |
| 9 50 04 01 | **35mm Camera back,** with rapid advance, frame counter, film speed and film type scale | 250.00 |
| 9 95 50 33 | **Microspectrophotometer Photo Outfit** | 1449.00 |

# PHOTOMICROGRAPHIC EQUIPMENT

## BASIC UNIT



## REMICA III
**9 95 00 09**

### Camera System for Manual Operation

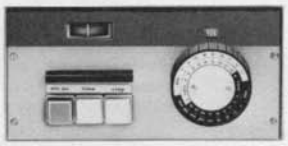
**9 18 63 21** **Beam-splitter casing** with lateral viewing and focusing telescope with double crosslines and negative-size frame, focusable eyepiece; sector shutter for "T", "B" and instantaneous exposures from 1 to 1/125 second

**9 18 63 25** **Adapter ring**

**9 85 00 01** **Cable release**

**9 18 63 24** **Neutral filter** in slip-on mount





## KAM ES
**9 53 06 01**

### Camera System for Automatic Exposure

**9 53 06 21** **Intermediate camera assembly,** swing-out beam-splitter, focusing telescope with swing-in neutral filter, electronic shutter for "T" and instantaneous exposures from 1 min. to 1/125 sec., synchronizing contact, connecting cable

**9 03 80 01** **Adapter ring**

**9 65 04 21** **Control unit,** exposure time indication from 1 hour to 1/125 sec., push-button control, timer unit for electronic shutter, line cable

**9 65 04 22** **Exposure meter detector**

HYPHEN

## FILM HOLDERS



## 35
### 35mm Camera Back

**9 50 04 01** **35 mm camera back** with rapid transport lever, exposure counter, shutter and connecting bayonet

**9 95 00 07** **Lens fiange,** additional lens 0.5X with clamping bayonet
For use with eyepieces: PK5X, PK6.3X, PK8X, PK10X, PK12.5X



## 3¼ x 4¼
### 3¼" x 4¼" Polaroid® 100

**9 00 09 03** **Camera body POLAROID® 100** on adapter
For use with eyepieces: PK8X, PK10X, PK12.5X



## 4 x 5
### 4 x 5 Film Back Adapter

**9 00 09 22** **4" x 5" Camera Back Adapter**
For use with eyepieces: PK8X, PK10X, PK12.5X

| Model | Catalog No. | List Price |
|---|---|---|
| Remica III - 35 | 9 95 00 12 | $ 896.00 |
| Remica III - 3¼ x 4¼ | 9 00 09 10 | 773.00 |
| Remica III - 4 x 5 | 9 00 09 25 | 668.00 |
| Kam ES - 35 | 9 95 00 30 | 3150.00 |
| Kam ES - 3¼ x 4¼ | 9 00 09 20 | 3027.00 |
| Kam ES - 4 x 5 | 9 00 09 21 | 2922.00 |

# COMPONENTS and ACCESSORIES



9 18 63 21
(shown with
cable release)



9 18 63 25



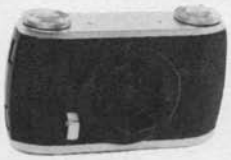
9 03 80 01



9 53 06 21
(shown with detector)



9 65 04 21



9 50 04 01



9 95 00 07



9 53 07 01



1051




9 00 09 03



9 00 09 22
(shown with
Polaroid 4″ x 5″
film holder)*



9 85 00 07

*Please contact Polaroid Corporation
for this film holder

| Catalog Number | Description | List Price |
|---|---|---|
| | **REMICA III** | |
| 9 18 63 21 | **Beam-splitter casing** | $ 439.00 |
| 9 18 63 25 | **Adapter ring** | 9.00 |
| 9 85 00 01 | **Cable release** | 5.00 |
| 9 18 63 24 | **Neutral filter** | 17.00 |
| 9 95 00 09 | **Remica III** | 470.00 |
| | **KAM ES** | |
| 9 53 06 21 | **Intermediate Camera Assembly** | 1116.00 |
| 9 03 80 01 | **Adapter ring** | 9.00 |
| 9 65 04 21 | **Control unit** | 1540.00 |
| 9 65 04 22 | **Exposure meter detector** | 59.00 |
| 9 53 06 01 | **Kam ES** | 2724.00 |
| | **SUPERIMPOSITION ATTACHMENT FOR USE WITH KAM ES** | |
| 9 53 07 01 | **Superimposition attachment,** with projection optics, illumination attachment, lamp holder, low voltage bulb, 3 filter holders with green filter 2VG9 and neutral filter 2.5NG9, slide with sequential numbers 1 through 30, slide with arrow. | 757.00 |
| 1051 | **Step transformer** | 42.00 |
| 9 95 00 28 | **Superimposition attachment outfit** | 799.00 |
| | **FILM HOLDERS AND OTHER ITEMS** | |
| 9 50 04 01 | **35mm Camera Back** | 250.00 |
| 9 95 00 07 | **Lens flange** | 176.00 |
| | **Lens flanges** for 35mm cameras listed below and those with similar fittings: | |
| 9 95 00 01 | Leica with thread, Canon with thread | 100.00 |
| 9 95 00 02 | Leica with bayonet | 151.00 |
| 9 95 00 05 | Pentax | 100.00 |
| — | Yashica | 100.00 |
| — | Canon | 215.00 |
| — | Minolta SRT | 164.00 |
| — | Nikon F | 189.00 |
| — | Nikorrmat F | 189.00 |
| — | Nikon M-35S (half frame) | 102.00 |
| 9 00 09 03 | **POLAROID® 100,** 3¼″ x 4¼″ Camera Back on Adapter | 303.00 |
| 9 00 09 22 | **4″ x 5″ Camera Back Adapter** | 198.00 |
| 9 85 00 07 | **Double film cassette,** for 4″ x 5″, 2 pieces | 26.00 |

# PHOTOMICROGRAPHIC EQUIPMENT
## PHOTOAUTOMATIC
## FULLY AUTOMATIC CAMERA SYSTEM FOR 35 mm



9 65 03 01



9 50 03 21



9 50 04 02



9 03 80 01

| Catalog Number | Description | List Price |
|---|---|---|
| | **PHOTOAUTOMATIC** | |
| 9 65 03 01 | **Control unit,** indication of exposure time, push-button control, impulse generator for time lapse exposures, exposure factor buttons .5X, 2X, 4X. | $3232.00 |
| 9 50 03 21 | **Camera body,** with adjustable photographic eyepiece 6.3 - 10X, beam splitter system, focusing telescope with swing-out neutral filter, light detector for integrated and point measurements, special electromagnetic shutter from 1/250 sec. to 1 hr. Photographic objective with camera factor 0.5X, motor for automatic film transport, light signals, synchro-socket, connection cable. | 2168.00 |
| 9 50 04 02 | **Interchangeble film magazine** for 35 mm film, automatic light trap, frame counter, film speed and film type scale | 273.00 |
| 9 03 80 01 | **Adapter ring** | 9.00 |
| 9 95 00 21 | **Photoautomatic** | 5682.00 |

# FILTERS

| Catalog Number | Description | | | List Price |
|---|---|---|---|---|
| **30.8mm Diameter. For use with "Lux US" and "Binolux 3" Filter Holders** | | | | |
| | **Filter slide,** for light filter 30.8mm diameter | | | |
| 9 02 86 01 | Filter slide, with 3 openings, cross section 9.5 x 36mm | | | $ 21.00 |
| 9 02 86 02 | Filter slide, with 3 openings, cross section 5 x 36mm | | | 21.00 |
| 9 02 87 01 | Filter slide, with 5 openings, cross section 9.5 x 36mm | | | 33.00 |
| 9 02 87 02 | Filter slide, with 5 openings, cross section 5 x 36mm | | | 33.00 |
| | **Color and frosted glass** | | | |
| 9 02 44 33 | Daylight filter, bright | | 1.1 TG | 4.00 |
| 9 02 44 21 | Daylight filter, frosted | | 2 TG | 4.00 |
| 9 02 44 34 | Frosted glass | | 2 G 2 | 4.00 |
| | **Neutral filters** | | | |
| 9 02 44 29 | Neutral filter | T ca. 10 % | 1 NG 3 | 13.00 |
| 9 02 44 28 | Neutral filter | T ca. 1 % | 2 NG 3 | 13.00 |
| 9 02 44 43 | Neutral filter | T ca. 0.1% | 2.5 NG 9/h | 13.00 |
| 9 02 44 53 | Neutral filter, N1, | T = 50 % | 2 N 1 | 33.00 |
| 9 02 44 54 | Neutral filter, N2, | T = 25 % | 2 N 2 | 33.00 |
| 9 02 44 55 | Neutral filter, N4, | T = 6.3% | 2 N 4 | 33.00 |
| 9 02 44 56 | Neutral filter, N6, | T = 1.6% | 2 N 6 | 33.00 |
| | **Color filters** | | | |
| 9 02 44 24 | Red filter | | 2 RG 610 | 17.00 |
| 9 02 44 51 | Green filter, G1, | | 1.5 VG 9/h | 21.00 |
| 9 02 44 52 | Green Filter, G2, | | 1.5 (VG 9/N1)h | 33.00 |
| 9 02 44 23 | Green filter | | 2 VG 9/h | 33.00 |
| 9 02 44 25 | Blue filter | | 1 BG 12 + 1 GG 455 | 25.00 |
| | **Exciter filters** | | | |
| 9 02 44 27 | Blue filter | | 2 BG 12/h | 17.00 |
| 9 02 44 63 | Exciter filter 23 | | 3 BG 12/h | 17.00 |
| 9 02 44 65 | Exciter filter | | 4.5 BG 12/h | 25.00 |
| 9 02 44 61 | Exciter filter 13 | | 2x3 BG 12/h | 33.00 |
| 9 02 44 67 | Red subduing filter | | 2.5 BG 38/h | 21.00 |
| 9 02 44 62 | Exciter filter 22 | | 1.5 UG 1/h | 17.00 |
| 9 02 44 64 | Exciter filter | | 2.5 UG 1/h | 21.00 |
| 9 02 44 66 | Exciter filter FITC | | | 131.00 |
| 9 02 44 60 | Exciter filter 11 | | 3 UG 1/h + 2.5 BG 38/h | 42.00 |
| 9 02 44 70 | Violet exciter filter | | 5 ( λ = 405nm) narrow-band | 261.00 |
| 9 02 44 71 | Green exciter filter | | 4 ( λ = 546nm) narrow-band | 261.00 |
| 9 02 44 72 | Blue exciter filter | | 2.5 FITC-490 | 315.00 |
| | **UV – and blue barrier filters** | | | |
| 9 02 44 26 | Yellow filter | | 1 GG 455 | 13.00 |
| 9 02 44 42 | UV-barrier filter | | 1 GG 9/h | 13.00 |
| 9 02 44 41 | UV-barrier filter | | 5 GG 385 | 25.00 |
| 9 02 44 22 | Yellow filter | | 2 GG 495 | 13.00 |
| 9 02 44 46 | Correction filter C2, | | 4.5 UG 3/h + 1 GG 475 + 1 GG 9/h | 51.00 |
| 9 02 44 48 | Yellow filter | | 1 GG 475 | 13.00 |
| | **Heat absorbing filters** | | | |
| 9 02 44 35 | Heat absorbing filter | | 2 KG 2/h | 17.00 |
| 9 02 44 40 | Heat absorbing filter | | 4 KG 2/h | 17.00 |
| 9 02 44 47 | Heat absorbing UV barrier filter | | 5 GG 385 + 2 KG 1/h | 42.00 |
| | **Interference filters** | | | |
| 9 02 44 36 | Interference band filter (589nm) | | | 147.00 |
| 9 02 44 39 | Interference wide-band filter, (490-570nm) | | | 126.00 |
| | **Interference filter,** in mount, for use in light well | | | |
| 9 46 41 02 | Monochromatic filter, (546nm) | | | 135.00 |
| 9 46 41 23 | Blue exciter filter, FITC-490 | | | 357.00 |
| 9 46 41 04 | Violet exciter filter, (405nm) | | | 273.00 |
| 9 46 41 05 | Green exciter filter, (546nm) | | | 273.00 |

| Catalog Number | Description | | List Price |
|---|---|---|---|
| **18mm Diameter. For use with barrier filter slides, I.L. filter slides and I.L. fluorescence turrets.** | | | |
| | **Filter slide,** for light filter 18mm diameter | | |
| 9 48 12 21 | Barrier filter slide, w/3 openings, cross sect. 7 x 28mm | | $ 33.00 |
| 9 48 13 31 | IL filter slide w/4 openings, cross sect. 7 x 22mm | | 51.00 |
| | **LIGHT FILTERS,** 18mm ϕ | | |
| | **Neutral filter** | | |
| 9 02 43 02 | Neutral filter | T ca. 10 % 1 NG 3 | 9.00 |
| 9 02 43 01 | Neutral filter | T ca. 4 % 1 NG 9 | 9.00 |
| 9 02 43 03 | Neutral filter | T ca. 0.2% 2 NG 9 | 9.00 |
| | **Exciter filter** | | |
| 9 02 43 13 | Exciter filter, Blue | 3 BG 12 | 13.00 |
| 9 02 43 12 | Red subduing filter | 1 BG 38 | 13.00 |
| 9 02 43 14 | Red barrier filter | 2.5 BG 38 | 13.00 |
| 9 02 43 11 | Exciter filter, UV | 2 UG 1 | 13.00 |
| 9 02 43 18 | Red barrier filter | 3.5 BG 38 | 25.00 |
| | **UV and Blue barrier filter** | | |
| 9 02 43 21 | UV barrier filter | 1 GG 9 | 13.00 |
| 9 02 43 24 | Blue barrier filter | 2 OG 515 | 13.00 |
| 9 02 43 22 | Blue barrier filter | 1.5 OG 530 | 13.00 |
| 9 02 43 26 | Green barrier filter | 3 OG 590 | 21.00 |
| 9 02 43 23 | UV barrier filter | 3 KV 418 | 21.00 |
| 9 02 43 25 | Blue barrier filter | 1 GG 9 + 2 OG 515 | 25.00 |
| 9 02 43 27 | Selection interference barrier filter | SAL 525 | 147.00 |
| 9 02 43 28 | Selection Interference barrier filter | 3 ( λ = 525nm) | 315.00 |
| 9 02 43 51 | Violet barrier filter | (3 GG 9 + GG 2 + GG 9)/VG | 51.00 |
| 9 02 43 52 | Green barrier filter | 3 OG 590/VG | 33.00 |
| 9 02 43 53 | Blue barrier filter | 3 (GG 9 + OG 515)/VG | 38.00 |
| | **Interference exciter filter** | | |
| 9 02 43 31 | Violet exciter filter | (405nm) | 135.00 |
| 9 02 43 32 | Green exciter filter | (546nm) | 135.00 |
| 9 02 43 33 | Blue exciter filter | TAL 480 | 147.00 |
| 9 02 43 38 | Violet exciter filter | 2 CAT 425 | 623.00 |
| 9 02 43 39 | Blue exciter filter | 3.5 FITC 490 | 303.00 |
| 9 02 43 37 | Blue exciter filter | 5.5 FITC 490+GG 400 | 315.00 |

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