

6 - Light microscope accessories

Microscope slides



These high quality slides are manufactured in Germany. The glass is subject to rigid quality control procedures to ensure flatness without impurities or defects. All the slides are pre-washed, polished and have fine ground edges.

Supplied in boxes of 50 except where indicated.

Cat. no.	Size (mm)	Thickness (mm)	Finish
L4242	76 x 26	0.8 - 1.0	Plain
L4244	76 x 26	1.0 - 1.2	Plain
G251P	76 x 26	1.2 - 1.5	Plain
L4367*	24 x 24	1.0	Plain
L4364*	28 x 48	1.0	Plain
L4365*	46 x 27	1.2 - 1.4	Plain
L4222A	76 x 39	1.0 - 1.2	Plain
L4223A	76 x 51	1.0 - 1.2	Plain
L4089	76 x 26	1.0 - 1.2	Single frost
L4243	76 x 26	0.8 - 1.0	Twin frost
L4245	76 x 26	1.0 - 1.2	Twin frost

*Boxes of 100

Approximate chemical composition	Formula	% composition
Silicon dioxide	SiO ₂	72.20
Sodium oxide	Na ₂ O	14.30
Potassium oxide	K ₂ O	1.20
Calcium oxide	CaO	6.40
Magnesium oxide	MgO	4.30
Aluminium oxide	Al ₂ O ₃	1.20
Iron oxide	Fe ₂ O ₃	0.03
Sulphur trioxide	SO ₃	0.30

Technical data

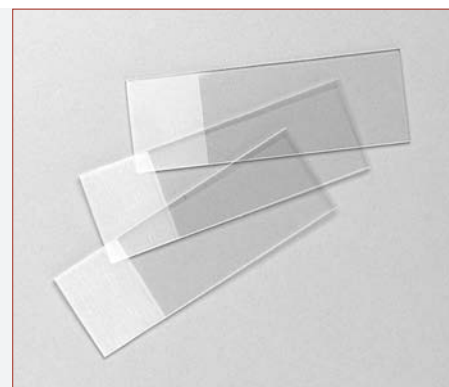
Refractive index	1.5171
Density	2.479
Mean coefficient of expansion	90.6 x 10 ⁻⁷ /°C (20 - 300 °C)
Strain point	513 °C
Softening point	720 °C

Super frost slides

These high quality slides with ground edges have a frosted marking surface available in six colours for easy identification. They can be marked with pen or pencil. Size 76 x 26 mm, thickness 1.0 - 1.2 mm.

Supplied in boxes of 50.

L4339	Super frost slides, white
L4340	Super frost slides, blue
L4341	Super frost slides, green
L4342	Super frost slides, orange
L4343	Super frost slides, pink
L4344	Super frost slides, yellow



Coverglasses

These coverglasses are manufactured from optical quality borosilicate to the highest standards and are optically clean and ready for use.

Supplied in boxes of 100.

Thickness guide:

00	0.06 - 0.08 mm	add suffix -00 to catalogue reference when ordering
0	0.08 - 0.10 mm	add suffix -0 to catalogue reference when ordering
1	0.13 - 0.16 mm	add suffix -1 to catalogue reference when ordering
1½	0.16 - 0.19 mm	add suffix -15 to catalogue reference when ordering
2	0.19 - 0.23 mm	add suffix -2 to catalogue reference when ordering
3	0.28 - 0.32 mm	add suffix -3 to catalogue reference when ordering
4	0.38 - 0.42 mm	add suffix -4 to catalogue reference when ordering
5	0.50 - 0.60 mm	add suffix -5 to catalogue reference when ordering

Most microscope objectives are corrected for a coverglass thickness of 0.17 mm, corresponding to no. 1½ coverglasses.



Cat. no.	Diameter	Thickness							
		00	0	1	1½	2	3	4	5
Circular		Suffix for ordering							
L46R5	5 mm	-00	-0	-1	-15	-2	-3	-4	-5
L46R7	7 mm	-00	-0	-1	-15	-2	-3	-4	-5
L46R10	10 mm	-00	-0	-1	-15	-2	-3	-4	-5
L46R13	13 mm	-00	-0	-1	-15	-2	-3	-4	-5
L46R16	16 mm	-00	-0	-1	-15	-2	-3	-4	-5
L46R19	19 mm	-00	-0	-1	-15	-2	-3	-4	-5
L46R22	22 mm	-00	-0	-1	-15	-2	-3	-4	-5
L46R24	24 mm	-00	-0	-1	-15	-2	-3	-4	-5

Coverglasses

Cat. no.	Size	Thickness							
	(mm)	00	0	1	1½	2	3	4	5
Square	Suffix for ordering								
L46S10	10 x 10	-00	-0	-1	-15	-2	-3	-4	-5
L46S13	13 x 13	-00	-0	-1	-15	-2	-3	-4	-5
L46S15	15 x 15	-00	-0	-1	-15	-2	-3	-4	-5
L46S18	18 x 18	-00	-0	-1	-15	-2	-3	-4	-5
L46S20	20 x 20	-00	-0	-1	-15	-2	-3	-4	-5
L46S22	22 x 22	-00	-0	-1	-15	-2	-3	-4	-5
L46S24	24 x 24	-00	-0	-1	-15	-2	-3	-4	-5

Cat. no.	Size	Thickness							
	(mm)	00	0	1	1½	2	3	4	5
Rectangular		Suffix for ordering							
L462226	22 x 26	-00	-0	-1	-15	-2	-3	-4	-5
L462232	22 x 32	-00	-0	-1	-15	-2	-3	-4	-5
L462240	22 x 40	-00	-0	-1	-15	-2	-3	-4	-5
L462244	22 x 44	-00	-0	-1	-15	-2	-3	-4	-5
L462250	22 x 50	-00	-0	-1	-15	-2	-3	-4	-5
L462264	22 x 64	-00	-0	-1	-15	-2	-3	-4	-5
L462432	24 x 32	-00	-0	-1	-15	-2	-3	-4	-5
L462440	24 x 40	-00	-0	-1	-15	-2	-3	-4	-5
L462450	24 x 50	-00	-0	-1	-15	-2	-3	-4	-5
L463564	35 x 64	-00	-0	-1	-15	-2	-3	-4	-5
L464864	48 x 64	-00	-0	-1	-15	-2	-3	-4	-5
L465764	57 x 64	-00	-0	-1	-15	-2	-3	-4	-5

Technical data

Refractive index (as delivered)

 $n_e 1.5255 \pm 0.0015$
 $n_D 1.5230$

Abbe coefficient

 $v_e 55$

Mean coefficient of thermal expansion

 $\alpha_{(20-300^\circ)} 7.2 \times 10^{-6} \text{ K}^{-1}$

Softening temperature

736 °C

Density

2.51 g/cm³

Large microscope slides

These large microscope slides are specially made for large tissue sections, such as brain, to allow uninterrupted examination without loss of tissue. Standard thickness is 1.2 mm. The slides are made from optical grade soda-lime glass and are shrink wrapped.

- L4380-1** Large glass slides, 102 x 76 mm (4 x 3"). Pack of 36
- L4380-2** Large glass slides, 102 x 83 mm (4 x 3¼"). Pack of 36
- L4380-3** Large glass slides, 127 x 102 mm (5 x 4"). Pack of 36
- L4380-4** Large glass slides, 152 x 114 mm (6 x 4½"). Pack of 36
- L4380-5** Large glass slides, 178 x 127 mm (7 x 5"). Pack of 36



Large coverglasses

These large coverglasses have been specially made for the large microscope slides (see above). They are manufactured from optical grade borosilicate glass, with thickness no. 2 (0.19 - 0.25 mm).

- L4381-1** Large coverglasses, 76 x 83 mm (3 x 3¼"). Pack of 36
- L4381-2** Large coverglasses, 76 x 89 mm (3 x 3½"). Pack of 36
- L4381-3** Large coverglasses, 95 x 114 mm (3¾ x 4½"). Pack of 36
- L4381-4** Large coverglasses, 105 x 140 mm (4⅞ x 5½"). Pack of 36
- L4381-5** Large coverglasses, 114 x 159 mm (4½ x 6¼"). Pack of 36

Polysine microscope slides

High quality slides with a permanent positively charged surface. This makes the slides invaluable for use with frozen sections, immunohistochemical stains and *in situ* hybridisation procedures.

- L4345** Polysine slides. Pack of 72

Cavity slides

These slides are useful as moist chambers for observing hanging drops. The slides have polished round depressions 15 mm in diameter and 1 mm deep. Available with either one or two depressions. Dimensions: 76 x 25 x 1.25 mm

- L4090** Cavity slide, single depression. Pack of 50
- L4091A** Cavity slide, two depressions. Pack of 10



Slide with fused ring

High quality 76 x 26 x 1.75 mm slide with fused-on glass ring 15 mm diameter and approximately 3 mm high.

- L4246** Slide with fused ring



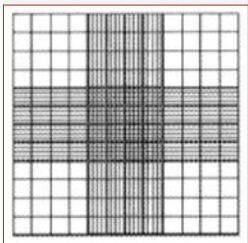
Glass rings

Glass rings designed for mounting thick specimens onto microscope slides. Rings are 15 mm in diameter and approximately 3 mm high.

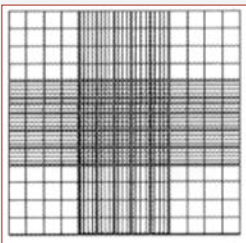
L4346 Glass rings. Pack of 10

Haemocytometers

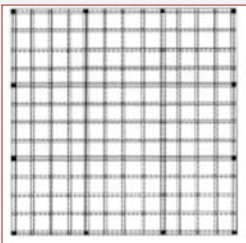
Haemocytometer counting chambers are made to exacting standards and conform to BS 748. The central platforms are metallised with an even thickness of reflective metal to reduce glare, helping to define lines for accurate cell counting. The counting chambers are available in five rulings, as single or double cells. They are supplied with two coverglasses in a transparent case.



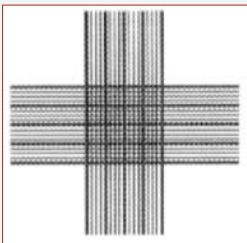
Neubauer



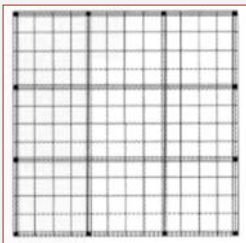
Improved Neubauer



Burker



Thoma



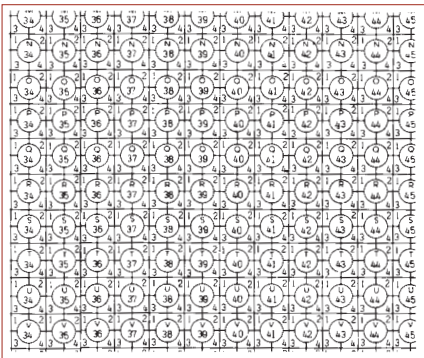
Modified Fuchs Rosenthal

Ruling	Single cell	Double cell
Neubauer	L4248-N	L4247-N
Improved Neubauer	L4248-I	L4247-I
Burker	L4248-B	L4247-B
Thoma	L4248-TH	L4247-TH
Fuchs Rosenthal	L4248-F	L4247-F

Spare coverglasses for haemocytometer counting chambers to fit both types of cell.

L4247A Coverglasses for haemocytometer. Pack of 10

The England Finder™



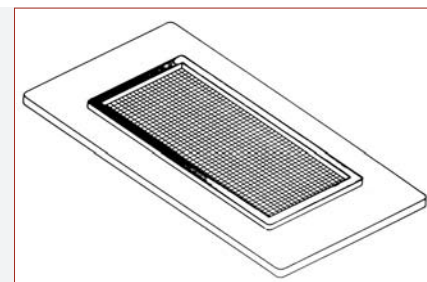
This is a microscope slide marked over the top surface in such a way that a reference position can be deduced by direct reading. The slide is located by reference to a horizontal and vertical locating edge on the stage. After a feature of interest on a slide has been positioned under the cross wires of the microscope, the slide is replaced by the England Finder and the reference position is read off and recorded.

L4076 England Finder

Volume/counting cells

These volume/counting cells are used to define precise volumes of liquid for counting particles in a specified volume. Sedgewick Rafter cell and coverglasses are for use in water analysis, culture inspection and any fluid where particles per volume need to be determined. They are available as plastic cell or glass versions with chromium surface image for continued professional use and when using phase contrast. In both types, a central cell is filled with fluid and a coverglass limits the volume to 1 ml. The grid subdivides this into μl .

- L4390** Sedgewick Rafter counting chamber, plastic
- L4391** Sedgewick Rafter counting chamber, glass
- L4392** Coverglass for Sedgewick Rafter cells



The Howard cell is a glass slide of 76 x 35 mm with a central circular island and is used for counting mould hyphae and spores in fruit juices. With the coverglass in place, a 0.1 mm thickness of liquid is contained over the central island. The coverglass has 25 calibrated fields of 1.382 mm diameter through which to view the particles. It removes the necessity of precise adjustment of the microscope and eyepiece graticule in the original Howard method.

- L4393** Howard cell
- L4394** Coverglass for Howard cell



Plastic coverslips

These coverslips 22 x 22 mm and 0.18 mm thick are made from clear, virtually unbreakable rigid vinyl co-polymer of PVC and acetate with a refractive index of 1.54.

Supplied in boxes of 100 or 1000, interleaved with tissue to prevent scratching.

- L4193** Plastic coverslips. Box of 100
- L4193-1** Plastic coverslips. Box of 1000



Thermanox® coverslips

Thermanox coverslips made of polyolefin polymer are resistant to most chemicals, including alcohols, aldehydes, hydrocarbons, dilute acids (<10 %) and dilute alkalis (<2 %). Supplied sterile and culture treated on one side for enhanced cell attachment and growth. Cells can be embedded in a plastic resin on the coverslip, without removal for sectioning.

Available in either circular or rectangular forms, 0.2 mm thick.

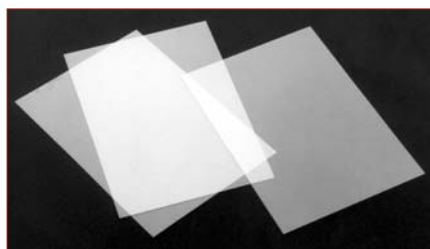
Circular

- L4350** Thermanox coverslips, 13 mm dia. Pack of 100
- L4353** Thermanox coverslips, 15 mm dia. Pack of 100
- L4351** Thermanox coverslips, 22 mm dia. Pack of 100
- L4361** Thermanox coverslips, 25 mm dia. Pack of 100

Rectangular

- L4354** Thermanox coverslips, 10.5 x 22 mm. Pack of 100
- L4352** Thermanox coverslips, 22 x 60 mm. Pack of 100
- L4362** Thermanox coverslips, 24 x 30 mm. Pack of 100

Melinex® film

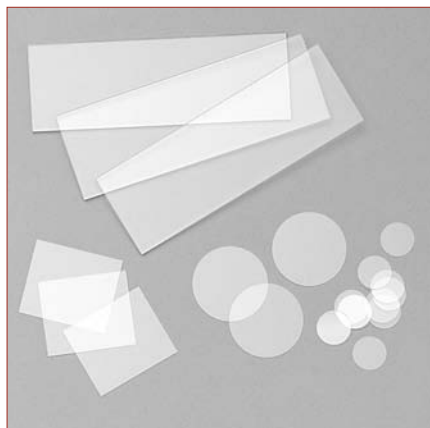


Melinex film is a convenient substrate for growing cell cultures and for later incorporation into blocks.

Dimensions: 210 x 297 mm, 175 µm thick.

L4103 Melinex film. Pack of 5 sheets

Quartz slides and coverslips



This range of quartz slides and coverslips is made from fused quartz Vitreosil 077®. They are particularly useful for applications where high temperature and UV transparency are needed.

Slides

L4470 Quartz slides, 76 x 26 x 1 mm. Pack of 5

L4471 Quartz slide, 76 x 26 x 1 mm

L4470-1 Quartz slide, 25.4 x 25.4 x 1 mm

L4470-2 Quartz slide, 50.8 x 25.4 x 1 mm

Coverslips

Circular

L4466 Quartz coverslips, 10 x 0.1 - 0.15 mm. Pack of 5

L4463 Quartz coverslips, 10 x 0.25 mm. Pack of 5

L4460 Quartz coverslips, 10 x 1 mm. Pack of 5

L4456 Quartz coverslip, 18 x 0.25 mm

L4464 Quartz coverslips, 20 x 1 mm. Pack of 5

L4462 Quartz coverslips, 22 x 0.25 mm. Pack of 5

L4455 Quartz coverslip, 25.4 x 0.25 mm

L4461 Quartz coverslips, 25.4 x 1.25 mm. Pack of 5

Square

L4454 Quartz coverslip, 19 x 19 x 0.25 mm

L4453 Quartz coverslip, 19 x 19 x 0.5 mm

L4465 Quartz coverslips, 22 x 22 x 0.25 mm. Pack of 5

Other sizes available on request.

Slide dispenser



Microscope slide dispenser. Dispenses slides one by one from dust free storage.

G282 Microscope slide dispenser

Slide labels

Self adhesive white paper labels for microscope slides.

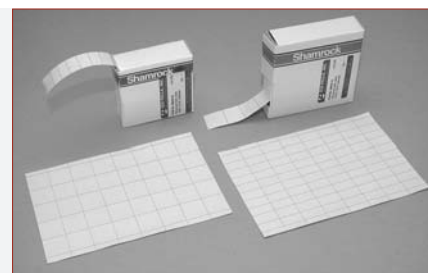
L4160 Slide labels, 19 x 24 mm. Roll of 1000



Slide labels

These microscope slide labels fit directly on the microscope slide, providing a neat and professional way to label slides. The writing on the label is more permanent than that provided by most slide markers. These slide labels are available in standard thin or in pathology (tissue high) thickness. Permanent adhesive holds labels in place during use and long term storage. The labels have square corners and are supplied either in sheet form with 40 labels per sheet, or in roll form.

- L4368-1** Slide labels, sheet, 24 x 24 mm, standard thickness. Pack of 1000
- L4368-2** Slide labels, sheet, 24 x 24 mm, pathology thickness. Pack of 1000
- L4368-3** Slide labels, sheet, 12 x 24 mm, standard thickness. Pack of 2000
- L4368-4** Slide labels, sheet, 12 x 24 mm, pathology thickness. Pack of 2000
- L4369-1** Slide labels, roll, 24 x 24 mm, standard thickness. Pack of 1000
- L4369-2** Slide labels, roll, 24 x 24 mm, pathology thickness. Pack of 1000
- L4369-3** Slide labels, roll, 12 x 24 mm, standard thickness. Pack of 1000
- L4369-4** Slide labels, roll, 12 x 24 mm, pathology thickness. Pack of 1000



Marker for slides

This permanent marker with a fine tip is ideal for labelling frosted microscope slides and plastic embedding cassettes. The black ink is resistant to most solvents and chemicals.

L4348 Marker for slides

Securline® lab markers

This Securline lab marker has permanent, quick-drying, water-resistant ink that writes on cold or wet surfaces, plastic bags or disposable labware. The markings will not smear on reusable glass, metal or porcelain labware, will remain through repeated solutions but can be scrubbed off. Suitable for general lab use. Not suitable for temperatures below 0 °C.

L4371 Securline lab marker, extra fine tip, black

This pen is suitable for marking plastic embedding cassettes and the frosted ends of microscope slides. The ultra-permanent ink resists solvents such as xylene, ethanol, acetone and formalin, and so is ideal for histology and cytology. Markings can be removed with acetone and/or ethanol/xylene mixtures.

Temperature range -15 °C to 100 °C.

L4372 Securline lab marker II, black



Writing diamond



Diamond marker for writing on glass surfaces.

T566 Writing diamond

For details of other writing diamonds, please refer to section 4.

Mechanical counter



Hand held counter with reset button, useful for counting cells, etc. Counts up to 9999.

G3687 Mechanical counter

Slide storage cabinets



We supply a range of stackable steel cabinets for storing microscope slides, processing cassettes and blocks, from primary storage to high density archiving. All the cabinets are available in two sizes, one full depth for floor stacking and the other half depth for bench top use. A lip runs full width at both the front and back of each unit to locate securely with the next cabinet in the stack. All units are enamel coated in two tone grey. The drawers are removable, but have a stop mechanism to prevent accidental removal. Base stands and top covers are available for the cabinets, with top covers providing an additional work surface.

Cat. no.	No. of drawers	Slide size (mm)	Slide capacity	Slide orientation	Dimensions (mm)
L4261	14	76 x 26	6000	Vertical	480 x 480 x 140
L4265	7	76 x 50	1500	Vertical	480 x 240 x 140
		76 x 26			
L4266	7	76 x 50	3000	Vertical	480 x 480 x 140
		76 x 26			
L4270	3	76 x 26	1800	In wallets	480 x 480 x 140
L4271	2	76 x 26	600	Horizontal	480 x 240 x 140
L4272	2	76 x 26	1230	Horizontal	480 x 480 x 140

Accessories

L4297	Top cover, 480 x 240 x 25 mm
L4298	Base stand, 480 x 240 x 110 mm
L4299	Top cover, 480 x 480 x 25 mm
L4300	Base stand, 480 x 480 x 110 mm
L4511	Spring spacer for L4261 drawer
L4267	Spring spacer for L4265 drawer
L4505	Spring spacer for L4266 drawer
L4268	Drawer divider for L4265 drawer
L4506	Drawer divider for L4266 drawer
L4512	3-slide cardboard wallets. Pack of 100

8-drawer block storage cabinets

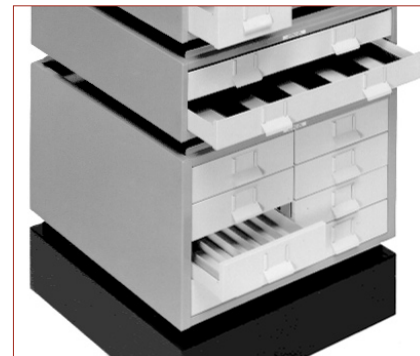
Each drawer has dividers producing seven rows, 30 mm wide, to accommodate processing cassette blocks.

Cat. no.	Capacity	Dimensions (mm)
L4273	1400 cassettes	480 x 240 x 275
L4274	3000 cassettes	480 x 480 x 275

Cardboard boxes for storage of unmounted blocks.

L4507 50 x 25 x 80 mm. Pack of 100

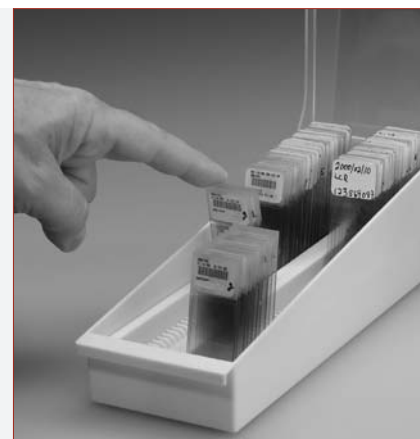
L4508 63 x 50 x 80 mm. Pack of 100



SlideFile™ storage system

This convenient and versatile system for storing 76 x 26 mm slides, allows barcodes to be read without removal and slides to be found easily. It can hold up to 400 slides per unit and is stackable for efficient space storage. Each SlideFile includes a slide box and a removable tray. A transparent cover reveals the contents. The base is available in five different colours for identification and to minimise sample mix-up. The slide tray has 100 individual slots, and all slides are stored upright for easy insertion and removal.

- L4521** SlideFile storage system, blue
- L4522** SlideFile storage system, green
- L4523** SlideFile storage system, pink
- L4524** SlideFile storage system, white
- L4525** SlideFile storage system, yellow



Slide tray cabinet

This compact 240 slide capacity cabinet holds 12 microscope slide trays (**L4556**) in a dust free enclosure. The outer shell is white polypropylene, tray rails are polystyrene and the vertically sliding door is clear acrylic with a knob for easy opening.

Dimensions are 254 x 207 x 355 mm. Distance between slide trays in the cabinet is 15 mm.

- L4557** Slide tray cabinet



Microscope slide tray

This slide tray has a white background for stain visibility. Each tray is 190 x 340 mm and has been designed to hold 20 standard 76 x 26 mm microscope slides, placed horizontally for full visibility.

- L4556** Microscope slide tray



Slide tray box



A black, cloth covered cardboard box for nine slide trays (**L4115**). The box has a fall front and drop-on lid. Supplied complete with 12 trays.

Dimensions: 265 x 112 x 68 mm.

L4116 Slide tray box

Slide tray

A heavy duty nine slide cardboard tray with cloth hinged flaps. The single compartment allows various sizes of slide to be accommodated. Compartment size: 235 x 78 mm.

L4115 9 slide tray. Pack of 10

Slide boxes



These smooth injection-moulded, high impact plastic slide boxes are indexed, compact and durable, and provide good microscope slide protection for the histology laboratory. The heavy walls will not warp, splinter or crack. The material is unaffected by humidity and is thoroughly insect proof. Cover and bottom have numbered indices for quick identification, and units are stackable. The boxes are made of ABS. They are available in sizes to hold 25 and 100 standard 76 x 26 mm microscope slides.

L4553 Slide box for 25 slides, removable lid. Pack of 2

L4554 Slide box for 100 slides, hinged lid



Slide storage boxes made of polystyrene to hold 100 standard microscope slides are also available. The stackable storage file has a numbered index on a hinged lid. The black box is recommended for light sensitive specimens. Available in six colours.

L4545 Slide storage box for 100 slides, white

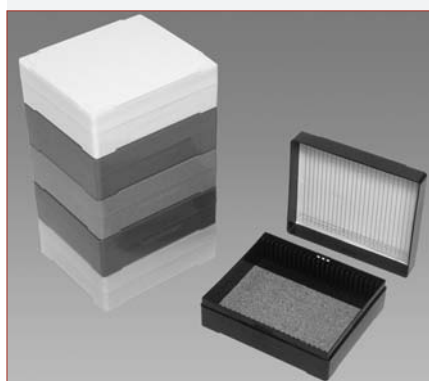
L4546 Slide storage box for 100 slides, red

L4547 Slide storage box for 100 slides, green

L4548 Slide storage box for 100 slides, blue

L4549 Slide storage box for 100 slides, yellow

L4552 Slide storage box for 100 slides, black



A handy mini slide box made of polystyrene, holding 25 standard microscope slides. The stackable box has a numbered index on the hinged lid. Available in six colours. Black is recommended for light sensitive specimens.

L4540 Handy mini slide box for 25 slides, white

L4541 Handy mini slide box for 25 slides, red

L4542 Handy mini slide box for 25 slides, green

L4543 Handy mini slide box for 25 slides, blue

L4544 Handy mini slide box for 25 slides, yellow

L4539 Handy mini slide box for 25 slides, black

Hinged slide boxes

Silicone coated, black polystyrene box, with grooves for 100 slides, or 200 slides back-to-back. Plastic hinge and catch, with index card in lid.

L4119 Hinged plastic slide box

Leatherette covered card slide box accommodating 100 slides in a wooden slide rack. Metal hinge and clasp, with index card in lid.

L4477 Hinged slide box

A polished wooden slide box grooved to accept 76 x 26 mm microscope slides. Brass hinged lid and catch with index card in lid. Two sizes are available.

L4478 Hinged wooden slide box, 50 slides

L4165 Hinged wooden slide box, 100 slides



Storage boxes for large slides

These storage boxes are made from heavy cardboard with lid. They hold 25 slides of either 38 x 75 mm or 50 x 75 mm.

L4526 Slide box

These slide boxes are manufactured from durable hardwood. They accommodate 100 slides of 38 x 75 mm or 50 x 75 mm.

L4528 Wooden slide box for 38 x 75 mm slides

L4259 Wooden slide box for 50 x 75 mm slides

Two slide mailer

Lightweight, moulded polythene slide box with integral push-in lid. Grooved to accept two 76 x 26 mm microscope slides.

Weight: 20 g.

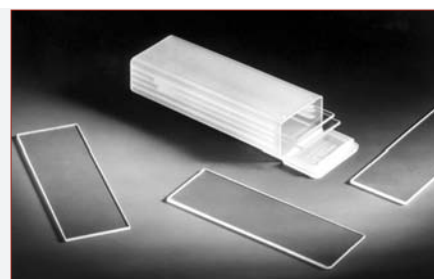
L4114 Two slide mailer



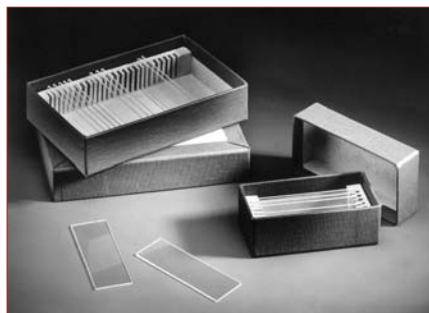
Five slide mailer

Moulded polythene slide box with snap-top lid. Grooved to accept five 76 x 26 mm microscope slides.

L4250 Five slide mailer



Postal slide boxes



These boxes are specifically designed to protect slides in the post. Each box is made from heavy duty card, with cloth covered edges and a drop-on lid. Slides are held in a wooden rack with grooves to accept 76 x 26 mm microscope slides. Two sizes are available.

L4254 Slide box for 12 slides

L4255 Slide box for 25 slides

Staining jars and racks

Coplin jar



A moulded glass jar with drop-on lid and integral large base for stability. The jar has grooves to accept five 76 x 26 mm microscope slides vertically, or 10 slides back-to-back. Volume: 50 ml.

L4108 Coplin jar

Plastic Coplin jar



A moulded polythene jar with screw-on lid and integral large base for stability. The jar has grooves to accept five 76 x 26 mm microscope slides vertically, or 10 slides back-to-back. Volume: 30 ml.

L4109 Plastic Coplin jar

Polypropylene staining jar



This staining jar has 10 slots that accommodate one slide of 76 x 26 mm per slot. It has a rectangular snap-lock lid, reagent-proof seal and internal grooves. The jar is microwave safe with a vent in the lid.

L4558 Polypropylene staining jar

Staining jar for coverglasses

A low volume moulded glass jar with a plastic screw-top lid, ideal for use with costly reagents. Designed to hold four 22 x 22 mm coverglasses vertically, or eight back-to-back. Volume: 8 ml.

L4472 Staining jar for coverglasses



Coverglass staining jar

This glass jar with ground glass cover is 45 mm high, and accommodates four 18 x 18 mm coverglasses or eight back-to-back.

L4373 Coverglass staining jar



Staining jar for horizontal slides

A moulded glass jar with drop-on lid and grooves to accommodate 10 standard 76 x 26 mm slides horizontally, or 20 slides back-to-back. Volume: 100 ml.

L4110 Staining jar for horizontal slides



Plastic rack, trough and storage box

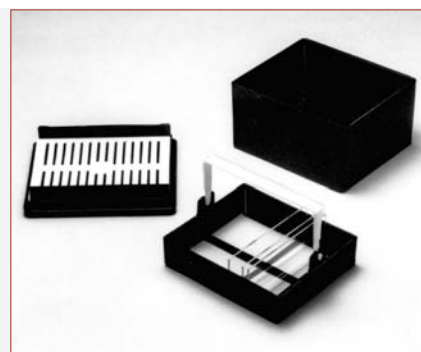
The plastic staining rack accommodates 25 standard 76 x 26 mm slides horizontally. It is fitted with a swing handle. The trough is suitable for staining, storage and transport of slides. It is supplied with an adaptor to aid drainage. The rack and trough can be used with xylene and alcohol but not phenol.

L4111 Plastic staining rack

L4163 Staining trough

This polystyrene storage box is designed to accommodate four **L4111** staining racks.

L4112 Storage box for four staining racks



Embryo dishes

Moulded clear glass dishes with glass lids, for viewing or staining free floating specimens.

L4161 Embryo dish, internal dia 30 mm

L4467 Embryo dish, internal dia 45 mm



Culture dishes



These 35 mm dishes combine a culture environment with the optical surface required for microscopy. They incorporate either a glass or quartz coverslip which is attached to the base with non-toxic silicon adhesive. The dishes are particularly useful for the fluorescent measurement of live and dead cells, confocal laser microscope studies and the observation of cells at higher magnification than that achievable through plastic dishes. The quartz area allows much higher transmittance and the measurement of lower fluorescence at short wavelengths when compared to standard glass dishes. The dishes are available with 12 mm or 27 mm diameter glass or quartz bases and have been sterilised using gamma radiation.

G3736 Cell culture dishes 12 mm, glass base. Pack of 50

G3737 Cell culture dishes 27 mm, glass base. Pack of 50

G3738 Cell culture dishes 12 mm, quartz base. Pack of 50

G3739 Cell culture dishes 27 mm, quartz base. Pack of 50

Immuno slide staining trays



This tray has been designed for routine techniques requiring a humid chamber.

The stainless steel staining tray allows simple, safe manipulation of 24 slides and the removable section allows buffer or reagent run-off. The inner cover is manufactured from clear Perspex to allow visual examination and an additional stainless steel cover prevents reagent evaporation.

L4474 Immuno slide staining tray

Immunostain moisture chamber



This is a high precision moisture chamber for 10 slides. Each moisture chamber is divided into 10 individual compartments with approximately 12 mm empty space between the compartments. When the chamber lid is closed eight barrier dividers completely isolate all compartments, which is a very desirable feature for immunostaining. The microscope slides are placed on four pedestal posts and four corner posts each approximately 11 mm high, raising the surface of the slides approximately 12 mm to keep them away from the water below and making them easy to retrieve. The chamber is made from heavy-duty polystyrene with an air-tight design to retain moisture and is designed to be stackable in order to save bench and/or refrigerator space.

L4555 Moisture chamber, black

Coverslip staining racks



Stainless steel racks with grooves to hold 22 mm diameter coverslips vertically.

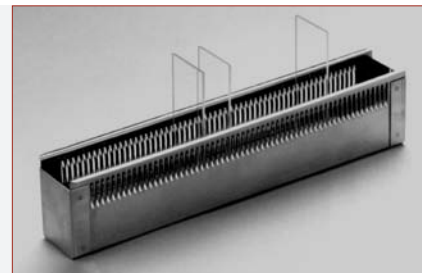
L4257 Staining rack to hold 25 coverslips

Slide stands and racks

Vertical slide rack

A stainless steel rack with grooves to hold 60 standard 76 x 26 mm microscope slides vertically.
Dimensions: 191 x 35 x 43 mm.

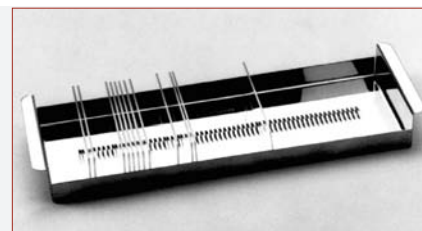
L4105 Vertical slide rack



Horizontal slide rack

A stainless steel rack with grooves to hold 60 standard 76 x 26 mm microscope slides horizontally.
Dimensions: 237 x 80 x 24 mm.

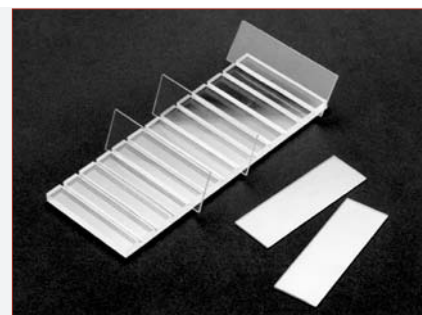
L4162 Horizontal slide rack



Perspex slide rack

A Perspex plate with 12 transverse grooves to accept various sizes of microscope slide.
Maximum capacity of 24 slides.
Dimensions: 63 x 157 mm.

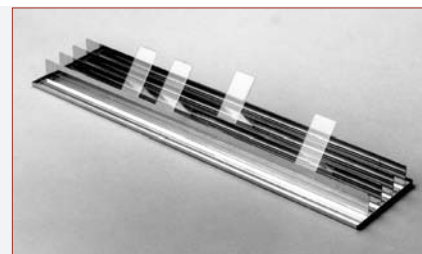
L4107 Perspex slide rack



Slide stand

A stainless steel rack with four rails to support up to 68 microscope slides.
Dimensions: 455 x 100 mm.

L4106 Slide stand



Plates with polished cavities

A plastic plate with 12 polished cavities. Dimensions: 120 x 90 mm.

L4102 Plastic plate with 12 cavities

A porcelain plate with 12 polished cavities. Dimensions: 120 x 90 mm.

L4514 Porcelain plate with 12 cavities



Liquid blocker pens



PAP pens are useful in immunostaining applications that use small amounts of valuable antiserum. These pens create a water repellent barrier around specimens or sections, retaining antiserum within the defined area and limiting the amount of antibody required. Multiple sections, separated by individual circular barriers, may be applied to the same slide for easy comparison. The PAP pen liquid is formulated to be insoluble in alcohol and acetone, and stable for long time periods. It can be removed by xylene if desired after staining is completed. Slides must be clean before the barrier is applied and can be coated with egg albumen, glycerine or poly-L-lysine if required.

L4197S Super PAP pen. 16.5 ml

L4197M Super PAP pen. 7.5 ml

Para-Tissuer™ and Fro-Tissuer™



A pen providing a sticky membrane, stable up to 120 °C, which stops paraffin sections moving, wrinkling or falling off slides. It also flattens the sections, avoiding the need to extend them in hot water prior to application. Can be used with PAP liquid blocker pens.

L4199 Para-Tissuer

A pen providing a sticky membrane, stable up to 110 °C, designed to prevent frozen sections from moving, wrinkling or falling off the slide during immunostaining procedures. Suitable for vigorous applications, such as *in situ* hybridisation. Can be used with PAP liquid blocker pens.

L4198 Fro-Tissuer

Tissue capture pen



Tissue capture pen for use with frozen or paraffin sections, stable up to 110 °C. Will last for 3000 to 5000 applications. A coating on the glass slide will prevent the sections from falling off or wrinkling.

L4370 Tissue capture pen

Count up timer



A traditionally styled electronic count up timer with a large face and minimal controls. Gives times up to one hour with a sweeping second hand.

G3645B Count up timer

Dissecting kits

Dissecting kits in a canvas holdall roll. Available with either reusable scalpels or disposable blade scalpels.

Contains:

One pair dissecting scissors, open shanks, sharp points, 115 mm
 One pair dissecting scissors, closed shanks, sharp points, 125 mm
 One pair dissecting forceps, sharp tips, 125 mm
 One pair dissecting forceps, blunt tips, 125 mm
 One needle, wooden handle
 One seeker, wooden handle
 One section lifter, aluminium
 One camel hair brush
 One scalpel, small
 One scalpel, large
 One section razor, carbon steel (**T5240** and **T5244** only)

- T5240** Dissecting kit 1 with reusable scalpels
T5242 Dissecting kit 2 (as T5240 but without section razor)
T5244 Dissecting kit 3 with disposable blade scalpels
T5246 Dissecting kit 4 (as T5244 but without section razor)



Holdall for dissecting kits

A khaki canvas bag with stitched pockets, protective flap and tape ties to secure when rolled.

- T5248** Canvas holdall

Dissecting boards

Standard cork board.
 Dimensions: 305 x 305 x 20 mm.

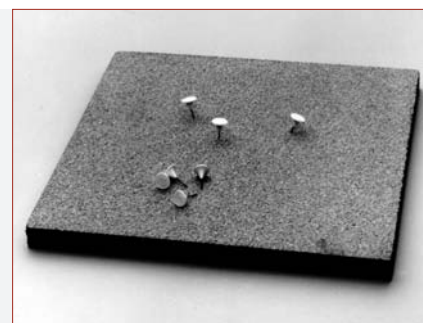
- L4121** Dissecting board, cork

Autoclavable, polypropylene board which is non-absorbent and easy to clean.
 Dimensions: 300 x 250 x 10 mm.

- L4490** Dissecting board, autoclavable

Disposable cardboard and sponge sandwich dissecting board.
 Dimensions: 150 x 210 x 3.5 mm.

- L4516** Dissecting board, disposable. Pack of 10



Trimming and grossing boards



These white trimming/grossing boards are suitable for cutting, sectioning, trimming, dicing and dissecting. The surface is self healing, and will not damage razor or scalpel blades. To be used instead of waxed sheets or corkboard.

L4385 Trimming board, 30.5 x 30.5 cm

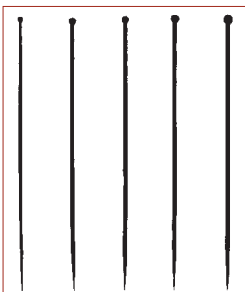
L4386 Grossing board, 40.6 x 40.6 cm

Dissecting pins

Pins mounted in large flat plastic head with indicator label.

L4124 Dissecting pins. Box of 10

Insect pins



L4492 Insect pins, 0.25 x 38 mm. Pack of 100

L4493 Insect pins, 0.1 x 12 mm. Pack of 500

L4494 Insect pins, 0.2 x 12 mm. Pack of 500

Polyethylene mincing dishes



These 100 mm diameter dishes are for trimming, cutting and specimen preparation.

G3918 Tissue mincing dishes. Pack of 100

Tweezers and small tools

For details of the complete range of tweezers, forceps, scissors and small tools, please refer to section 4.

Harris Micro-Punch® and Uni-Core™



These are invaluable tools designed to cut, retrieve and store cored samples from source materials such as tissue, gels, paper, cloth, leaves, paint chips, films or other thin substrates. They are ideal for tissue processing or forensic applications.

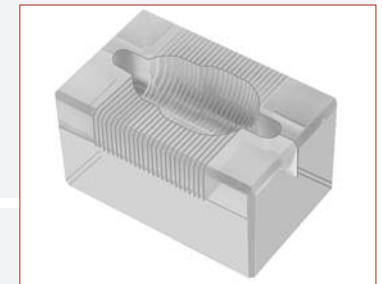
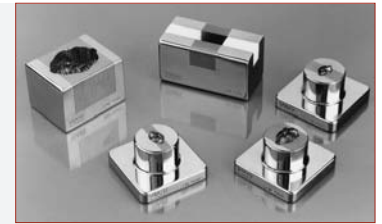
For full details, please refer to page 113.

Brain matrices

These high quality brain matrices are designed for freehand slicing of discrete regions of the brain. They allow slicing of either coronal or sagittal sections, at exact intervals as small as 1 mm (2 mm for large brains) and can be used with fresh or fixed brain tissue. They offer precise and reproducible blocking prior to microtome or vibratome sectioning, and are ideal for the accurate removal of small regions of brain tissue for biochemical analysis. High quality chrome-plated metal matrices are long lasting and offer excellent temperature stability.

Stainless steel matrices are also available for rat and mouse brain. Segments can be cut from these at either 1 mm or 0.5 mm intervals.

Acrylic brain matrices are an economical alternative, and have an additional mid-line sagittal cut to facilitate the separation of the right and left hemispheres. Both metal and acrylic matrices may be heated, sterilised, chilled and scrubbed clean without damaging the surface.



A full listing of rodent brain, tissue and special brain matrices is available on request. All brain matrices for the same animal are identical, to give reproducible sections.

Blades for brain matrices

Single edge carbon steel blades for use with brain matrices.
Dimensions: 118 x 19 x 0.23 mm.

T5019 Blades for use with brain matrices. Pack of 25



SliceMasters

SliceMaster micro sample preparation tools are handy, compact instruments that can easily cut thin sections from 10 to 200 μm . These devices allow the user to view the slicing process of various samples with a microscope, enabling simple set-up and thin section preparation.

The SliceMaster is available in three blade angles, vertical, angled and multi-angled. All of the SliceMaster tools use simple razor blades.

The HS-1 vertical slicer can vertically cut samples such as polypropylene bottles into 100 to 500 μm sections, multi-layer paper cartons to 100 to 600 μm sections, and PET samples to 150 to 400 μm sections. Items such as polyester or other polymers can be sliced with a variable thickness of 100 μm or greater.

The HK-1 angled slicer can cut samples at a 15° angle. It can cut samples of coated paper to 140 μm , zip-lock bags to 100 μm , hair to 80 μm and snack food bags to 60 μm .

The HW-1 multi-angle slicer can cut samples at any angle from 45 to 90°. Various types of samples can be prepared with thin section thickness of 10 to 500 μm , with the ability to select the desired sample thickness.

B7830 SliceMaster HS-1, vertical slicer

B7831 SliceMaster HK-1, angled slicer

B7832 SliceMaster HW-1, multi-angle slicer



Microslicers™



These microslicers have a unique design for the vibratory motion of the cutting blade. They cut sections of extremely soft tissues like brain, liver and similar material that are difficult to section. There is a choice of three models:

DTK-1000 (**L4531**) is the basic model for manual operation.

DTK-Zero1 (**L4532**) has reduced Z-axis movement of the head for superior cutting quality, and includes motorised specimen movement and the useful retraction mode.

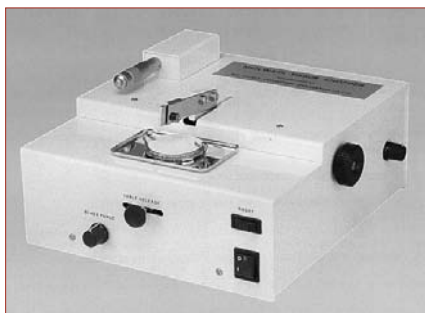
DTK-3000W (**L4533**) is an automatic system for serial sectioning and includes the Microslicer Zero Z technology.

All systems have a bath with a simple but effective drain. The specimen tray allows for reduced use of solutions and cooling around it.

- L4531** Microslicer DTK-1000, 220 V, 50/60 Hz
- L4532** Microslicer DTK-Zero1, 220 V, 50/60 Hz
- L4533** Microslicer DTK-3000W, 220 V, 50/60 Hz

Microslicer accessories and consumables are also available. Please contact us for details.

Mcllwain™ tissue chopper



This instrument has been designed to prepare pieces of tissue for metabolic experiments. It is especially applicable to small and irregular biopsy specimens or samples from small organs such as liver, kidney and various parts of the central nervous system. It causes much less disturbance of cell structure than homogenisers or blenders, and can cut fragments that would be difficult or impossible to cut by ordinary methods.

Slices up to 1 mm thick and cubes or prisms up to 1 mm in cross section can be prepared with the chopper in 30 seconds. Provision is made for stepless variation of slice thickness from zero to the maximum by means of a micrometer head calibrated in μm . The cutting speed can be varied from zero to over 200 strokes per minute. A safety limit switch is provided to prevent the machine overrunning, and a quick release mechanism for the return of the table.

- L4374** Mcllwain tissue chopper

Mcllwain accessories and consumables are also available. Please contact us for details.

Sapphire blades



Sapphire blades for use with vibratomes and microslicers, significantly improving section quality compared with traditional razor blades, particularly in fluorescent labelling, autoradiography, immunohistochemistry and electrophysiology applications. Blades are made from synthetic single crystal sapphires, and are capable of producing distortion free sections down to 10 μm thick. Sapphire blades produce cleaner cuts for smoother surface sections, helping to keep surface cells alive and intact and making it easier to follow small labelled elements.

- L4498** Sapphire blade

A sharpening service is available for these blades.

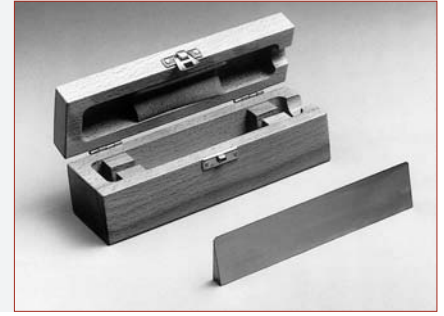
- L4499** Resharpening of sapphire blade

Microtomes

A range of microtomes is available. Please ask for details.

Microtome knives

- L4146** Steel knife, C-profile, 160 x 34 x 10 mm
L4147 Tungsten steel knife, D-profile, 160 x 34 x 10 mm



Resharpener services for tungsten carbide knives

We offer a resharpener service for most tungsten carbide knives (not **L4550**). Edges are restored as new, and angles are returned to factory specifications so that all knives perform the same as before. Corrosion of tool steel parts is brushed out, epoxy joints are repaired, and the box is cleaned and repaired where necessary.

Microtome blades, disposable

Standard low profile blades for routine tissue samples. Supplied in a dispenser with 50 blades.

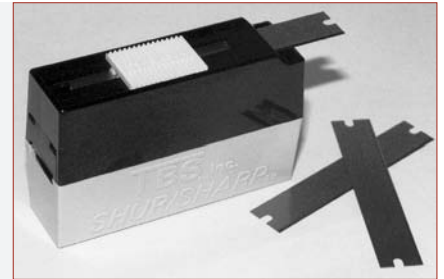
- T5024** Disposable microtome blades, 76 x 7.9 x 0.3 mm

High profile blades for thicker sections. Supplied in a dispenser with 50 blades.

- T5142** High profile microtome blades, 76 x 14.1 x 0.3 mm

Heavy duty blades for cryostats and difficult to section samples. Supplied in a dispenser with 35 blades.

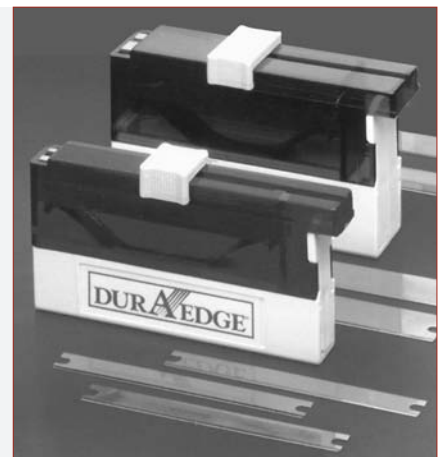
- T5026** Heavy duty microtome blades, 76 x 12.6 x 0.52 mm.



DuraEdge™ microtome blades

Low profile, disposable microtome blades, PTFE coated. Supplied in a dispenser with 50 blades.

- T5143** Low profile, disposable microtome blades, 77 x 8 x 0.3 mm



Microtome oil

- L4150** Microtome oil. 50 ml

M-Bond™ 610 adhesive



M-Bond 610 is a non-conductive, two-component, solvent-thinned epoxy-phenolic adhesive for high performance applications. It is chemically resistant and provides a thin layer of glue which has good ion milling properties. It is an excellent adhesive for mounting samples for dimpling grinding and for bonding samples to produce high quality cross-sections for TEM or for FIB applications. It has also been found to be useful for bonding specimens to mounts for vibratome sectioning. M-Bond has an extremely wide operating temperature range. The complete kit contains four 14 g bottles of resin, four 11 g bottles of curing agent, four brush caps for dispensing mixed adhesives, four disposable mixing funnels and a sheet of instructions.

The single mix kit comprises one bottle of resin (14 g), one bottle of curing agent (11 g), one brush cap for dispensing mixed adhesive and a disposable mixing funnel.

G3203 M-Bond 610. Single kit *Flammable, irritant*

G3207 M-Bond 610. Complete kit *Flammable, irritant*

Lakeside Cement

Lakeside Cement L 70 C is a thermoplastic bonding material for mounting thin sections on sample holders or slides. Applied at 120 - 140 °C, it becomes solid on cooling, and is soluble in either alcohol or acetone.

G3887 Lakeside Cement, 12 bars. Approx 250 g

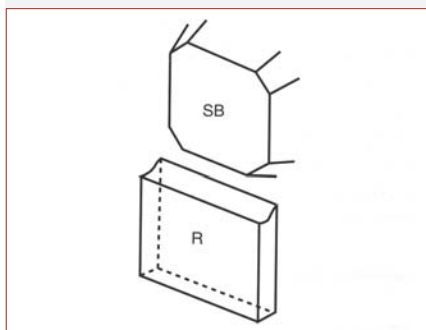
Glass knifemakers for histology knives



Ralph knifemakers have been designed to be easy to use, giving consistent and reproducible results. The cutter height, cutter pressure and rake angle can all be adjusted. The knifemaker is available in two sizes and can accommodate glass up to 6 mm thick.

L4157 Basic Ralph knifemaker for 25 mm wide glass

L4509 Basic Ralph knifemaker for 38 mm wide glass



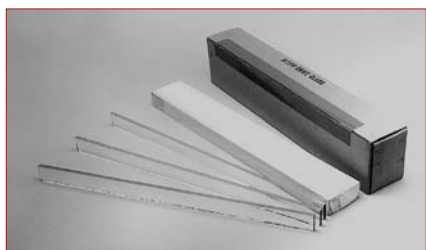
A second model is also available which moves the glass up to the scoring and breaking position to compensate for thickness changes in the glass.

L4158 Ralph knifemaker for 25 mm wide glass

L4510 Ralph knifemaker for 38 mm wide glass

Replacement cutter wheels are available.

Glass for Ralph knives



Clean specially selected glass, 406 mm strips.

G335 Glass for histology, 406 x 25 x 6 mm. Pack of 30

G3647 Glass for histology, 406 x 38 x 6 mm. Pack of 20

Diamond histo knives

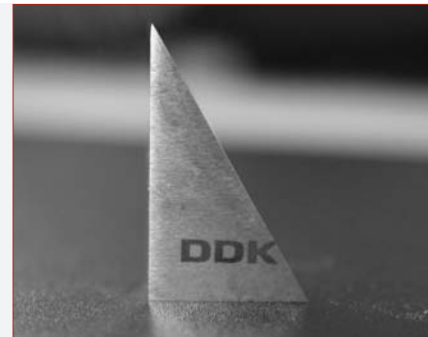
Specially designed for sectioning hard and soft biological and industrial materials embedded in methacrylate or epoxy resins for optical microscopy.

For full details of diamond knives, please refer to section 14.

Triangular tungsten carbide knives

With a consistent size and tip angle, these knives replace glass and razor blades in a variety of sectioning and block facing applications. The sharp edge lasts through thousands of sections, eliminating mid-procedure knife changes and frequent re-ordering, while enhancing productivity. They fit tightly in the glass knife holders of most microtomes, are easy to handle and reduce the risks of cuts to your hands. Due to their nature, blade resharpening is uneconomical; replacement blades are readily available.

L4550 Triangular tungsten carbide knives. Pack of 3



Cryo-freeze aerosol

Aerosol freezing gas suitable for freezing tissues and paraffin blocks. CFC free.

L4194 Cryo-freeze aerosol. 333 g



OCT compound

Embedding medium for frozen tissue specimens.

R1180 OCT compound. 125 ml



Blotting paper

Highly absorbent fibre-free blotting paper. Dimensions: 90 x 140 mm.

L4113 Blotting paper. 100 sheets



Filter paper



Whatman No.1 filter papers. Diameter: 90 mm.

L4164 Filter paper. Box of 100

Other sizes and grades are available on request.

Histological moulds

For details of our full range of embedding moulds, please refer to pages 223 - 230.

Embedding materials and stains

For details of fixatives, dehydrating and cleaning agents, resins and stains, please refer to section 13.

Wax embedding accessories

Processing cassettes



These are moulded plastic units for processing and embedding. They are perforated for fluid exchange during processing and have an end panel for identification marking.

Maximum specimen size: 26 x 31 x 5 mm

- L4125** Processing cassettes, white. Pack of 1000
- L4126** Processing cassettes, green. Pack of 1000
- L4127** Processing cassettes, pink. Pack of 1000
- L4128** Processing cassettes, yellow. Pack of 1000
- L4129** Processing cassettes, blue. Pack of 1000
- L4130** Processing cassettes, orange. Pack of 1000
- L4131** Processing cassettes, grey. Pack of 1000

Filing cabinet for cassettes



A rigid plastic construction with a capacity of approximately 1000 blocks. Special connectors enable the cabinets to be locked together vertically and horizontally.

Dimensions: 340 x 250 x 270 mm.

L4180 Filing cabinet for cassettes

Embedding materials

Paraffin wax



A clean pelleted wax suitable for all routine processing and embedding.

Melting point 56 to 58 °C.

- L4132** Pelleted paraffin wax. 1 kg
- L4133** Pelleted paraffin wax. 10 kg

Fibrowax

A mixture of pure paraffin wax and plastic polymers. Sections of hard or fibrous tissues ribbon easily at 4 µm. Tissue compression is reduced to a minimum.

Melting point 56 °C.

L4181 Fibrowax. 1 kg

Polyester wax

Melting point 37 °C.

L4184 Polyester wax. 500 g

Paraplast® Plus

This double-filtered paraffin embedding medium contains plastic polymers of regulated molecular weights and a small percentage (0.8 %) of dimethyl sulphoxide (DMSO) to penetrate tissues three times faster than standard media. It melts rapidly at 56 °C, and allows short ribbons of sections cut to 1 µm, and excellent ribbon continuity with 2 µm thicknesses.

L4382 Paraplast Plus. 1 kg



Paraffin section mounting bath

This bath has a deep tapered stainless steel bowl to allow the slides to be used at any angle. The temperature range is 30 to 70 °C with an accuracy of ± 1.5 °C. A thermal cut-out is provided. A stainless steel lid is provided to cover the bowl when not in use.

Power rating: 250 W

Dimensions: 275 x 322 x 120 mm

Weight: 3 kg

L4136 Paraffin section mounting bath, 230 - 250 V



Mini hotplate

This mini hotplate is used in histology for removing stubborn wrinkles from sections and reorientating embedded tissue. In microbiology it can be used for heat fixing bacterial smears.

It can also be used for fixing smears from body fluids where destruction of cells through overheating must be avoided before staining. Variations in surface temperature are reduced because of its small size.

Dimensions: 145 x 145 x 56 mm

Top plate: 100 x 100 mm

Temperature: 70 °C

L4167 Mini hotplate, 220 - 240 V



Slide drying hotplate



This is a thermostatically controlled instrument with a large capacity. Slides are supported on movable rails allowing air to pass underneath to accelerate drying. The top is epoxy coated matt black to assist the visibility of the sections.

Temperature range: 40 - 95 °C, with thermostat accuracy of ± 3.5 °C

Dimensions: 295 x 445 x 84 mm

Weight: 2.9 kg

L4384 Slide drying hotplate 240 V

Windsor incubator



This is a low cost, low temperature oven operating in the temperature range 30 to 70 °C and with a temperature accuracy of ± 4 °C. It may be used for heat staining, keeping specimens warm, slide drying and pre-warming of moulds, etc. The oven has a glazed door which hinges upwards to give free access to the chamber. It has a stainless steel lining with grills at the base and a removable shelf. The controls are on the front of the incubator and are recessed to protect them from spillage. Power supply and rating: 240 V, 180 W.

Interior dimensions: 188 x 400 x 270 mm. Weight: 13.2 kg

L4104 Windsor incubator

Leica LKB multiplate



This provides three decks (two for six slides and one for three slides) for wax melting, drying and heating, at suitable temperatures. These are approximately 95 °C for wax melting, 80 °C for drying and attaching semi-thin sections to slides and 60 °C for heating during staining (eg. toluidene blue). Temperature is maintained automatically.

G3328 Leica LKB multiplate, 220 V, 25 W

G3339 Replacement element for multiplate

Specimen levelling press

When viewing flat polished surfaces with an optical microscope, it is desirable that the image stays in focus as the specimen is traversed on the microscope stage. To achieve this, the polished surface must be parallel to the glass slide. The specimen levelling press is used to fix standard metallographic mounts or irregular shaped polished samples onto glass slides using Plasticine®, or mounting wax.

B8233 Specimen levelling press

TK drop bottle



A glass bottle with ground-in grooved glass stopper.

L4166 TK drop bottle, 50 ml

Immersion oil bottle

A moulded glass bottle with polypropylene stopper incorporating a dropping rod.

L4086 Immersion oil bottle, 60 ml



Immersion oils

L4082 Microil. 100 ml

L4085 Immersion oil in plastic applicator. 50 ml

Citifluor non-fluorescent immersion oil

This Citifluor non-fluorescent immersion oil contains antifadent AF87. It is designed for use at high magnifications. It is particularly suitable for preventing the fading of dyes such as DAPI which have the unfortunate tendency to disperse in glycerol-based mounting solutions.

R1323 Citifluor non-fluorescent immersion oil. 10 ml

R1324 Citifluor non-fluorescent immersion oil. 25 ml

Cargille immersion oils

Cargille immersion oil type A, low viscosity, low fluorescence for short focus objectives.

L4397A-1 Immersion oil type A. 30 ml

L4397A-2 Immersion oil type A. 120 ml

L4397A-3 Immersion oil type A. 480 ml

Cargille immersion oil type B, high viscosity, generally accepted for medical work.

L4397B-1 Immersion oil type B. 30 ml

L4397B-2 Immersion oil type B. 120 ml

L4397B-3 Immersion oil type B. 480 ml

Cargille immersion oil type DF, very low fluorescence.

L4397DF-1 Immersion oil type DF. 30 ml

L4397DF-2 Immersion oil type DF. 120 ml

L4397DF-3 Immersion oil type DF. 480 ml

Cargille immersion oil type FF, fluorescence free.

L4397FF-1 Immersion oil type FF. 30 ml

L4397FF-2 Immersion oil type FF. 120 ml

L4397FF-3 Immersion oil type FF. 480 ml

Adhesives

L4185 Glycerin albumen. 100 ml

L4186 Gelatin. 100 g

BioBond™

BioBond is a tissue adhesive which coats the slide with a protective layer to minimise interaction of reagents with the charged glass surface. It produces a good bond between the slide and tissue section for subsequent incubation. The adhesive is particularly effective for use with severe incubation conditions such as those used for *in situ* hybridisation. It is suitable for many types of tissue specimen including paraffin wax or resin sections, cell smears, cytopsin or cryostat sections.

R1355 BioBond tissue adhesive. 20 ml

Quick-Stick® mounting medium

This mounting medium can be used to make permanent microscope slide mounts quickly. It is available in a convenient stick form that can be applied to a slide on a hotplate. Once the specimen and coverglass are positioned and the slide cooled, a permanent preparation is formed. However, this can be reversed by reheating should a particular specimen need to be retrieved.

L4295 Quick-Stick, RI 1.662

Different refractive indices (RI) are available to suit most requirements

L4295-1 Quick-Stick, RI 1.539

L4295-2 Quick-Stick, RI 1.582

L4295-3 Quick-Stick, RI 1.605

L4295-4 Quick-Stick, RI 1.680

L4295-5 Quick-Stick, RI 1.704

Mountants



R1340 DPX (contains xylene). 500 ml *Flammable, harmful*

R1343 Canada balsam in xylene. 100 ml *Flammable, harmful*

R1344 Euparal. 50 ml *Flammable, harmful*

R1344A Euparal. 100 ml *Flammable, harmful*

R1344B Euparal thinner. 100 ml *Flammable, harmful*

Eukitt®



This is a quick-hardening mounting medium possessing physical, chemical and optical properties which make it ideal for microscope preparations. Eukitt is neutral and colourless, with the same refractive index as glass. It spreads quickly and evenly without forming air bubbles and does not discolour with age. It can be used in place of epoxy resins for mounting petrographic thin sections and is useful for sealing coverslips over wet preparations.

R1339 Eukitt. 100 ml *Flammable*

Biomount™

Biomount mounting medium reduces fading of immunogold/silver signals in sections on glass slides and can be used with both resin and wax embedded tissue sections. It is miscible with xylene and may be applied following dehydration. Labelling will retain its intensity and contrast.

R1354 Biomount tissue mounting medium. 100 ml *Flammable, harmful*

Omnimount

This mounting medium provides outstanding optical characteristics with a low fluorescence combined with exceptional durability, and is compatible with Histo-Clear® II. It offers a higher flash point and lower toxicity than xylene-based mountants, provides a safer working environment and reduces shipping costs. Omnimount is truly universal and compatible with all common clearing agents, including xylene, toluene, and petroleum derived products.

R1357 Omnimount. 100 ml

Histomount™

Histomount is a non-hazardous synthetic mountant. It has neutral pH, is UV stabilised and is effective with most clearing agents when used as a liquid coverslip or as a permanent seal.

R1351 Histomount. 100 ml *Flammable, harmful*

R1352 Histomount. 450 ml *Flammable, harmful*

Aqueous mountants

R1329 Aquatex. 50 ml

R1325 PVA solution. 25 ml



Hydromount

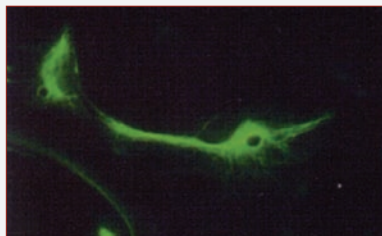
Hydromount is the traditional choice of mounting medium whenever a non-fluorescing aqueous medium is needed. Hydromount is water-based and is suitable for mounting specimens that have been processed in water. It is effective for frozen sections, amyloid, and immunofluorescent staining procedures. Should it become necessary it can be removed by soaking the slides in warm saline.

R1356 Hydromount. 100 ml

Citifluor antifadent mountant solutions

The use of fluorescent labels and markers is widespread and immunofluorescence, which relies on the use of antibodies tagged with labels such as fluorescein, is a well-established technique. A common problem associated with the microscopical examination of these materials is that the illumination used for stimulating the fluorescence also causes degradation of the label and this causes fading of fluorescence. This is also a problem when trying to visualise materials having a low level of labelling. The photofading of labelled materials can be retarded by the use of the Citifluor mountants. They are also useful for rhodamine and DAPI.

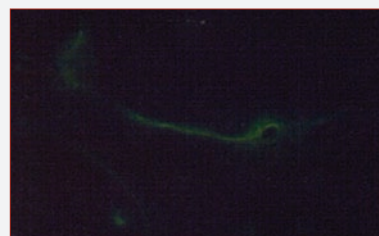
Using glycerol as the mountant media



After 15 seconds illumination

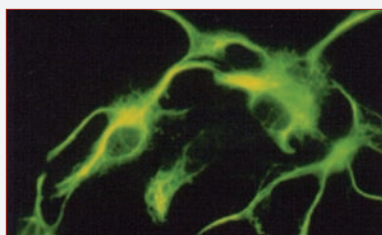


After 1 minute illumination

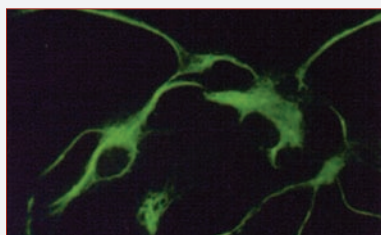


After 3 minutes illumination

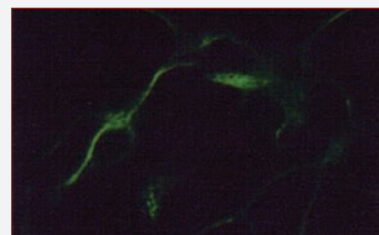
Using Citifluor (Glycerol/PBS) as the mountant media



After 15 seconds illumination



After 5 minutes illumination



After 45 minutes illumination

Cultures of purified cortical astrocytes with rabbit antisera against glial fibrillary acidic protein, a component of the astrocyte cytoskeleton. The rabbit antisera was visualised using fluorescein-conjugated sheep anti-rabbit 1 g antisera.

Micrographs courtesy of Mark Noble, Institute of Neurology, London.

The antifadent solutions AF1, 2 and 3 were specifically developed for use with FITC polyclonal antibodies but their use is now far more widespread. They show improved signal preservation with many other fluorochromes, including rhodamines and DAPI. AF4 contains the antifadent n-propyl gallate, which is particularly suitable for use with DAPI and Alexa dye-stained materials, as well as FITC-labelled materials.

AF1

Glycerol phosphate buffered solution containing antifadent for use with labelled tissue sections and dead cells. The solution has a pH of approximately 10. Available in two sizes.

R1320 AF1. 25 ml

R1320A AF1. 100 ml

AF2

Glycerol solution containing antifadent for use with labelled tissue sections and dead cells. The solution has a pH of approximately 10. Available in two sizes.

R1321 AF2. 25 ml

R1321A AF2. 100 ml

AF3

Phosphate buffered saline solution containing antifadent for examination of whole live cells. The solution has a pH of approximately 10. Available in two sizes.

R1322 AF3. 25 ml

R1322A AF3. 100 ml

AF4

Glycerol solution containing n-propyl gallate for use with labelled tissue sections and dead cells. An aqueous solution (75 % AF4 and 25 % water) has a pH of 5.

R1327 AF4. 25 ml

Citifluor solid mountant

Citifluor also provides a solid mountant. It is supplied as a two-component pack comprising:

PVA solution. 25 ml

Citifluor antifadent in buffer (AF100). 5 ml

The components can be mixed as required, applied to the specimen and allowed to dry to give a clear film.

R1326 Citifluor solid mountant kit

CFM solutions

The CFM solutions have been specially formulated to have a refractive index of 1.52 (similar to glass), so that effects of refraction on image quality are minimised. They are particularly useful for high magnification work and may also be used as immersion oils. They are valuable for laser scanning microscopy where three dimensional imaging of specimens is carried out. CFM solutions should only be used with fixed (cross-linked) samples.

CFM 1

Glycerol phosphate buffered saline solution. Available in two sizes.

R1330-10 CFM 1. 10 ml

R1330-25 CFM 1. 25 ml

CFM 1 plus antifadent

Glycerol phosphate buffered saline solution containing antifadent. Available in two sizes.

R1330A-10 CFM 1 plus antifadent. 10 ml

R1330A-25 CFM 1 plus antifadent. 25 ml

CFM 2

Glycerol tris buffered solution. Available in two sizes.

R1331-10 CFM 2. 10 ml

R1331-25 CFM 2. 25 ml

CFM 3

Glycerol phosphate based solution containing antifadent. Available in two sizes.

R1332-10 CFM 3. 10 ml

R1332-25 CFM 3. 25 ml

UV mount media (UVM)

UV mountants harden to give a clear film when exposed to light. They fix the specimen upon hardening, making microscopic examination of specimens that move around or change shape on the slide much easier. The solutions are water miscible prior to curing and so can be used with non-dried specimens. AF100 is also recommended for use with UVM 1 and UVM 3 should fading of the fluorochromes occur.

UVM 1

Methacrylate-based solution

R1333-1 UVM 1. 10 ml

UVM 2

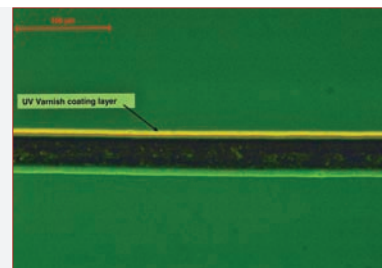
Methacrylate-based solution containing an antibleaching agent

R1333-2 UVM 2. 10 ml

UVM 3

High refractive index methacrylate-based solution, designed to be used with AF100 where fluorochrome fading is a problem

R1333-3 UVM 3. 10 ml



Antifadent (AF) solutions

AF100

Phosphate buffered saline solution containing antifadent, specially prepared for use with UVM 3 solution where fluorochrome fading is a problem. Only available in conjunction with an aqueous solution of poly(vinyl alcohol) or with UVM 1 and UVM 3.

R1328-1 AF100. 5 ml

AF200

Glycerol solution containing antifadent, specially prepared for use with UVM 2 solution where DAPI is the staining material. The solutions can also be used with other fluorochromes such as fluorescein, Alexa dyes and Hoescht dyes.

R1328-2 AF200. 10 ml

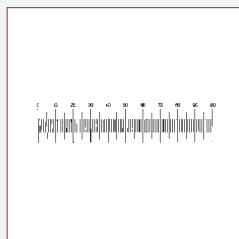
AF300

Glycerol solution containing antifadent, specially prepared for use with UVM 2 solution where fluorescein is the staining material. The solutions can also be used with other fluorochromes such as rhodamines etc.

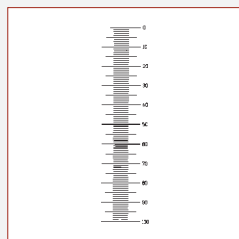
R1328-3 AF300. 10 ml

Eyepiece graticules

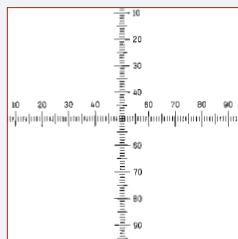
The graticules are available in 16, 19 and 21 mm diameters as standard.
Other sizes 18, 23, 26 and 27 mm are available on special request.



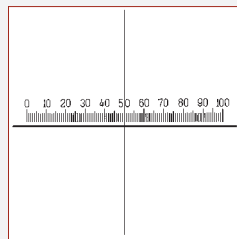
A Horizontal micrometer



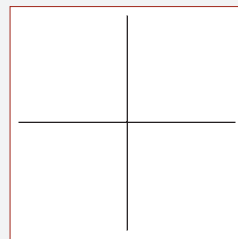
B Vertical micrometer



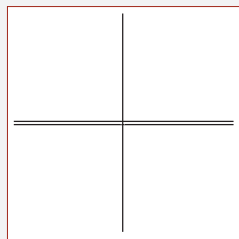
C Crossed micrometer



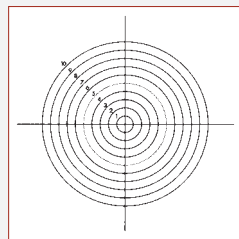
D Micrometer with crossline



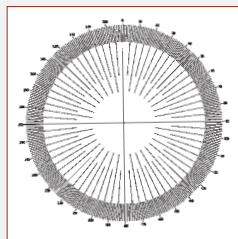
E Crossline



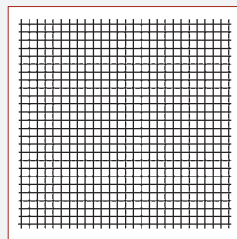
F Crossed gauge line



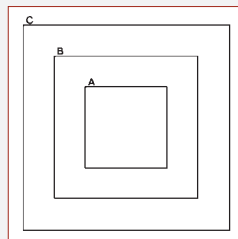
G Concentric in degrees



H Protractors



I Squared grids

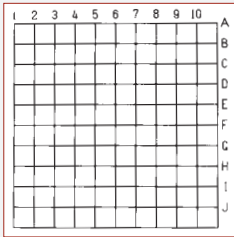


J Squares

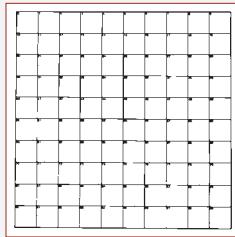
L4033	Graticule A	16 mm dia
L4320	Graticule A	19 mm dia
L4034	Graticule A	21 mm dia
L4033-23	Graticule A	23 mm dia
L4033-26	Graticule A	26 mm dia
L4033-27	Graticule A	27 mm dia
L4035	Graticule B	16 mm dia
L4321	Graticule B	19 mm dia
L4036	Graticule B	21 mm dia
L4035-23	Graticule B	23 mm dia
L4037	Graticule C	16 mm dia
L4322	Graticule C	19 mm dia
L4038	Graticule C	21 mm dia
L4037-23	Graticule C	23 mm dia
L4037-26	Graticule C	26 mm dia
L4039	Graticule D	16 mm dia
L4323	Graticule D	19 mm dia
L4040	Graticule D	21 mm dia
L4041	Graticule E	16 mm dia

L4324	Graticule E	19 mm dia
L4042	Graticule E	21 mm dia
L4041-23	Graticule E	23 mm dia
L4041-26	Graticule E	26 mm dia
L4041-27	Graticule E	27 mm dia
L4043	Graticule F	16 mm dia
L4325	Graticule F	19 mm dia
L4044	Graticule F	21 mm dia
L4045	Graticule G	16 mm dia
L4326	Graticule G	19 mm dia
L4046	Graticule G	21 mm dia
L4047	Graticule H	16 mm dia
L4327	Graticule H	19 mm dia
L4048	Graticule H	21 mm dia
L4049	Graticule I	16 mm dia
L4328	Graticule I	19 mm dia
L4050	Graticule I	21 mm dia
L4051	Graticule J	16 mm dia
L4329	Graticule J	19 mm dia
L4052	Graticule J	21 mm dia

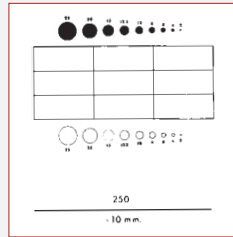
Eyepiece graticules



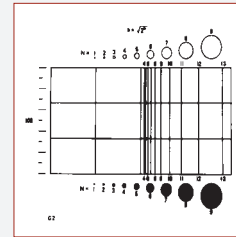
K Indexed squares



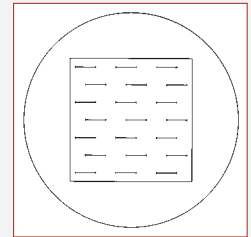
L Indexed squares



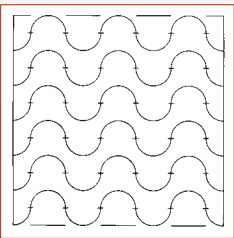
M Patterson globe & circle



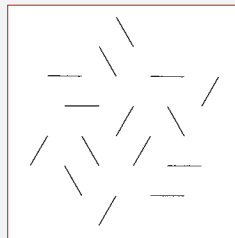
N The Porton



O Weibel 2



P Merz



Q Weibel 1

L4053	Graticule K	16 mm dia
L4330	Graticule K	19 mm dia
L4054	Graticule K	21 mm dia
L4054-26	Graticule K	26 mm dia
L4055	Graticule L	16 mm dia
L4331	Graticule L	19 mm dia
L4056	Graticule L	21 mm dia
L4057	Graticule M	16 mm dia
L4332	Graticule M	19 mm dia
L4058	Graticule M	21 mm dia
L4059	Graticule N	16 mm dia

L4333	Graticule N	19 mm dia
L4060	Graticule N	21 mm dia
L4061	Graticule O	16 mm dia
L4334	Graticule O	19 mm dia
L4062	Graticule O	21 mm dia
L4063	Graticule P	16 mm dia
L4335	Graticule P	19 mm dia
L4064	Graticule P	21 mm dia
L4065	Graticule Q	16 mm dia
L4336	Graticule Q	19 mm dia
L4066	Graticule Q	21 mm dia

Stage micrometers

These are used on the stage of the microscope and provide a simple and reliable means of accurately calibrating the eyepiece graticules. A finely divided scale is protected by a coverglass to correspond exactly with the specimen it replaces.



For details of the full range of stage micrometers, please refer to section 3, pages 39 - 41.

Magnification standards for light microscopy

For details of the full range of standards for magnification calibration, please refer to section 3.

McCrone dispersion staining objective



A new, simplified dispersion staining objective has been developed for the identification of asbestos. The central stop is fixed in the back focal plane of the objective. There is no annular stop. A normal x10 objective is required for all other required microscope tests for asbestos. Otherwise, set-up and use is identical to the previously available McCrone dispersion staining objective.

Dispersion staining is a technique which improves characteristic colours on the boundaries of colourless microscopic particles. It has a wide range of applications including asbestos identification, textile fibre characterisation from both natural and man-made sources, polymer films and forensic science (eg. glass fragments). A set of calibrated refractive index liquids is also required.

L4282 McCrone dispersion staining objective

Liquids for dispersion staining

The most suitable set of liquids for general identification work is the Cargille set of Certified Refractive Index Liquids (HD 1/2). This comprises 31 liquids ranging from 1.500 to 1.800 at intervals of 0.010. A smaller set of the same high dispersion liquids consists of 16 liquids ranging from 1.500 to 1.800 at intervals of 0.020 (HD 16).

For specialised analysis, eg. the identification of commercial asbestos minerals, set HD 6 is required. This consists of six high dispersion liquids: 1.550, 1.580, 1.605, 1.640, 1.670 and 1.700.

- L4284** Set of 31 high dispersion liquids (HD 1/2). 7.4 ml bottles
- L4283** Set of 16 high dispersion liquids (HD 16). 7.4 ml bottles
- L4285** Set of 6 high dispersion liquids for the identification of asbestos (HD 6). 7.4 ml bottles
- L4395** Standard set RF-1/2 for general use, 76 liquids ranging from 1.400 to 1.700 at intervals of 0.004. 7.4 ml bottles
- L4396** Standard set RF-1/5 for general use, 31 liquids ranging from 1.400 to 1.700 at intervals of 0.01. 7.4 ml bottles

Please ask for a detailed list of liquids available.

Slide marker



An area selected under the microscope can be marked for future reference by replacing the objective lens by the objective marker. This impresses an inked ring on the coverglass around the area selected, so that it is readily found on a subsequent examination. Purple or red ink for refilling the slide marker is also available.

- L4077P** Slide marker, purple
- L4077R** Slide marker, red
- L4077AP** Refill ink, purple
- L4077AR** Refill ink, red

Polariser filter

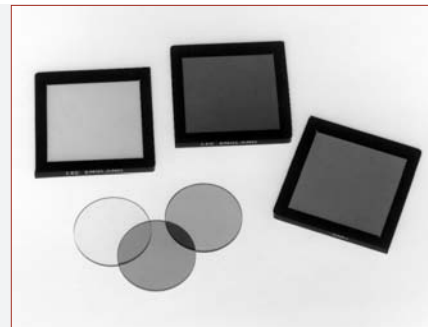
Unpolarised light is a complex mixture of random wavefronts transverse to the line of travel. Linear polarising filters selectively absorb light vibrations in certain planes. When light is passed through a linear polariser its vibrations are confined to a single linear plane. This is a high efficiency polariser for the visible spectrum (400 - 750 nm) and is recommended for applications where a high density in the crossed (extinction) position is as important as high transmittance in the open position.

L4020 Linear polariser, 600 x 900 mm

Filters

These colour and heat absorbing filters have a diameter of 32 mm. Other formats are available on request.

L4022 Red
L4023 Orange
L4024 Yellow
L4025 Green
L4026 Daylight blue
L4027 Blue



Neutral density filters are available in 50 x 50 mm format.

L4028 Neutral density 0.30 ND (1 stop)
L4030 Neutral density 0.60 ND (2 stops)
L4032 Neutral density 0.90 ND (3 stops)

Heat absorbing filters are also available in 32 mm diameter.

L4190 Heat absorbing

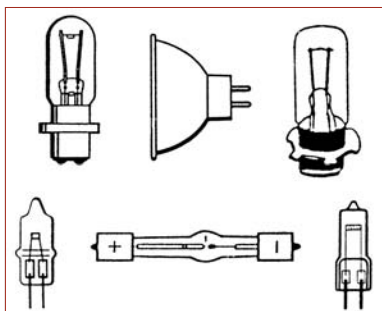
A series of colour filters for filtration, compensation and temperature correction are available in this 50 x 50 mm format. Contact us for particular requirements.

Lens cleaning tissue

C832 Lens cleaning tissue, 100 x 150 mm. 10 wallets of 25 sheets
C833 Lens cleaning tissue, 200 x 300 mm. 100 sheets



Replacement bulbs for microscope lamps



A wide variety of lamps or light sources are used in microscopes to deliver an even, high intensity illumination for optimum viewing. For routine observation and photomicrography, long-life, low cost, incandescent tungsten halogen bulbs are available. Alternatively, long-life xenon lamps are also available which provide an even output across the visual spectrum and a colour temperature that approximates to that of daylight. Fluorescence microscopy requires a more powerful light source. The high intensity light produced by mercury short arc bulbs allows imaging in faintly visible fluorescence specimens.

We are able to supply a wide range of replacement bulbs for microscopes, including Zeiss, Wild, Leitz, Reichert, Nikon, Bausch and Lomb, American Optical, Olympus and Swift. As microscope lamps come in a variety of shapes (cylindrical, rounded, candle), mounting fixtures (bayonet, screw-thread or pin base) and filament configurations, please specify the following details when enquiring about the availability of a particular bulb:

- make and model of microscope
- voltage
- watt rating
- base type
- any codes that are on the bulb to help with identification

Micromanipulators



Micromanipulators scale down hand movement so that very fine manipulations can be carried out under a microscope which would otherwise be impossible. Typical applications where micromanipulators are invaluable include embryology, microbiology and microelectronics.

Movement in X, Y and Z are all controlled using a single lever, and stages can be specified with differing reduction ratios. Tool holders attached to the arm can be fitted with fine probes, micropipettes or vacuum tweezers. A combination of stages can be assembled together to provide coarse and fine movements to suit individual applications. Systems are normally mounted onto a base plate which includes fittings for a stereo microscope. Other models are available which fit directly to the microscope, including inverted types.

Please ask for further details of the complete range of systems available, giving details of the application and whether an existing microscope will be used.

See also section 20 for Kleindiek micromanipulators for light microscopy.

Warm stage



This warm stage is designed for use with upright and inverted microscopes and provides a simple, low cost solution for an accurate, temperature controlled platform from ambient to 60 °C. It is mounted directly on top of the microscope stage and is suitable for most commercially available inverted and upright microscopes. Two types of controller are available, the MC60 which is for use with magnifications up to x400 and the DC60 for magnifications greater than x400. The DC60 reduces microscopic vibrations that occur when AC pulsed power is employed to heat the stage. This is crucial when using the warm stage for high magnification or confocal observations.

- L4002** Warm stage
- L4002A** Controller MC60
- L4002D** Controller DC60

Versions are available for inverted and stereomicroscopes. Please ask for details.

Freezing-heating stage

The HFS91 freezing-heating stage can be operated over a temperature range of -196 to +600 °C. The specimen is mounted on a silver block in a gas-tight chamber, with entry/exit pipes for liquid nitrogen. The heating element is cast into the silver block to form an integral assembly. The THMS600 freezing-heating stage is similar to HFS91, but is in a larger housing, with X, Y translation controls to allow a larger area of the specimen to be viewed. The standard sample holder provided allows the sample to be moved by approximately 16 mm.

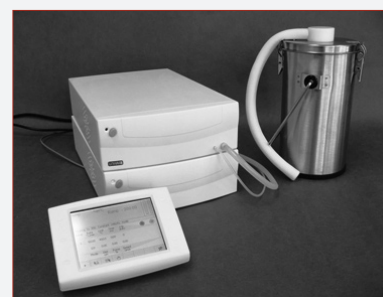
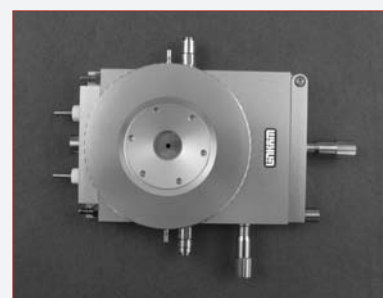
The LNP95 cooling system (**L4480**) provides precise control of liquid nitrogen flow and enables specific stages to be controlled at linear cooling rates as fast as 100 °C/min or as slow as 0.01 °C/min. The ultra efficient use of liquid nitrogen ensures that a day of cooling experiments can be achieved using just a two litre Dewar. The LNP95 has two proprietary pumps inside that are automatically controlled by the T95 controller. A cooling system consists of the control unit housing the pumps and a two litre Dewar.

The T95 temperature controller is a complete system capable of moving precision stepper motors, displaying data from high resolution force transducers, humidity and gas sensors and increasing rate of heating and limits on many of the temperature controlled stages. Connectivity is via a USB2 port for faster data transfer along with faster data sampling of up to 20 times per second. Data can even be streamed onto a live video feed.

- L4003** HFS91 freezing-heating stage, -196 to +600 °C
- L4004** THMS600 freezing-heating stage with manipulators, -196 to +600 °C
- L4480** Automatic cooling system, LNP95
- L4468** Temperature programmer, T95

Please ask for further details.

Please specify the make and model of microscope.



Macro stand

This system is used for viewing and photographing large objects at low magnifications which may be difficult to image using a conventional stereomicroscope. It gives images with a high depth of field and a magnification range of x¼ to x4. The system comprises a copying stand with adjustable height camera mount, a three-chip CCD camera equipped with a macro-zoom lens, TV monitor, lighting unit and video printer. The image is viewed on the TV monitor and an instant print obtained directly from the video printer. The position of the lights can be adjusted to give even illumination.

Two lighting configurations are available: a four lamp tungsten lighting kit with a maximum 600 W output (lamps not included) or a daylight copy light set including two 36 W fluorescent tubes with 5400 K colour temperature.

- L4489** Macro stand



For details of films and general photographic items, please refer to section 22.