

BAUSCH & LOMB

POLARIZING MICROSCOPES

31-130

RESEARCH SERIES

Catalog No.	Description	Suggested List Price
31-28-71-02	Model LR-2 Polarizing Microscope with two achromatic strain-free objectives 10X (16mm) 0.25 N.A. and 45X (4mm) 0.85 N.A.; two objective holders; two large diameter Huygenian eyepieces (7.5X and 10X) with crosshairs and focusing eyelens. In wood cabinet	\$2005.00
31-28-71-04	Model LR-4 Polarizing Microscope with three achromatic strain-free objectives, 2.6X (40mm) 0.08 N.A., 10X (16mm) 0.25 N.A., and 45X (4mm) 0.85 N.A.; three objective holders; three large diameter Huygenian eyepieces (5X, 7.5X, and 10X) with crosshairs and focusing eyelens; instruction manual. In wood cabinet.	\$2089.00

INTERMEDIATE SERIES

31-28-60-02	Model LI-2 Polarizing Microscope with two achromatic strain-free objectives, 10X (16mm) 0.25 N.A., and 45X (4mm) 0.85 N.A.; two objective holders; two Huygenian eyepieces (7.5X and 10X) with crosshair and focusing eyelenses. Precentered stage*. In wood cabinet	835.00
31-28-60-04	Model LI-4 Polarizing Microscope with three achromatic strain-free objectives, 2.6X (40mm) 0.08 N.A., 10X (16mm) 0.25 N.A., and 45X (4mm) 0.85 N.A.; three objective holders; three Huygenian eyepieces (5X, 7.5X, and 10X) with crosshairs and focusing eyelenses. Precentered stage.* In wood cabinet	912.00

FOR CHEMICAL MICROSCOPY

31-28-65-04	Model LM-4 Polarizing Microscope with three achromatic strain-free objectives, 4X (32mm) 0.10 N.A., 10X (16mm) 0.25 N.A., and 21X (8mm) 0.50 N.A.; three objective holders; three Huygenian eyepieces (5X, 7.5X, and 10X) with crosshairs and focusing eyepieces. Precentered stage*. In wood cabinet	799.00
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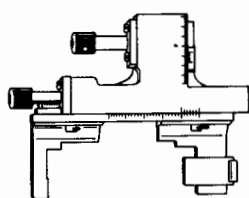
STANDARD SERIES

31-28-59-02	Model LS-2 Polarizing Microscope with two achromatic strain-free objectives, 10X (16mm) 0.25 N.A., and 45X (4mm) 0.85 N.A.; two objective holders; 10X Huygenian eyepiece with crosshairs. Precentered stage*. Wood cabinet not included.	556.00
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* Factory centered. Can be supplied with knurled-head centering screws at extra charge of \$10.00 per microscope.

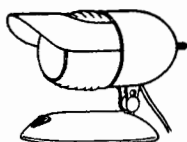
ACCESSORIES

MECHANICAL STAGE

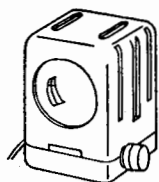


Catalog No.	Description	Suggested List Price
31-59-47	Mechanical Stage, attachable, graduated	160.00
31-59-50	Point Counting Stage (Chaye's method)	195.00

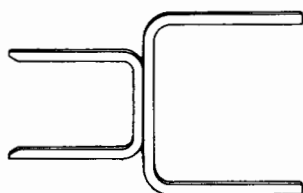
ILLUMINATORS



31-33-01	Micro-Lite	19.00
31-33-01-125	Renewal Lamp, 60W45

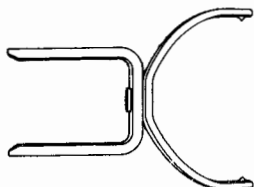


31-33-94	Optilume Illuminator with ground glass filter, clear condenser and clip-on metal reflector	13.50
31-33-93	Same but with daylight filter	13.50
31-31-15	Renewal, 15W lamp75

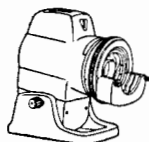


*31-58-20	H-Bracket for attaching Optilume in place of mirror	3.25
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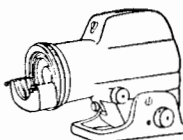
31-50-21	Mirror, plano-concave	11.00
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31-58-19	Fork mount for mirror	2.00
	*For 31-33-94 Optilume with 31-58-20 H-Bracket in place of mirror and fork, add to list price of microscope	3.25



31-33-26-11	Model PG-26 Professional Illuminator, 100W, 120V, concentrated filament lamp, blue and ground glass filters	82.00
31-33-26-12	Same as above but with iris diaphragm	99.00
31-33-26-13	Same as above but with 3 neutral filters, filter holder, and iris diaphragm.	137.00



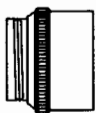
31-33-27-21	Model PR-27 Professional Illuminator, 108W, 6V, ribbon filament lamp, adjustable transformer, one daylight and 3 neutral filters, filter holder, and iris diaphragm	203.00
31-34-56	Filter holder	5.50
31-34-57	Iris diaphragm, used on 31-33-26 and 31-33-27 illuminators	17.00
31-34-58	Daylight filter, polished both sides, 3" diameter	9.00

Catalog No.	Description	Suggested List Price
31-34-66	Neutral filter, 0.7 density, 20% transmission, 3" diameter.....	10.00
31-34-67	Neutral filter, 1.0 density, 10% transmission, 3" diameter.....	10.00
31-34-68	Neutral filter, 1.3 density, 5% transmission, 3" diameter.....	10.00
31-34-76	2" x 2" Filter adapter for 31-33-26 and 31-33-27 Illuminators.....	3.00

SODIUM LAMP

334504-249ND	Sodium Lamp Assembly LM-35.....	133.00
33-33-82	Sodium Lamp NA-1 (spare for above).....	M.C.P. 38.00

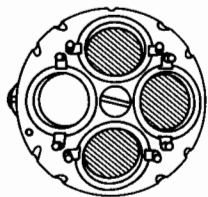
NOSEPIECES



31-19-01	Single Nosepiece.....	7.50
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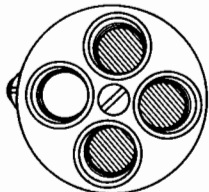
31-19-14	Quick change Bayonet Adapter for quick change of nosepiece or vertical illuminator on LR microscope.....	21.00
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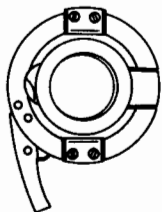
31-19-20	Quadruple Nosepiece, with individually centering apertures.....	80.00
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31-19-22	Double Nosepiece, revolving.....	25.00
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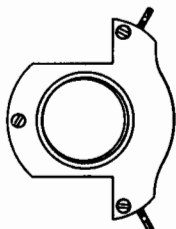
31-19-23	Triple Nosepiece, revolving.....	31.00
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31-19-24	Quadruple Nosepiece, revolving.....	38.00
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31-19-31	Centering Nosepiece, tube part (used with 31-19-32).....	40.00
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31-19-32	Objective carrier (used with 31-19-31) (one for each objective).....	17.00
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STRAIN-FREE ACHROMATIC OBJECTIVES

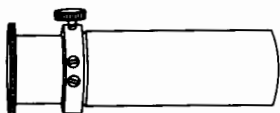
Catalog No.	Description	Suggested List Price	
31-09-07	2.6X, 0.08 N.A., E.F. 40mm, working distance 43.5mm	30.00	
31-09-09	4X, 0.10 N.A., E.F. 32mm, working distance 38.0mm	30.00	
31-09-18	6X, 0.17 N.A., E.F. 22.7mm, working distance 15.5mm	43.00	
31-09-16	10X, 0.25 N.A., E.F. 16mm, working distance 6.2mm	27.00	
	31-09-17	10X, 0.25 N.A., E.F. 16mm, working distance 7.7mm	43.00
	31-09-27	21X, 0.50 N.A., E.F. 8mm, working distance 1.6 mm	60.00
	31-09-31	45X, 0.85 N.A., E.F. 4mm, working distance 0.3mm	66.00
	31-09-69-02	97X, 1.25 N.A., E.F. 1.8mm, working distance 0.13mm	114.00

HUYGENIAN EYEPIECES

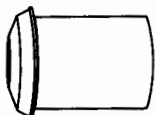
31-15-21	5X keyed, focusing eyelens, crosshairs. 23mm ϕ	30.00
31-15-23	7.5X keyed, focusing eyelens, crosshairs. 23mm ϕ	30.00
31-15-25	10X keyed, focusing eyelens, crosshairs. 23mm ϕ	30.00
31-15-29	10X keyed, with cross wires. 23mm ϕ	18.00
31-15-17	7.5X, with focusing eyelens, to take disc. 23mm ϕ	23.00
31-15-18	10X, with focusing eyelens, to take disc. 23mm ϕ	23.00
31-15-31	5X, keyed, focusing eyelens, crosshairs, for LR microscope. 30mm ϕ	37.00
31-15-32	7.5X, keyed, focusing eyelens, crosshairs for LR microscope. 30mm ϕ	37.00
31-15-33	10X, keyed, focusing eyelens, crosshairs for LR microscope. 30mm ϕ	37.00

FOCUSING TELESCOPE AND PINHOLE CAP

(For observation of interference figures on microscopes not provided with a Bertrand Lens.)



31-50-78	Focusing Telescope	46.00
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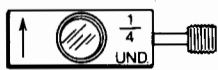


31-50-24	Pinhole Cap, standard diameter. 23mm ϕ	7.00
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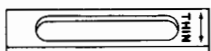
MEASURING ACCESSORIES

Catalog No.	Description	Suggested List Price
31-16-05	Micrometer Disc, 5mm, ruled to 0.1mm, fits all 23mm ϕ eyepieces	9.50
31-16-11	Net Micrometer, 196 squares, 0.5mm, every second line numbered. Fits all 23mm ϕ eyepieces	17.00
31-16-50	Filar Micrometer eyepiece, 12.5X, 23mm ϕ	157.00
31-16-90	Stage Micrometer, glass, ruled to 0.01mm for transmitted or reflected light	28.00
31-16-99	Precision Stage Micrometer, 2mm in 0.01mm	125.00
312871-160	Reducing Adapter (to use 23mm ϕ eyepieces on 30mm ϕ LR Microscope eyepiece tube)	5.00

RETARDATION PLATES AND QUARTZ WEDGE



31-51-54	Retardation Plate, quarter-wave, 147m μ , (mica)	26.00
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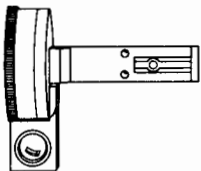
31-51-56	Combination Quartz Wedge, 0 through III order*	124.00
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31-51-60	Retardation Plate, full wave, first order red, 550m μ , (quartz)	48.00
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* Higher retardation wedges quoted on request, on a special order basis.

ACCESSORY SLOT COMPENSATOR



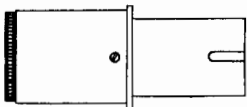
31-51-53	Accessory Slot Compensator; 0 to 2700 millimicrons direct reading, with scale magnifier; first through fourth order interference colors: with case	308.00
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44-79-58	Interference filter, 589 millimicrons, 2" x 2". (Sodium "D" line)	50.00
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MISCELLANEOUS

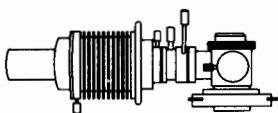


310145-103	Centering Knurled-Head Screws (To convert pre-centered stage microscopes to centering stage type)	5.00 each
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31-99-89-80	Adapter to use Model N 35mm Camera on LR Microscope	100.00
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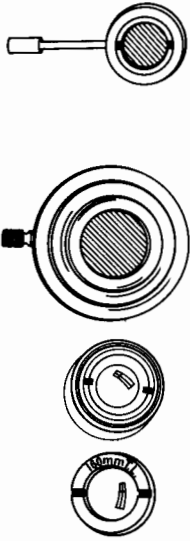
ACCESSORIES FOR INCIDENT LIGHT



31-34-82-11	Vertical Illuminator, full and half aperture illumination, centering nosepiece with one objective holder, field and aperture diaphragms, Polaroid polarizer, compensating lens for 160mm tube length microscopes	236.25
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31-34-82-12	Vertical Illuminator, same as No. 31-34-82-11, above, and with 6.5V, 2.75-amp., integral light source, adjustable transformer for 115V, 60 cycle, A.C.	307.75
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Catalog No.	Description	Suggested List Price
31-34-82-13	Vertical Illuminator, same as No. 31-34-82-12, above, except with fixed transformer	294.00
31-34-90-22	Vertical Illuminator, full aperture illumination, centering nosepiece with one objective holder, field and aperture diaphragms, Polaroid polarizer, compensating lens for 160mm tube length microscope, 6.5V., 2.75-amp. integral light source, adjustable transformer for 115V., 60 cycle, A.C.	276.25
31-34-90-23	Vertical Illuminator, same as No. 31-34-90-22, above, except with fixed transformer	273.00
31-34-92	Blue Filter for 31-34-42, -43, -82, -90 Vertical Illuminator	9.50
31-34-94	Green Filter for 31-34-42, -43, -82, -90 Vertical Illuminator	9.50
31-34-95	Polaroid Polarizer for 31-34-42, -43, -82, -90 Vertical Illuminator	26.00
31-34-64-21	Tri-Vert Illuminator and objectives for bright-field, dark-field and polarized light incident illumination	731.35
31-34-96	Yellow Filter for 31-34-64-21	12.60
31-34-97	Green Filter for 31-34-64-21	12.60
31-34-98	Blue Filter for 31-34-64-21	12.60
31-34-99	Polaroid Filter for 31-34-64-21	34.25
31-34-85	Supplementary Lens to fit No. 31-34-82-11 Illuminator for use with separate light source	15.25
31-34-86	Compensating Lens for 31-34-82-11, -12, and -13 Illuminator used with 160mm transmitted light microscope (supplied as standard equipment on all 31-34-82 Illuminators	15.75
31-34-87	Compensating Lens used with 31-34-90-22 or -23 illuminators on polarizing microscopes with single centering nosepiece (supplied as standard equipment on all 31-34-90 Illuminators	14.70
31-31-79	Lamp for vertical illuminator, 6.5V, 2.75 amp	1.40
42-33-53	Strain-free, Balcoted achromatic objective, corrected for use at 215mm tube length without cover slip, 10X, 0.25 N.A.	53.75
42-33-56	Same as No. 42-33-53, above, except 40X, 0.65 N.A.	87.50



For a complete listing of objectives corrected for use without cover with above Vertical Illuminators, see catalog 31-1053.

VERTICAL WOOD STORAGE CABINETS

31-39-96	Standard, for Model LS Dynoptic Polarizing Microscope, handle, lock and key . . .	37.00
31-39-78	Deluxe, for Models LI and LM Dynoptic Polarizing Microscopes, fitted with accessory container for retardation plates, wedge, extra objectives and eyepieces, handle, lock and key	49.00
31-40-78	For LR Research Polarizing Microscopes	57.00

PHASE CONTRAST AND DARK FIELD ACCESSORIES

Catalog No.	Description	Suggested List Price
31-58-88-01	Set of Phase Contrast Accessories, complete with long working distance phase condenser, four phase objectives (10X, 21X, 43X, 97X oil), four condenser annular stops, centering telescope, immersion oil, green filter*, in case. For use with LR models only.	777.00
	*This set is supplied with a 2-inch round green filter. A 2-inch square green filter is available at an increase in cost of \$3.00 over the round filter. Order catalog number 42-47-61 green filter in place of 31-35-61 green filter. The square filter will fit the 31-34-76 2" x 2" filter adapter used with the PG-26 and PR-27 illuminators.	
31-58-50-21	Paraboloid Dark Field Immersion Condenser and funnel stop for 31-09-69-02 objective. In centering mount.	108.00
31-58-60	Cardioid Dark Field Immersion Condenser, in centering mount (no funnel stop supplied)	109.00
31-50-15	Funnel stop for 31-09-69-02 objective	3.00

INTERFERENCE FILTERS

44-78-38	380m μ	\$ 35.00
44-78-39	390m μ	35.00
44-78-40	400m μ	35.00
44-78-41	410m μ	35.00
44-78-42	420m μ	35.00
44-78-43	430m μ	35.00
44-78-44	440m μ	35.00
44-78-45	450m μ	35.00
44-78-46	460m μ	35.00
44-78-47	470m μ	35.00
44-78-48	480m μ	35.00
44-78-49	490m μ	35.00
44-78-50	500m μ	35.00
44-78-51	510m μ	35.00
44-78-52	520m μ	35.00
44-78-53	530m μ	35.00
44-78-54	540m μ	35.00
44-78-55	550m μ	35.00
44-78-56	560m μ	35.00
44-78-57	570m μ	35.00
44-78-58	580m μ	35.00
44-78-59	590m μ	35.00

Catalog No.	Description	Suggested List Price
44-78-60	600m μ	\$35.00
44-78-61	610m μ	35.00
44-78-62	620m μ	35.00
44-78-63	630m μ	35.00
44-78-64	640m μ	35.00
44-78-65	650m μ	35.00
44-78-66	660m μ	35.00
44-78-67	670m μ	35.00
44-78-68	680m μ	35.00
44-78-69	690m μ	35.00
44-78-70	700m μ	35.00
44-78-71	710m μ	35.00
44-78-72	720m μ	35.00
44-78-73	730m μ	35.00
44-78-74	740m μ	35.00
44-78-75	750m μ	35.00
44-78-76	760m μ	35.00
44-78-77	770m μ	35.00
44-78-78	780m μ	35.00
44-78-79	790m μ	35.00
44-78-80	800m μ	35.00
44-79-58	589m μ (Na "D" line)	50.00

POLARIZING MICRO-PROJECTOR

31-28-60-04	Dynoptic Polarizing Microscope, Model LI-4, as listed on page 6	912.00
42-63-48-01	Model 48 Basic Electronic Illuminating Stand. Balcoted reflecting prism, light shield, built-on mirror, clamps for positioning microscope, fixed focus condensing system, heat-absorbing filter, 10-amp. automatic electronic feed arc illuminator, 50 carbons, and variable resistor ballast	472.50
42-65-97	Projection Eyepiece, 3X, Balcoted	31.50
41-42-65	Copper Coated Carbons, 5.6mm dia., 6 in. long, 50 included with illuminator. . . .	21.00
424465-161ND	Thyratron Tube for Ballast	3.25
424465-160ND	Fuse for Ballast25
41-30-15	Projection Table, 44 $\frac{3}{4}$ in. high, tilting top, 32 $\frac{1}{2}$ in. x 16 $\frac{1}{2}$ in., shelf, 29 in. x 14 in., two rubber-tired wheels	(discontinued)

Note: The Model LI microscope will provide adequate microprojection when used orthoscopically, with the above Illuminating Stand. For projection of interference figures, the Model LR is recommended because of its better condenser and focusing Bertrand Lens. An adapter is in preparation to use the standard right angle prism and mount on the extra-large LR eyepieces.

BAUSCH & LOMB  ROCHESTER, NEW YORK 14602

SCIENTIFIC INSTRUMENT DIVISION