

Baltimore Instrument Company, Inc.

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Baltimore, Maryland 21214
(301) 426-3656

**Price
List**

10a

ZEISS

REVISED FEBRUARY 15, 1979
EFFECTIVE OCTOBER 1, 1978

West Germany

Polarizing Microscopes and Accessories



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The polarizing microscope, as the instrument for routine work, is a specialized unit for the examination of petrographic and other non-metallic samples. This type of microscope is of special interest to the petrographer and chemical microscopist. The polarizing microscope and its components represent the highest degree of sophistication. The optical glass used in this instrument is strain-free; identification as well as quantitative measurement may be easily obtained. Primary use of the polarizing microscope is in transmitted light; however, reflected light may be added to some basic instruments. Available cameras, accessory compensators and universal stages enable the user to extend the capabilities of this microscope.

The distinguishing characteristics of the Polarizing microscope are that it usually is equipped with a rotating stage, a fixed or rotatable polarizer, an analyzer and the eyepiece tubes generally are slotted to provide crosshair orientation of the eyepiece.

Any Zeiss microscope can in fact be a polarizing instrument with the addition of proper accessories. Specimen evaluation is done quantitatively which requires the strain-free components of the microscope or qualitatively which only requires a polarizer and analyzer in the system.

Routine work is performed by Orthoscopic means. In some cases it is useful to view a crystal by Conoscopic observation which requires a Bertrand lens. This device permits the observer to view the back lens of the objective to determine if an interference figure is present.

Components of the polarizing microscope are found in many fields of application. In Biological Science and Industry, Interference Contrast techniques require polarized light. The Metallurgist uses the polarizer and the analyzer for identification of inclusions. In these examples the evaluation would be qualitative as measurement is not being performed. The Geologist or petrographer will require all capabilities and is most often using quantitative techniques.

The Microscope Systems which follow represent complete microscopes for Geological and Petrographic applications.

standard microscopes



**MICROSCOPE STANDARD 14 POL
with halogen illuminator, monocular tube and 3 objectives**

47 09 14-9902	Microscope Standard 14 with quadruple nosepiece, with substage, with rack and pinion with provision for filter turret or magnification changer	\$	432.00
47 34 64	Rotating stage 64 Pol		325.00
47 30 30-9904	Small inclined monocular polarizing tube with Bertrand lens		582.00
47 37 04	Quartz plate red/I in slider		146.00
47 93 00	Plastic dust cover		6.00
	BASIC LABORATORY STAND 14 POL	\$	1,491.00

99 10 50	In-base Halogen Illuminator, complete	\$	273.50
47 08 66	Carrier with Polarizer		182.00
46 78 26	Neutral filter NG9		22.50
46 78 35	Blue glass, clear		9.50
46 51 44	Auxiliary lens EL Pol		43.00

46 01 18	Planachromat 2.5/0.08 Pol Z	\$	385.00
46 04 08	Achromat 10/0.22 Pol Z		370.00
46 07 08	Achromat 40/0.85 Pol Z		540.00
46 29 81	Plug for nosepiece		N/C
46 39 25	Complan eyepiece Kpl 8x Pol with crossline		210.00
46 52 62	Condenser 0.9Z Pol		290.00

OPTICAL EQUIPMENT FOR TRANSMITTED LIGHT \$ 2,325.50

STANDARD 14 COMPLETE FOR TRANSMITTED LIGHT W/HALOGEN ILLUMINATOR \$ 3,816.50

**MICROSCOPE STANDARD 14 POL
with halogen illuminator, binocular tube and 3 objectives**

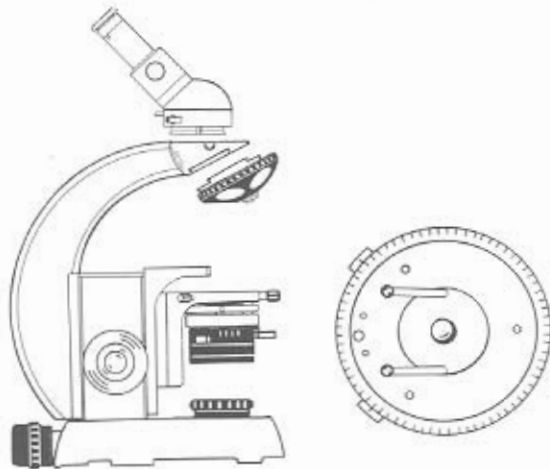
47 09 14-9902	Standard 14 Microscope with quadruple nosepiece, substage with rack and pinion, with provision for filter turret or magnification changer	\$	432.00
43 30 38	Control knob for microscope stand		36.00
47 30 66	Filter turret		19.00
91 01 09	Filter analyzer 18 mm dia.		13.00
47 30 35	Inclined binocular body Pol		1,031.00
47 34 64	Rotating stage 64 Pol		325.00
47 93 00	Plastic dust cover		6.00
	BASIC LABORATORY STAND 15 POL	\$	1,862.00

99 10 50	In-base Halogen Illuminator, complete	\$	273.50
47 08 66	Carrier with Polarizer		182.00
46 78 26	Neutral filter NG9		22.50
46 78 35	Blue glass, clear		9.50
46 51 44	Auxiliary lens EL Pol		43.00
47 37 01	Quartz plate red I with handle		120.00

46 01 18	Planachromat 2.5/0.08 Pol Z	\$	385.00
46 04 08	Achromat 10/0.22 Pol Z		370.00
46 07 08	Achromat 40/0.85 Pol Z		540.00
46 29 81	Plug for nosepiece		N/C
46 39 25	Complan eyepiece Kpl 8x Pol with crossline		210.00
46 39 22	Complan eyepieces Kpl 8x 		168.00
46 52 62	Condenser 0.9Z Pol		290.00

OPTICAL EQUIPMENT FOR TRANSMITTED LIGHT \$ 2,613.50

STANDARD 14 COMPLETE FOR TRANSMITTED LIGHT W/HALOGEN ILLUMINATOR \$ 4,475.50



MICROSCOPE STANDARD 18 POL
with halogen illuminator, monocular tube and 3 objectives

47 09 18-9902	Microscope Standard 18 with coaxial coarse and fine adjustment, condenser carrier with rack and pinion, slideways for nosepiece with provision for filter turret or magnification changer	\$	523.00
47 34 64	Rotating stage 64 Pol		325.00
47 30 30-9904	Small inclined monocular polarizing tube with Bertrand lens		582.00
47 37 04	Quartz plate red I in slider		146.00
47 93 00	Plastic dust cover		6.00
	BASIC LABORATORY STANDARD 18 POL		\$ 1,582.00
99 10 50	In-base Halogen Illuminator, complete	\$	273.50
47 08 66	Carrier with Polarizer		182.00
46 78 26	Neutral filter NG9		22.50
46 78 35	Blue glass, clear		9.50
46 51 44	Auxiliary lens EL Pol		43.00
46 52 62	Condenser 0.9Z, Pol with swing-out front lens	\$	290.00
47 31 40	Revolving nosepiece 4x on slider		174.00
46 01 18	Planachromat 2.5/0.08 Pol Z		385.00
46 04 08	Achromat 10/0.22 Pol Z		370.00
46 07 08	Achromat 40/0.85 Pol Z		540.00
46 29 81	Plug for nosepiece		N/C
46 39 25	Complan eyepiece KPL 8x Pol with crossline		210.00
	OPTICAL EQUIPMENT FOR TRANSMITTED LIGHT		\$ 2,499.50
	STANDARD 18 COMPLETE FOR TRANSMITTED LIGHT WITH HALOGEN ILLUMINATOR		\$ 4,081.50

RESEARCH MICROSCOPE STANDARD 18 POL
with built-in illuminator, binocular tube and 4 objectives

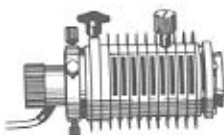
47 09 18-9902	Microscope Standard 18 with slideways for nosepiece, with substage, with rack and pinion, with provision for filter turret or magnification changer	\$	523.00
46 78 35	Blue glass (clear), 32mm Ø		9.50
46 78 26	Neutral filter NG9, 32 x 1 mm		22.50
47 93 00	Plastic dust cover for Standard		6.00
	BASIC MICROSCOPE STAND POL	\$	561.00
47 30 59-9902	Intermediate tube for Interference contrast slider III (47 44 33) Barrier Filter Insert (47 25 47) and analyzer sliders (47 36 62/63)		596.00
47 36 62	Rotatable analyzer slider for tube head without Telan lens		1,046.00
47 30 35	Inclined binocular tube Pol		1,031.00
47 37 24	Quartz wedge 1-3		523.00
47 37 04	Quartz plate red/l in slider		146.00
46 48 89	Pin-hole stop		9.00
	TUBE BODY SYSTEM	\$	3,351.00
47 34 66	Ball bearing rotating stage 66 Pol		1,081.00
47 33 25-9903	Attachable mechanical stage Pol with graduation with case for stages 47 34 64/47 34 66		558.00
	ROTATING STAGE 66	\$	1,639.00
99 10 51	In-base 6V, 15W Illuminator complete		569.00
46 52 62	Condenser 0.9Z Pol with swing-out front lens		290.00
47 08 65	Carrier with centerable auxiliary lens and polarizer		439.00
47 31 40	Revolving nosepiece 4x on slider (for Standard and WL Microscopes)		174.00
46 01 18	Planachromat 2.5/0.08 Pol Z		385.00
46 04 08	Achromat 10/0.22 Pol		370.00
46 06 28	Neofluar 25/0.60 Pol Z		683.00
46 08 18	Neofluar 63/0.90 Pol Z		1,175.00
46 39 20	Complan eyepiece Kpl 8x		125.00
46 39 25	Complan eyepiece Kpl 8x Pol with crossline		210.00
	OPTICAL EQUIPMENT FOR TRANSMITTED LIGHT	\$	4,420.00
	STANDARD 18 COMPLETE FOR TRANSMITTED LIGHT WITH 6V, 15W ILLUMINATOR	\$	9,971.00

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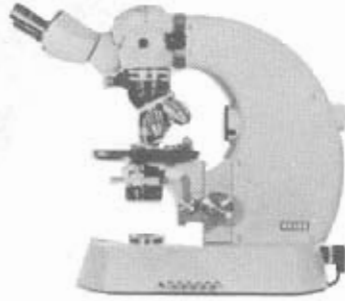
RESEARCH MICROSCOPE WL POL
with built-in illuminator, binocular tube and 5 objectives

47 15 88	Microscope Stand WL with slideways for nosepieces and provision for filter turret or magnification changer	\$	1,989.00
47 15 58-9901	Attachable condenser carrier		363.00
46 78 35	Blue glass (clear), 32 mm Ø		9.50
46 78 26	Neutral filter NG9, 32 x 1 mm		22.50
47 93 00	Plastic dust cover		6.00
	WL STAND FOR TRANSMITTED LIGHT	\$	2,390.00
47 30 59-9902	Intermediate tube for Interference contrast slider III (47 44 33) Barrier Filter Insert (47 25 47) and analyzer sliders (47 36 62/63)	\$	596.00
47 36 62	Rotatable analyzer slider for tube head without Telan Lens		1,046.00
47 30 35	Inclined binocular tube Pol		1,031.00
47 37 24	Quartz wedge 1-3		523.00
47 37 04	Quartz plate red/I in slider		146.00
46 48 89	Pin-hole stop		9.00
	TUBE BODY SYSTEM	\$	3,351.00
47 15 40	Clamp-on stage carrier		160.00
47 34 66	Ball bearing rotating stage 66 Pol		1,081.00
47 33 25-9903	Attachable mechanical stage Pol with graduation with case for stage 47 34 64/47 34 66		558.00
	ROTATING STAGE 66	\$	1,799.00
§99 10 51	In-base 6V 15W illuminator, complete	\$	569.00
46 52 63	Condenser 1.3Z Pol with swing-out front lens		350.00
47 08 65	Carrier with centerable auxiliary lens and polarizer		439.00
47 31 50	Revolving nosepiece 5x on slider (for Standard and WL-Microscopes)		180.00
46 01 18	Planachromat 2.5/0.08 Pol Z		385.00
46 04 08	Achromat 10/0.22 Pol		370.00
46 06 28	Neofluar 25/0.60 Pol Z		683.00
46 07 08	Achromat 40/0.85 Pol Z		540.00
46 19 08	Achromat 100/1.25 oil Pol Z		565.00
46 41 42	Wide angle eyepiece Kpl 12.5x for spectacle wearers		222.00
46 41 45	Wide angle eyepiece Kpl 12.5 Pol with crossline micrometer for spectacle wearers		375.00
	OPTICAL EQUIPMENT FOR TRANSMITTED LIGHT	\$	4,678.00
	STANDARD WL COMPLETE FOR TRANSMITTED LIGHT WITH 6V 15W ILLUMINATOR	\$	12,218.00

§OPTIONAL ILLUMINATOR



46 70 58	Diaphragm insert	\$	247.00
46 70 40-9903	Connecting tube		255.00
46 72 85	Elevating plate		132.00
46 72 57	Lamp housing 12V, 60W with collector		254.00
46 80 15	Lamp socket 60/1		166.00
38 00 18-2520	3 Bulbs 12V, 60W	@ \$10.50 ea.	21.00
91 01 03	Regulating power supply with voltmeter and power cable		190.00
		\$	1,265.00



universal microscope

47 16 90	Universal Microscope stand without diaphragm insert	\$	2,434.00
46 70 57-9904	Diaphragm insert		266.00
47 16 45-9901	Tube head with Optovar		2,902.00
47 30 35	Inclined binocular body Pol		1,031.00
46 41 45	Wide field eyepiece Kpl 12.5x Pol with crossline micrometer		375.00
46 41 42	Wide field eyepiece Kpl 12.5x		222.00
46 78 26	Neutral filter NG9		22.50
46 78 35	Blue glass, clear		9.50
47 15 40	Clamp-on stage carrier		160.00
47 34 66	Ball bearing rotating stage 66 Pol		1,081.00
47 33 25-9903	Attachable mechanical stage Pol with graduation, in case		558.00
47 93 01	Plastic dust cover		10.50
UNIVERSAL MICROSCOPE BASIC EQUIPMENT with Optovar but without illuminating system			\$ 9,071.50
46 70 50	Collector tube for microscope base	\$	158.00
46 80 10-9903	Lamp socket 6V, 15W		47.00
91 01 12	Regulating transformer 0-8V, 30W, 50/60 Hz with power cable		103.00
38 00 18-1740	3 Bulbs 6V, 15W with bayonet mount	\$7.00 ea.	21.00
§ COMPLETE 6V, 15W ILLUMINATOR			\$ 329.00
47 15 58-9901	Attachable condenser carrier	\$	363.00
47 08 65	Carrier with centerable auxiliary lens and polarizer		439.00
47 31 57	Revolving nosepiece 5x Pol with Telan lens		457.00
46 52 62	Condenser 0.9Z Pol with swing-out front lens		290.00
47 36 63	Simple analyzer slider		383.00
46 01 18	Planachromat 2.5/0.08 Pol Z		385.00
46 04 08	Achromat 10/0.22 Pol Z		370.00
46 06 28	Neofluar 25/0.60 Pol Z		683.00
46 07 08	Achromat 40/0.85 Pol Z		540.00
46 19 08	Achromat 100/1.25 Pol Z, oil		565.00
COMPLETE OPTICAL EQUIPMENT FOR TRANSMITTED POLARIZED LIGHT			\$ 4,475.00
UNIVERSAL MICROSCOPE FOR TRANSMITTED POLARIZED LIGHT			\$ 13,875.50



§ OPTIONAL ILLUMINATOR

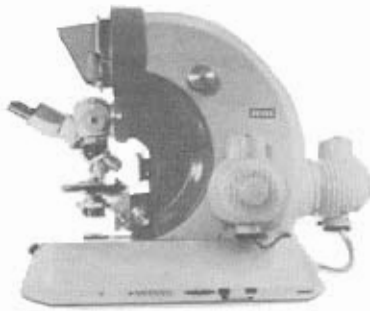


§§46 70 40-9903	Connecting tube with relay lens for microscopes	\$	255.00
46 72 59-9901	Lamp housing 100		546.00
46 72 73-9901	Two lens collector 100		126.00
46 80 19-9901	Lamp socket 100		179.00
38 00 59-1660	2 Halogen bulbs 12V, 100W	\$8.00 ea.	16.00
91 01 03	Regulating power supply with voltmeter and power cable		190.00
COMPLETE 12V, 100W HALOGEN ILLUMINATOR			\$ 1,312.00
§§46 70 42	Connecting tube for reflected light (To mount 60W or 100W lamp housings on Universal Microscope)	\$	65.00



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photomicroscope III

47 21 90	Photo Microscope stand with tube head and Optovar, built-in set of gray filters, 1 conversion filter and green filter VG9	\$	13,127.00
46 70 57-9904	Diaphragm insert for microscope base		266.00
47 20 83	Power supply 200-240V, 50/60 Hz, 190VA		1,287.00
47 90 71	Housing for power supply		275.00
38 00 74-0160	Power cable, 110V		11.50
47 30 35	Inclined binocular body Pol		1,031.00
46 41 45	Wide field eyepiece Kpl 12.5x Pol  with crossline micrometer		375.00
46 41 42	Wide field eyepiece Kpl 12.5x 		222.00
47 20 26	Film cassette with counter		767.00
47 93 01	Plastic dust cover		10.50
PHOTO MICROSCOPE III BASIC EQUIPMENT			\$ 17,372.00
47 15 40	Clamp-on stage carrier	\$	160.00
47 34 66	Ball bearing rotating stage 66 Pol		1,081.00
47 33 25-9903	Attachable mechanical stage Pol with graduation, in case		558.00
ROTATING STAGE POL			\$ 1,799.00
46 72 59-9901	Lamp housing 100 without collector	\$	546.00
46 72 73-9901	Two lens collector 100		126.00
46 80 19-9901	Lamp socket 100		179.00
46 70 40-9903	Connecting tube with relay lens		255.00
38 00 59-1660	2 Halogen bulbs 12V, 100W	\$8.00 ea.	16.00
12V, 100W HALOGEN ILLUMINATOR COMPLETE			\$ 1,122.00
47 15 58-9901	Attachable condenser carrier	\$	363.00
47 08 65	Carrier with centerable auxiliary lens and polarizer		439.00
47 31 57	Revolving nosepiece 5x Pol with Telan lens		457.00
46 52 62	Condenser 09Z Pol with swing-out front lens		290.00
47 36 63	Simple analyzer slider		383.00
46 01 18	Planachromat 2.5/0.08 Pol Z		385.00
46 04 08	Achromat 10/0.22 Pol Z		370.00
46 06 28	Neofluar 25/0.60 Pol Z		683.00
46 07 08	Achromat 40/0.85 Pol Z		540.00
46 19 08	Achromat 100/1.25 Pol Z, oil		565.00
COMPLETE OPTICAL EQUIPMENT FOR TRANSMITTED POLARIZED LIGHT			\$ 4,475.00
PHOTOMICROSCOPE III FOR TRANSMITTED POLARIZED LIGHT			\$ 24,768.00



ultraphot III/b

47 26 05	Ultraphot III/B Stand with variable camera length with 4 built-in gray filters, 1 conversion filter (46 78 50) and 1 green filter VG9 (46 78 05)	\$	13,943.00
47 26 45-9903	Tube head with Optovar		2,460.00
47 25 22	Camera attachment 4" x 5" with photo electric exposure device		2,268.00
47 90 43	Accessory cabinet with electrical drawer and 2 drawers for storage of accessories		3,733.00
47 90 25	Table base for Ultraphot		183.00
47 90 29	Connecting pieces for cabinet (2 prs.)	\$11.00 ea.	24.00
47 90 30	Table top for Ultraphot (780 x 600 mm)		168.00
47 90 41	Accessory cabinet with 3 drawers		971.00
47 90 18	Accessory inserts for drawers		183.00
47 93 02	Soft plastic cover		33.00
47 25 10	2 Lamp housings with collector	\$554.00 ea.	1,208.00
46 70 43	Heat protection holder for lamp		235.00
38 00 18-4080	Burner CSI 250W		183.00
46 80 25	Lamp socket for CSI 250W burner		154.00
38 00 18-2600	3 Bulbs 12V, 100W	\$14.00 ea.	46.50
46 80 21	Lamp socket for low voltage 12V, 100W		110.00
47 30 35	Inclined binocular body, Pol		1,031.00
46 41 45	Wide field eyepiece Kpl 12.5x Pol  with crossline micrometer		375.00
46 41 42	Wide field eyepiece Kpl 12.5x 		222.00
47 15 40	Clamp-on stage carrier		160.00
47 34 66	Ball bearing rotating stage 66 Pol		1,081.00
47 33 25-9903	Attachable mechanical stage Pol with graduation with case		558.00
47 36 62	Analyzer slider without Telan lens		1,046.00
46 78 05	Green filter VG9		24.00
ULTRAPHOT III/B POL BASIC EQUIPMENT FOR 110V			\$ 30,399.50
47 15 58-9901	Attachable condenser carrier	\$	363.00
47 08 67	Carrier with polarizer		370.00
47 31 57	Revolving nosepiece 5x Pol with Telan lens		457.00
46 52 63	Condenser 1.3Z Pol with swing-out front lens		350.00
46 01 18	Planachromat 2.5/0.08 Pol Z		385.00
46 04 08	Achromat 10/0.22 Pol Z		370.00
46 06 28	Neofluar 25/0.60 Pol Z		683.00
46 07 08	Achromat 40/0.85 Pol Z		540.00
46 19 08	Achromat 100/1.25 Pol Z oil		565.00
COMPLETE EQUIPMENT FOR TRANSMITTED POLARIZED LIGHT			\$ 4,083.00
ULTRAPHOT III/B FOR TRANSMITTED POLARIZED LIGHT			\$ 34,482.50

ACCESSORIES FOR STANDARD AND WL RESEARCH MICROSCOPE

OPTIONAL BODY TUBES

47 30 30-9904	Inclined monocular tube with Bertrand lens	\$	582.00
47 30 31	Large Inclined monocular tube with Bertrand lens (for use with 47 30 59-9902 Intermediate tube for analyzers)		717.00
47 30 35	Inclined binocular body Pol		1,031.00
43 30 03	Inclined trinocular body Pol for Photomicrography		1,221.00
47 40 35-9901	Point counter for 47 35 25-9903 attachable mechanical stage (1pr. marks every 0.2mm, 1pr marks every 0.3mm)		156.00

OPTIONAL NOSEPIECES FOR STANDARD 18 AND WL MICROSCOPES

47 31 60	Revolving nosepiece 7x on slider for Standard; and WL Microscopes	\$	465.00
47 31 11	Single carrier with centering device for UD-Stage 47 38 01 on Standard and WL Microscope		142.00
47 31 50	Revolving nosepiece 5x on slider (for Standard and WL Microscopes)		180.00

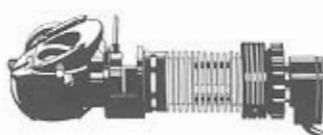
OPTIONAL CONTROL KNOB AND ACCESSORIES FOR STANDS

43 30 38	Control knob for magnification changer or filter turret	\$	36.00
*47 30 60	Magnification changer 1x - 1.6x		143.00
*47 30 68	Wide field system 0.8x - 1x		308.00
*47 30 66	Filter turret		19.00
47 30 61	Magnification changer 1x - 1.6x		100.00
47 30 66-9901	Filter changer		24.00
47 36 07	Analyzer with and without λ -plate in turret		145.00
47 36 70	Analyzer turret		in prep.

*Not for use with intermediate tubes or 47 30 14/15 body tubes

EQUIPMENT FOR REFLECTED LIGHT

For Standard 18 and WL Microscopes



46 62 31	Vertical illuminator IIA	434.00
46 62 60-9903	Planeglass reflector H-PL	144.00
46 62 61	Prism reflector H-Pr-Pol	207.00
46 80 10-9903	Lamp socket 6V, 15W	47.00
46 72 55	Lamp housing with collector	158.00
38 00 18-1740	Bulb 6V, 15W	7.00
47 36 16	Epi polarizer with scale	336.00

VERTICAL ILLUMINATOR IIA,

without transformer	\$	1,333.00
<i>(requires 46 62 56 centering change rings)</i>		



46 62 15-9901	Vertical illuminator IIST with lamphousing ..	1,079.00
46 62 60-9903	Planeglass reflector H-PI	144.00
46 62 61	Prism reflector H-Pr-Pol	207.00
46 80 10-9903	Lamp socket 6V, 15W	47.00
38 00 18-1740	Bulb 6V, 15W	7.00
47 36 16	Epi polarizer with scale	336.00

VERTICAL ILLUMINATOR IIST,

without transformer	\$	1,820.00
<i>(requires 46 62 56 centering change rings)</i>		

46 62 56	Centering change ring	\$	144.00
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OPTIONAL

46 62 65	Planeglass reflector HPL Pol	472.00
46 62 89	Swing-out polarizer for vertical illuminator	253.00

Note: If your microscope is not equipped with a regulating transformer, the following would be required for the above Vertical Illuminators:

91 01 12	Regulating transformer 0-8V, 30W, 50/60 Hz with power cable	103.00
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JAMIN-LEBEDEFF EQUIPMENT

47 44 03	Interference Attachment I with Achromat 10/0.22 Pol with Condenser 10/0.22 Pol with single objective carrier with centering device 47 31 10 (attached to objective)	1,142.00
47 44 06	Interference Attachment II with Achromat 40/0.65 Pol with Condenser 40/0.65 Pol with single objective carrier with centering device 47 31 10 (attached to objective)	1,142.00
47 44 08	Interference Attachment III with Achromat 100/1.0 oil immersion Pol with Condenser 100/1.0 oil immersion Pol with field diaphragm with single objective carrier with centering device 47 31 10 (attached to objective)	1,142.00
47 37 18	Senarmont compensator 546 m _μ	523.00
46 78 08	Precision line filter PIL 546	179.00
47 95 38	Case for Interference Attachments	105.00
47 44 70	Micro Interference Refractometer I, in container for 47 44 03	239.00
47 44 71	Micro Interference Refractometer II, in container for 47 44 06	239.00
	INTERFERENCE EQUIPMENT FOR WL AND STANDARD MICROSCOPES POL INCLUDING MICRO INTERFERENCE REFRACTOMETERS (WITHOUT CENTERING TELESCOPE 46 48 22)	\$ 4,711.00
46 48 22	Centering telescope	175.00

**ACCESSORIES FOR UNIVERSAL, PHOTOMICROSCOPE III
AND ULTRAPHOT III/B**

47 40 35-9901	Point counter for 47 33 25-9903 attachable mechanical stage (1pr. marks every 0.2mm, 1pr. marks every 0.3mm)	\$ 156.00
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OPTIONAL BODY TUBES

47 30 31	Large inclined monocular tube Pol, with Bertrand lens	717.00
47 30 35	Inclined binocular tube Pol	1,031.00

EQUIPMENT FOR REFLECTED LIGHT

46 62 37	Vertical illuminator IIC	\$ 920.00
§46 62 61	Prism reflector H-Pr Pol	207.00
§46 62 60-9903	Planeglass reflector H-PI	144.00
46 72 52	2 Filter holders	28.00
§47 36 16	Epi polarizer with scale	336.00
46 78 35	Blue glass, clear	9.50
46 78 26	Neutral filter NG9	22.50
47 20 71	Insert for vertical illumination with aperture diaphragm (for Universal and Ultraphot)	445.00
	VERTICAL ILLUMINATOR IIC, COMPLETE	\$ 2,112.00
47 20 75	Insert for vertical illumination with aperture diaphragm (for Photomicroscope III)	\$ 529.00
§Optional		
46 62 65	Reflector H-PI Pol	\$ 472.00
	(In place of 46 62 61 or 46 62 60)	
46 62 89	Swing-out polarizer for vertical illuminator	253.00
	(In place of 47 36 16)	

(Continued on page 10a.12)

JAMIN-LEBEDEFF EQUIPMENT

47 44 13	Interference Attachment I with Achromat 10/0.22 Pol with Condenser 10/0.22 Pol with centering change ring 46 62 56 (attached to objective)	\$	1,142.00
47 44 16	Interference Attachment II with Achromat 40/0.65 Pol with Condenser 40/0.65 Pol with centering change ring 46 62 56 (attached to objective)		1,142.00
47 44 18	Interference Attachment III with Achromat 100/1.0 oil immersion Pol with Condenser 100/1.0 oil immersion Pol with field diaphragm with centering change ring 46 62 56 (attached to objective)		1,142.00
47 31 17	Single objective carrier with Telan lens Pol		325.00
47 37 18	Senarmont compensator 546 m μ		523.00
46 78 08	Precision line filter PIL 546		179.00
47 95 38	Case for Interference Attachments		105.00
47 44 70	Micro Interference Refractometer I, for 47 44 13		239.00
	in container		
47 44 71	Micro Interference Refractometer II, for 47 44 16		239.00
	in container		
INTERFERENCE EQUIPMENT FOR STANDARD UNIVERSAL AND CAMERA MICROSCOPES POL INCLUDING MICRO INTERFERENCE REFRACTOMETERS (WITHOUT CENTERING TELESCOPE 46 48 22)			\$ 5,036.00
46 48 22	Centering telescope	\$	175.00

POL OBJECTIVES

For Transmitted Light

Catalog Numbers	Effective Magnification/ Numerical Aperture	Working Distance mm	Focal Length mm	\$
46 20 11	Planachromat 1.0/0.04 (Pol)	4.4	134.7	605.00
46 01 18	Planachromat 2.5/0.08 Pol Z	8.7	56.0	385.00
46 04 08	Achromat 10/0.22 Pol Z	5.0	16.7	370.00
46 06 28	Neofluar 25/0.60 Pol Z	0.54	7.1	683.00
46 07 08	Achromat 40/0.85 Pol Z	0.36	4.7	540.00
46 08 18	Neofluar 63/0.90 Pol Z	0.12	3.0	1,175.00
46 19 08	Achromat 100/1.25 Pol Z oil	0.09	1.9	565.00

(Continued on page 10a.13)

Epiplan "Pol" Objectives (in short mount, 22mm, to be used with centering change ring 46 62 56) thread = W 0.8"



Catalog Number	Effective Magnification/ Numerical Aperture	Working Distance mm	\$
46 20 01	Epiplan 4/0.1 Pol	9.0	395.00
46 20 02	Epiplan 8/0.2 Pol	7.1	450.00
46 20 03	Epiplan 16/0.35 Pol	2.7	570.00
46 20 04	Epiplan 40/0.85 Pol	0.23	754.00
46 20 80	Epiplan 80/0.95 Pol	0.09	825.00
46 21 23	LD-Epiplan 16.30 Pol	3.5	730.00
46 29 15	Protection Cap LD 16 Pol		69.00
46 21 24-9901	LD-Epiplan 40/0.6 Pol	2.3	960.00
46 29 16	Protection Cap LD 40 Pol		69.00
46 20 06	Epiplan 4/0.1 Pol oil	0.3	570.00
46 20 07	Epiplan 8/0.2 Pol oil	0.3	615.00
46 20 08	Epi-Achromat 16/0.4 Pol oil	0.85	640.00
46 20 09	Epi-Achromat 40/0.85 Pol oil	0.5	650.00
46 20 05-9903	Epiplan 100/1.25 Pol oil	0.25	1,085.00

46 62 56 Centering change ring (required for IIA and IIST Vertical Illuminators) \$ 144.00

Long Working Distance Objectives for 1.5mm Cover Glasses

Catalog Number	Effective Magnification/ Numerical Aperture	Working Distance mm	\$
42 21 01	LD-Epiplan 4/0.1 SM (D=1.5)	8	486.00
42 21 02	LD-Epiplan 8/0.2 SM (D=1.5)	6.2	514.00
42 21 03	LD-Epiplan 16/0.3 SM (D=1.5)	4.1	638.00
42 21 04	LD-Epiplan 40/0.6 SM (D=1.5)	3.4	843.00

Crosshair & Pointer Eyepieces

Catalog Number	Magnification	Focal Length mm	Field of View No.	Angle of View	\$
46 39 18	C 8x with pointer	31.2	16	30°	114.00
46 41 28	Kpl 12.5x  with pointer	19.8	12.5	36°	204.00
46 39 25	Kpl 8x Pol, crosshair	31.5	18	33°	210.00
46 41 45	Kpl 12.5x  Pol wide-angle with crossline micrometer	20.3	18	48°	375.00

STANDARD EYEPIECES

Catalog Number	Magnification	Focal Length mm	Field of View No.	Angle of View	\$
46 39 10	C 8x	31.2	16	30°	48.00
46 39 20	Kpl 8x	31.5	18	33°	125.00
46 39 22	Kpl 8x 	31.3	18	32°	168.00
46 40 20	Kpl 10x	25.0	16	36°	78.00
46 40 42-9902	Kpl 10x  wide-angle	25.1	18	41°	155.00
46 40 44-9901	Kpl 10x  super wide-angle	25.1	20	45°	174.00
46 41 42	Kpl 12.5x  wide-angle	20.3	18	48°	222.00

retardation plates and compensators



47 37 04	Quartz plate red/1 in slider	\$	146.00
47 37 14	Mica plate $\lambda/4$ in slider		146.00
47 37 17	Senarmont compensator $\lambda/4$, 589 m μ		250.00
47 37 18	Senarmont compensator $\lambda/4$, 546 m μ		523.00
47 37 24	Quartz wedge 1-3		523.00
47 37 30	Rotary mica compensator $\lambda/4$ in case		763.00
47 37 31	Rotary mica compensator $\lambda/10$ in case (Requires 47 16 50)		806.00
47 37 32	Rotary mica compensator $\lambda/20$ in case (Requires 47 16 50)		813.00
47 37 33	Rotary mica compensator $\lambda/30$ in case (Requires 47 16 50)		828.00
47 37 40	Ehringhaus compensator with quartz plate in case (Requires 47 16 50)		1,214.00
47 37 41	Ehringhaus compensator with quartz plate in case (Requires 47 16 50)		2,086.00
§ 47 16 50	Reduction piece 6x20/4x12		107.00

Condensers for transmitted light

46 52 62	Condenser 0.9Z Pol with swing-out front lens	\$	290.00
46 52 63	Condenser 1.3Z Pol with swing-out front lens		350.00

UD STAGE



47 38 01	Universal rotating stage with 4 axes, 3 hemispheres nD 1.555, 3 hemispheres nD 1.649, with mechanical stage with parallel guides, in case	\$	4,017.00
46 55 50	Conoscopic condenser UD 0.6 with intermediate piece Z		252.00
47 38 80	Wulff's chart for stereographic projection		24.00

Objectives "UD" (for Universal Rotating Stage with correction length = 33mm,) thread = W 0.8"

Catalog Number	With Hemisphere Effective Magnification/ Number Aperture	If used without Hemisphere	Working Distance mm	\$
		Effective Magnification/ Numerical Aperture		
46 20 42	Achromat UD 6.3/0.12	4/0.08	19	180.00
46 20 44	Achromat UD 16/0.17	10/0.11	15.3	189.00
46 20 45	Achromat UD 20/0.57C	12.5/0.38	6.2	382.00
46 20 46	Achromat UD 40/0.65C	25/0.41	6.6	635.00

§Note: ZEISS Polarizing microscopes manufactured before August 1975 utilized compensators 4 × 12 mm. New instruments now accept 6 × 20 compensators only. If you want to use plates or compensators from older instruments the reduction piece will also be required.



ATTACHMENT CAMERA MC 63 FOR PHOTOMICROGRAPHY

47 30 28	Binocular phototube with prism (recommended for applications in fluorescence or polarized light)	\$	1,488.00
46 40 46	Focusing Kpl 10x wide field eyepiece with orientation screw		264.00
46 40 43-9901	Focusing Kpl 10x wide field eyepiece		234.00
47 60 12	Special basic body with shutter M		637.00
47 60 13	Photo diode sensor ME		150.00
47 74 25	Exposure control panel		1,563.00
38 00 74-0160	Power cable, 110V		11.50
47 60 21	Photo reticule MC for eyepiece		76.00
47 60 72	Camera back MC 35		390.00
41 48 33	Focusing magnifier		62.00
46 42 40	Photoeyepiece S-Kpl 16x/12.5		364.00
	ATTACHMENT CAMERA MC63 WITH 35MM BACK COMPLETE	\$	5,239.50

OPTIONAL PHOTOTUBE

47 30 24	Phototube M for Universal and Photomicroscope stands)		183.00
47 30 12-9902	Binocular tube G for Universal and photomicroscope stands)		703.00
	PHOTOTUBE FOR UNIVERSAL OR PHOTOMICROSCOPE COMPLETE	\$	886.00

OPTIONAL PHOTOEYEPIECES

46 40 40	Photoeyepiece S-Kpl 10x/20 for Plan optics only	\$	438.00
46 42 21	Photoeyepiece Kpl 16x/12 M		185.00

OPTIONAL EYEPIECES FOR OBSERVATION

46 40 43-9901	2 Focusing Kpl 10x wide field eyepieces	\$234.00 ea.	468.00
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OPTIONAL CAMERA BACKS

47 60 73	Camera back MC 35 with motorized film transport		835.00
47 6057	Camera back 4" x 5"		650.00

REQUIRED COMPONENTS

OPTIONAL

46 48 31	Attachment telescope for critical focus	\$	211.00
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