



GERMANY

LABORATORY TECHNOLOGY®

Buddeberg

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LABORATORY

CATALOGUE

partner of the



Lab Logistics Group

2007/2008



Welcome to Buddeberg,

Buddeberg is your competent and friendly supplier of laboratory equipment. We can provide the complete range of products for your requirements.

As a modern service provider for laboratory supply, our policy is to ensure the highest quality of products and services, advice and consultancy, rapid delivery times and a "can-do" attitude to customer support.

As shareholders in LLG (Lab Logistics Group) and therefore backed by an extensive stock and warehousing facility, Buddeberg can react very quickly and effectively to your requirements.

Please feel free to contact us. We will find the solution that suits your requirements. Our product experts will be pleased to actively assist you with their customer service know-how.



Do you need chemicals ?

We offer the complete range needed in your laboratory.

- Chemicals and reagents
- Solvents for HPLC, analysis and synthesis
- Buffers and ready-to-use reagents for gel electrophoresis, scintillation and histochemistry
- Products for the biomolecular laboratory

Please contact us. We would be pleased to inform you on the variety of our product range.

Buddeberg GmbH
Mallastr. 49
D - 68219 Mannheim, Germany

• Magnifiers	735
• Microscopes and histological equipment	739
• Refractometers	756
• Photometers	760
• Cuvettes	763



1 Magnifying lens

Pocket magnifying lens, glass.

Mag-nification	Lens dia. mm	Cat. No.	PK
4x	40	9.151 801	12



2 Magnifying lens

Made of high-grade plastic. With additional plano-convex lens in the handle and lanyard cord eyelet. Bi-convex lens, PXM®, antistatic.

Eschenbach

Mag-nification	Lens dia. mm	Cat. No.	PK
3x	65	9.151 680	1
2.5x	80	9.151 682	1
2.5x	80 x 40	9.151 688	1



3 Magnifying lens

- Matte-chromed brass housing with eye
- Lens surround in black-painted metal
- Precision glass optics
- Aplanatic lens

Eschenbach

Mag-nification	Dia. mm	Cat. No.	PK
10x, achromatic	17	9.151 040	1
20x, achromatic	17	9.151 050	1
8x, aplanatic	23	9.151 051	1
10x, aplanatic	23	9.151 052	1
12x, aplanatic	23	9.151 053	1



4 Magnifying lens

Solid brass. Chrome-plated satin finish. Biconvex lens, silicate glass.

Eschenbach

Mag-nification	Height		Field of view mm	Cat. No.	PK
	mm	mm			
12x	23	10 x 10	9.151 423	1	
10x	27	15 x 15	9.151 427	1	
8x	33	20 x 20	9.151 433	1	
6x	42	25 x 25	9.151 442	1	
5x	53	30 x 30	9.151 453	1	



5 Magnifying lens

Metal frame and glass lens. With millimetre scale from 1 to 10.

Mag-nification	Lens dia. mm	Cat. No.	PK
12x	13	9.151 813	1



6 Magnifying lens

Metal frame and glass lens.

Mag-nification	Lens dia. mm	Cat. No.	PK
10x	22	9.151 811	1
20x	22	9.151 812	1



7 Magnifying lens, plastic

With 23 mm Ø lens aperture.

Eschenbach

Mag-nification	Cat. No.	PK
3x + 6x = 9x	9.151 055	1
10x	9.151 155	1





1 Bench magnifying lens

With base and flexible arm.
Provides hands-free magnification.

Mag-nification	Dia. mm	Cat. No.	PK
3.5x	100	9.151 810	1



2 Magnifying lens for measuring

Aplanatic, with silicate glass lens.
Satin finish, chrome-plated body.
Measuring scale length: 10 mm
Resolution: 1/10 mm

Eschenbach

Mag-nification	Height mm	Cat. No.	PK
8x	33	9.151 500	1



3 Magnifying lens for measuring

Glass fibre reinforced polyamide lens mount.
Achromatic lens, 23 mm dia. Measuring scale length: 20 mm.
Divisions 0.1 mm. With scale.

Eschenbach

Type	Cat. No.	PK
Magnification 7x	9.151 107	1
Magnification 10x	9.151 108	1
Battery-powered illumination handle	9.151 109	1
Magnifying lens with illumination 10 x 20 mm	9.151 133	1



4 Illuminated magnifying lens

With illuminator. Require 2 x 1.5 V AA batteries for operation (not included).
With plastic lens. Orange body colour.

Type	Mag-nification	Lens dia. mm	Cat. No.	PK
Orange	3x	50 x 75	9.151 816	1
Lux-50	2.5x to 5x	50	9.151 817	1



5 Illuminated magnifying lens

Metal frame and glass lens.
With measuring scale.

Mag-nification	Lens dia. mm	Cat. No.	PK
10x	30	9.151 814	1



6 Illuminated magnifier

Magnifier lens complete with articulated arm.

Exacta Optech

Lens power: 3 diopters
Lens dimensions: 190 x 157 mm
Illumination: 2 fluorescent lamps: 9 W (230 V 50 Hz)
Clamp opening: 70 mm

Type	Cat. No.	PK
Magnifier lamp	9.170 701	1

1 Illuminated magnifier, RLL 122 T

Strong, shadow-free illumination, using circular 22 Watt fluorescent lamp.
 Distortion-free 4 diopter glass magnifier (120 mm diameter).
 With an accessory snap-on lens of 8 diopters, 12 diopters are achieved.
 Easy to adjust without juddering.
 Spring balanced joints.

Please order table clamp 9.705 088 separately.

Technical data

Supply req.: 230 V 50 Hz
 Fitted with: 1 x fluorescent lamp T-R29 22 W
 Shade material: plastic

Lamp housing: opal white polycarbonate
 Colour: light grey
 Lens diameter: 120 mm
 Lens magnification, dioptres: 4

Type	Cat. No.	PK
RLL 122 T	9.705 078	1

2 Table clamp TK 1/45

Type	Cat. No.	PK
TK 1/45	9.705 088	1

3 Illuminated micromagnifier

Suitable for surface examinations of all kinds of material, such as metals, textiles, minerals, paints, varnishes etc.
 Rotating, fine focussing ring. Supplied complete with batteries.

Eschenbach

Mag-nification	Cat. No.	PK
30x	9.151 594	1

4 Pocket microscope and illuminator

30x magnification and illumination of the specimen by the separate torch supplied make this pocket microscope a versatile and useful instrument.
 Experience the magnification of a real microscope in a compact, pocket instrument.

Mag-nification	Width	Depth	Height	Weight	Cat. No.	PK
	mm	mm	mm	g		
30x	41	21	135	180	9.727 443	1

5 Headband magnifier

Both hands are free to work. The shield can be simply flipped up when not needed.
 Interchangeable lenses snap into a high grade plastic housing.
 The headband has an adjustable strap and foam lining for greater comfort and ease of fitting.
 With PXM®, lightweight aspheric lens with scratch resistant surface coating.

Eschenbach

Mag-nification	Cat. No.	PK
1.7x	9.151 214	1
2.0x	9.151 215	1
2.5x	9.151 212	1
3.0x	9.151 216	1





1 Peak-mounted, Illuminated Magnifier

Lamp: 2.2 V - 0.25 A
 Power Supply: 4 x AAA (Micro cells)

Exacta Optech

Lens:	Working distance:
1.2x	520 to 620 mm
1.8x	230 to 320 mm
2.5x	150 to 250 mm
3.5x	80 to 120 mm

Type	Cat. No.	PK
Peak-mounted, illuminated magnifier	9.170 702	1



2 Light Box hobbylite 1

Daylight lamp light box for battery or mains operation.
 With fold-out support, clamping strip and facilities for wall mounting.
 On/Off switch. Supplied with x8 magnifier and 9 V mains adapter.
 Without batteries.

Kaiser Fototechnik

Specifications

Viewing area:	approx. 250 x 150 mm
Illumination:	1 x 8 W, 5400 K
Dimensions (W x D x H):	approx. 310 x 220 x 60 mm

Type	Cat. No.	PK
hobbylite 1	9.584 620	1



3 Light Box hobbylite 2

Daylight lamp light box for mains operation only.
 With sprung film clamping strip, fold-down support for flat or upright use,
 facilities for horizontal and vertical wall mounting,
 scale in cm/inch, and On/Off switch.
 Supplied with 12 V mains adapter.

Kaiser Fototechnik

Specifications

Viewing area:	approx. 320 x 260 mm
Illumination:	2 x 8 W, 5400 K
Dimensions (W x D x H):	approx. 400 x 340 x 80 mm

Type	Cat. No.	PK
hobbylite 2	9.584 621	1



4 Light Box slimlite

A compact and handy, super-flat daylight lamp light box.
 Uniform illumination as a result of special light conducting and
 reflecting technology in conjunction with cold-cathode fluorescent tubes.
 On/Off switch. Protective cover included. Without batteries or power supply.

Kaiser Fototechnik

Specifications

Service life:	approx. 10.000 h
Colour temperature:	approx. 5000 K (±5%)

Mini

Viewing area:	approx. 100 x 125 mm
Battery:	6 x 1.5 V Micro/AAA

Midi

Viewing area:	approx. 180 x 130 mm
Battery:	6 x 1.5 V Micro/AAA

Maxi

Viewing area:	approx. 300 x 200 mm
Power supply:	230 V

Type	Description	Dimensions (W x D x H)	Weight	Cat. No.	PK
		mm	g		
Mini	without mains adaptor	160 x 150 x 14	260	9.584 622	1
Midi	without mains adaptor	220 x 190 x 21	770	9.584 623	1
Maxi	with mains adaptor	370 x 280 x 25	1950	9.584 624	1
Mains adaptor	for slimlite Mini and Midi	-	-	9.584 625	1

1 Laboratory Optics Cleaning Set LOK

Small grains of dust or dirt on optical components of laboratory equipment are particularly harmful and make precise work more difficult. The Laboratory Optics Cleaning Set contains everything required for efficiently combating dust in the laboratory:

A Panther Anti-static Microfibre Cloth 450 x 250 mm, precision Cleaning Fluid (PLC1) in a 29 ml (1 oz) pump spray bottle, a SW-020 Anti-Static Brush, a SpeckGrabber SG and cleaning swabs for use with the PLC cleaning solution. All components are packed in a robust plastic box.

Kaiser Fototechnik



Type	Cat. No.	PK
Cleaning Kit LOK	9.584 626	1

2 Stereomicroscope, "Stemi" DV4

The Stemi DV4 was designed for users, who value perfection but have a limited budget. (zoom range 8x to 32x).

The Zeiss Double Lens Vario zoom system guarantees high-resolution, brilliant, super sharp images. With illumination control for outstanding results using the model C stand. With a touch of a button, select between incident, transmitted or mixed light.

- Long working distance, 92 mm
- Comprehensive accessories from the Stemi 2000
- Compact stand with carrying handle
- Focussing range up to 130 mm and built-in illumination control

Stemi DV4 with stand C

8 to 32x, incident, transmitted or mixed light

Stemi DV4 Spot with stand U

2.4 to 16x (with Vario-adapter system), incident light and KL 200 coldlight illumination, swivel stand U with articulated arm allowing DV4 to be positioned over a large viewing area

Carl Zeiss Jena



Type	Cat. No.	PK
Stemi DV4 with basic stand C	9.826 458	1
Stemi DV4 Spot with swivel stand U	9.826 465	1

3 Stereomicroscope, 'Stemi 2000'

The Stemi 2000 series optics are based on the Greenough principle, producing high resolution images.

- Zoom range with eyepieces 10x: 6.5x to 50x
- Long working distance 92 mm
- Magnification with adapter systems 1.95x to 100x
- Comprehensive range of accessories

- 1) **Stemi 2000 with stand C:** Incident, transmitted and mixed illumination.
- 2) **Stemi 2000 with stand S:** KL 200 incident cold light illumination, no. 5) optional, please order separately.
- 3) **Stemi 2000 C with stand S:** KL 200 incident cold light illumination, Photo-/Video- camera adapter, no. 5) optional, please order separately.
- 4) **Stemi 2000 C with stand N:** KL 1500 universal incident cold light illumination, Photo-/Video-camera adapter, no. 6) optional, please order separately.
- 5) **Transmitted illumination accessory (d=140 mm).**
- 6) **Universal transmitted illumination.**

Most common camera adapters are available on request.

Carl Zeiss Jena



Type	Description	Cat. No.	PK
1	Stemi 2000 with Stand C	9.827 075	1
2	Stemi 2000 with Stand S	9.827 071	1
3	Stemi 2000 C with Stand S	9.827 074	1
4	Stemi 2000 C with Stand N	9.827 078	1
5	Transmitted light accessory (d=140 mm)	9.827 082	1
6	Universal transmitted illumination (for Stand N and KL 1500)	9.827 076	1



1 Microscopes, PrimoStar (fixed-Köhler)

- For education and simple laboratory applications. *Carl Zeiss Jena*
- reverse position, quadruple nosepiece
 - N.A. 0.9/1.25 condenser
 - 30° binocular head, 10x/18 Br. foc. eyepieces
 - mechanical stage 75 x 30 mm, RHS or LHS control
 - accessories: plano-concave mirror, transport/storage case

Type 1: with RHS stage drive, halogen illumination with 6 V 30 W halogen lamp, "Plan-Achromat" 4x, 10x and 40x objectives

Type 2: as Type 1, with additional 100x Oil objectives

Type 3: with LHS stage drive, halogen illumination with 6 V 30 W halogen lamp, "Plan-Achromat" 4x, 10x, 40x and 100x Oil objectives

Type 4: with RHS stage drive, LED illumination, "Plan-Achromat" 4x, 10x, 40x and 100x Oil objectives

Type	Cat. No.	PK
1	9.826 480	1
2	9.826 481	1
3	9.826 482	1
4	9.826 483	1

Primostar is the basic model of Carl Zeiss MicroImaging. For higher graded systems, such as for fluorescence-, inverse- and stereomicroscopy, please contact your LLG partner.



2 3 4 Microscope PrimoStar (Full-Köhler)

- For higher education and laboratory applications. *Carl Zeiss Jena*
- reverse position, quadruple nosepiece
 - 30° inclined trinocular head/phototube with 10x/20 Br.foc. eyepieces
 - 75 x 30mm mechanical stage, RHS or LHS control
 - accessories: camera adapters

Type 1: with RHS stage drive, 30° head, 30 W halogen lamp illuminator, "Plan-Achromat" 4x, 10x, 40x and 100x Oil objectives

Type 2 (for phase-contrast):
with RHS stage drive, 30° head, 30 W halogen lamp illuminator, "Plan-Achromat" 4x, 10x, 40x-Ph2 and 100x Oil objectives

Type 3: with RHS stage drive, phototube, 30° head, 30 W halogen lamp illuminator, "Plan-Achromat" 4x, 10x, 40x and 100x Oil objectives

Type 4: with LHS stage drive, phototube, 30° head, 30 W halogen lamp illuminator, "Plan-Achromat" 4x, 10x, 40x and 100x Oil objectives

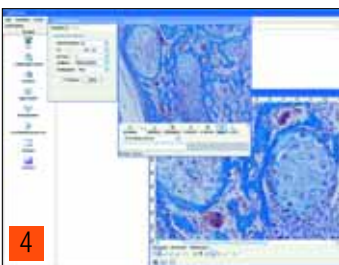
Type 5: with RHS stage drive, phototube, LED illumination, "Plan-Achromat" 4x, 10x, 40x and 100x Oil objectives

Type 6: with LHS stage drive, phototube, LED illumination, "Plan-Achromat" 4x, 10x, 40x and 100x Oil objectives

Type 7 (for phase-contrast):
with RHS stage drive, phototube, 30° head, 30 W halogen lamp illuminator, "Plan-Achromat" 4x, 10x, 40x-Ph2 and 100x Oil objectives

Type	Cat. No.	PK
1	9.826 484	1
2	9.826 485	1
3	9.826 486	1
4	9.826 487	1
5	9.826 488	1
6	9.826 489	1
7	9.826 490	1

Primostar is the basic series of Carl Zeiss MicroImaging systems. For higher specification systems, such as for fluorescence-, inverse- and stereomicroscopy, please contact your LLG partner.



1 Inverted routine microscope Wilovert Standard Ph 20 for controlling cell cultures

The classic inverted standard microscope with phase contrast for the laboratory study of cell cultures.

A continuously controllable halogen light source of 12 V/30 W also ensures high light intensity in critical applications.

In addition to monitoring cell culture the microscope can be used to examine fluids and sediments, and additionally to test pharmaceutical products and food. The clearance between the specimen and illumination system is approx. 220 mm. This means there is enough room for larger-than-average containers. The solid stand ensures vibration-free working.

Comprises:

- Stand configuration: Wilovert
- Binocular tube (30°, TF 1x)
- Eyepiece WF 10x/18, 2x
- Objective A, 4/0.10
- Objective A Ph 1, 10/0.25
- Objective SPL Ph 2, 20/0.35 (LD)
- Illumination unit 12 V 30 W halogen
- Combi-condenser NA 0.4 for brightfield and phase contrast Ph 1/Ph 2 for attachment to the illumination unit
- Set of accessories WS IV
- Instructions
- Dust cover

Hund



Type	Cat. No.	PK
Wilovert Standard PH 20	9.727 255	1

Optional accessory: Focussing telescope (auxiliary microscope) for checking correct phase contrast adjustment according to MPBetreibV, if required.

2 Routine microscope Vb 365 Wilozyt Achro Plan

For gynaecologists, urologists and dermatologists.

The Vb 365 Wilozyt is a binocular laboratory microscope.

It is equipped for brightfield, darkfield and phase contrast.

Optical specifications: objectives A 10/0.25 (brightfield),

Plan Ph 20/0.35 (brightfield and phase contrast),

Plan Ph 40/0.65 (brightfield and phase contrast) and

A 100/1.25 oil (brightfield), combination condenser NA 1.2 for brightfield,

darkfield and phase contrast. Switching between illumination methods is simply

achieved by turning a dial. There is no readjustment necessary.

The microscope has a 6 V 20 W halogen lamp with continuously variable brightness.

Consisting of:

- Stand configuration Vv
- Binocular tube (30°, TF 1x)
- Eyepiece WF 10/18, 2x
- Objective Achro 10/0.25
- Objective Plan-A Ph 2 20/0.35
- Objective Plan-A Ph 3 40/0.65
- Objective A 100/1.25 (Oil), sprung
- Small combination condenser NA 1.2 with aperture diaphragm and filter holder, switchable to brightfield, phase contrast and darkfield
- Set of accessories V III
- Instructions for use
- Dust cover
- Focussing telescope (auxiliary microscope) for checking correct phase contrast adjustment according to MPBetreibV, if required

Hund



Type	Cat. No.	PK
Vb 365 Wilozyt Achro Plan	9.727 237	1



1 Microscope Med-Prax

Microscope for investigations in brightfield transmitted light. The heavy, solid cast stand guarantees comfortable working. The microscope is equipped with a coaxial coarse and fine focussing drive. The tension of the coarse focusing drive can be individually adjusted. The x-y adjustment range for the stage is 50 mm x 78 mm. Vernier scales allow easy re-location of slides at points of interest. A slide holder with spring lever, height adjustable condenser with aperture diaphragm, integral 6 V 20 W halogen illuminator, which is continuously adjustable and a daylight filter in the illumination tube complete this versatile microscope. With binocular tube (45°/TF 1x), rotatable through 360°. Each eyepiece tube can be individually adjusted.

Hund

Comprises:

- Stand configuration Med-Prax
- Quadruple revolving nosepiece
- Binocular tube (45°, TF 1x)
- Eyepiece WF 10x/18
- Objective A 4/0.10
- Objective A 10/0.25
- Objective A 40/0.65, sprung
- Objective A 100/1.25 Oil, sprung
- Condenser NA 1.25 with aperture diaphragm
- Instructions for use
- Dust cover

Set of accessories:

- Mains cable with shock proof plug
- 1 Spare lamp 6 V 20 W
- 2 Spare fuses
- Immersion oil nD 1.515, PCB-free, 10 ml

Type	Cat. No.	PK
Med-Prax	9.727 236	1



2 Zoom Microscope ZM

Microscope with zoom system with a magnification range from 2x to 250x. It is a monozoom system which is more suitable for measuring tasks in comparison to stereomicroscopes, because the specimen is not observed at an angle. The ZM can be adapted to all Hund-manufactured, stereo- and industrial microscope stands. So there are numerous options to hold, move and to measure specimens. A wide range of illumination systems is available on request. Items supplied: Stand configuration W-AD, opal disc, binocular tube, eyepiece WF 10/18, set of accessories W-AD, manual, dust cover

Hund

Type	Cat. No.	PK
Zoom Microscope	9.727 230	1

Ancillary lens and LED ring lights available on request.



3 Zoom-Stereomicroscope SM 4

Microscope with high optical performance. Zoom range 1x - 4x. A magnification range from 2.5x to 120x can be obtained by using auxiliary lenses and various eyepieces. Different illumination systems are available for contrasting interesting structures, for example incident light, transmitted light and darkfield illumination, etc. using light guides (flexible light guides, gooseneck light guides). Different stands and stages can be selected to meet the requirements that may come up with special objects and special tasks. The microscope is also available with photo exit for the adaptation of digital cameras, video cameras, etc.

Hund

Stereo microscope SM 4 Zoom with stand SM:

- without illumination

Stereo microscope SM 4 Zoom with stand and sliding stage:

- integrated incident light/transmitted light brightfield illumination, each 10 W Halogen
- with photo-/ video exit
- Sliding stage: 160 mm x 240 mm

Specifications

Eyepieces: WF 10x/20
 Stand column height: 220 mm
 Stepless magnification change.

Type	Description	Cat. No.	PK
Stereomicroscope SM4 Zoom	with stand SM	9.727 238	1
Stereomicroscope SM4 Zoom	with stand SM and sliding stage	9.727 239	1

1 Workshop microscope W-AD

Universal microscope for workshops, production areas and quality control.
A complete series of incident light objectives is available, which are characterised by high contrast, good field flatness and high resolution.
Therefore magnification up to 1250x can be performed.
The optical system can be moved along a vertical column so that specimens of different heights can be accommodated.
Incident light-/transmitted light-/ incident light- /and transmitted light illumination are separably selectable.
For checking large objects a sliding stage is available.

Consisting of:

- Stand configuration W-AD
- Microscope body with rack-and-pinion drive
- Binocular tube (30°, TF 1x)
- Eyepiece WF 10x/18, 2x
- Objective EPI A 4/0.13
- Objective EPI A 10/0.30
- Objective EPI A 20/0.50
- Objective EPI A 40/0.60
- Incident light illuminator AM with field diaphragm, aperture diaphragm and filter slide
- Halogen illuminator 12 V 50 W
- Lamp housing HAL 50 with collector, rear mirror, lamp mount and heat-absorbing filter
- Halogen lamp 12 V 50 W
- Power supply for halogen lamp 12 V 50 W
- Opal disc
- Set of accessories WAD
- Instructions for use
- Dust cover

Hund

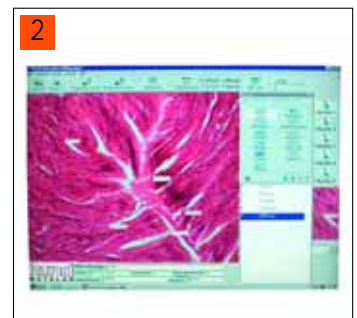


Type	Cat. No.	PK
Workshop microscope W-AD	9.727 240	1

2 Imaging Software

The Imaging - Software is designed in a way that it can be applied without special training.
This enables people from different departments to work with it.
The software is modular and can therefore be adapted to individual demands.
Measuring lines and measured values are displayed in the image, they can be stored with the image and can be further processed under Windows.
Please ask for special information.

Hund



Type	Description	Cat. No.	PK
Imaging PC Basic Version	Live image display, images can be stored, image archive, text can be inserted, electronic zoom, includes frame-grabber PCI-card	9.727 231	1
Imaging PC Industry Version	Live image display, images can be stored, image archive, text can be inserted, electronic zoom and distance measurement	9.727 232	1
Imaging PC-Bio/Med-Version	Length, distance, perimeter and area measurement	9.727 233	1
Imaging PC-Morphometry Version	Length, distance, perimeter, area, circle, ellipse and rectangle measurement	9.727 234	1

Components for upgrading like Counting, Angle, Reference, Display storing and others available on request.



1 2 Cold light sources

Microscope accessories

Schott Fiber Optics

For work area illumination in microscopy, clinical diagnostics, dental technology, photography or mineralogy. Cold light sources filter out heat-producing, infra-red radiation. Visible light with a high and constant intensity is directed to the specimen via flexible light guides. The specimen is not subjected to heat.

Compact and stackable, easy to use and maintenance-free.

The light source base unit is cooled by a low-noise fan with air vented at the rear of the casing.

Can be used with special accessories in clean rooms.

KL 200 - small, cool running, cost-effective.

With 8 V/20 W halogen ellipsoid reflector lamp, 3 way brightness control and convection ventilation for silent and vibration-free operation. Max. light intensity: 75 IM

KL 1500 LCD - economy.

Inexpensive cold light source with 15 V /150 W halogen ellipsoid reflector lamp with 3 way brightness control. Max. lighting intensity: 600 Im

KL 2500 LCD electronic - professional

Professional cold light source with 24 V/250 W halogen ellipsoid reflector lamp and variable brightness control dial with 5 click-stop positions for reproducible setting.

Light remains constant irrespective of power supply fluctuations ($\pm 15\%$).

Max. lighting intensity: 1300 Im

Light exit angle: Approx. 70° without focussing attachment,
approx. 20° with focussing attachment

Colour temperature: Max. 3200 K approx.

Supply requirement: 230 V 50/60 Hz, safety class II.

Type	Width mm	Depth mm	Height mm	Cat. No.	PK
KL 200	125	205	120	9.705 210	1
KL 1500 LCD	200	265	170	9.705 201	1
KL 2500 LCD	200	265	170	9.705 202	1



3 Cold light source, KL 200, KL 1500 LCD and KL2500 LCD accessories

Schott Fiber Optics

Type	Description	Cat. No.	PK
Halogen lamp	8 V / 20 W	9.705 215	1
Safety device	230 V	9.705 216	1
Swan-neck, fibre-optic light guide, single	3.5 mm dia., length 500 mm	9.705 221	1
Swan-neck, fibre-optic light guide, double	3.5 mm dia., length 500 mm, PVC sheathed,	9.705 220	1
Flexible light guide, single	4.5 mm dia., length 600 mm, PVC sheathed,	9.705 225	1
Flexible light guide, double	4.0 mm dia., length 1000 mm	9.705 226	1
6 point ring light	Int. dia. 66 mm	9.705 230	1
6 point ring light	Int. dia. 58 mm	9.705 231	1

Accessories for KL 200, KL 1500 LCD and KL2500 LCD cold light sources

Lens adaptor, split ring illuminator, i.d. 58 mm: For Leica M1-M7 microscopes.

Schott Fiber Optics

No adaptor required on Zeiss Stemi 1000 and 200, SV6 and SV11.

Supplied directly by Zeiss. Lens adaptor: 4-point ring illuminator and split ring illuminator, i.d. 58 mm:

No adaptor required on Leica GZ6, M8, M10, M12 and MZAPO microscopes.

Type	Description	Cat. No.	PK
Focussing attachment and filter set		9.705 170	1
Polarisation filter	for focussing attachment	9.705 176	1
Focussing attachment, without filter	for swan-neck and flexible fibre optic light guides	9.705 175	1
Conversion filter	for focussing attachment	9.705 177	1
Lens adapter	for Leica M1-M7 (requires use of a glass lens guard)	9.705 270	1
Lens adapter	for Leica macroscope	9.705 271	1
Lens adapter	for Leica M1-Mz	9.705 272	1



1 Prepared Slides

Prepared microscope slides for education and studies.

Type	Cat. No.	PK
Fishes, frogs and other amphibians	9.151 850	1
Lizard snakes and birds	9.151 851	1
Animal reproduction	9.151 852	1
Animal embryology and development	9.151 853	1
Bacteria simple organisms	9.151 854	1
Tropical plants	9.151 855	1
Plant reproduction and propagation	9.151 856	1
Structure of vegetable plants	9.151 857	1
Cell development and reproduction	9.151 858	1
Nanoplankton	9.151 859	1
Human body, normal tissues Part 1	9.151 860	1
Human body, normal tissues Part 2	9.151 861	1
The human body pathological tissues part 1	9.151 862	1
The human body pathological tissues Part 2	9.151 863	1
Animal and human parasites	9.151 864	1
Foodstuffs and their adulteration	9.151 865	1
Life in the ground	9.151 866	1
Inhabitants of polluted water	9.151 867	1
Animals and plants damaged by the environment	9.151 868	1
Set for teaching science	9.151 869	1
Set for teaching biology part 1	9.151 870	1
Set for teaching biology part 2	9.151 871	1

**2 Microscope slides**

Prewashed and polished. Nominal thickness 1 mm. Size 76 x 26 mm. Also available with 20 mm, frosted, writing patch at one end.

Menzel

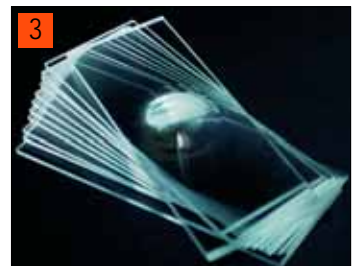
Glass	Edge finish	Type	Cat. No.	PK
Extra white	Cut	Without frosted end	9.161 110	50
Extra white	Ground 45°	Without frosted end	9.161 120	50
Pure white	Cut	Without frosted end	9.161 130	50
Pure white	Ground 45°	Without frosted end	9.161 140	50
Pure white	Ground 90°	Without frosted end	9.161 141	50
Extra white	Cut	With frosted end	9.161 145	50

**3 Microscope slides, single cavity**

Frosted at one end. 76 x 26 mm with single cavity approx. 15 mm dia., slide thickness 1.2 to 1.5 mm. 90° ground edges.

Menzel

Edge finish	Cat. No.	PK
Maße 76 x 26 mm	9.161 151	1

**4 Superfrost Plus adhesive microscope slides**

Size 25 x 75 mm.

Nominal thickness 1.0 mm.

90° ground edges. White Superfrost marking area. Marking area available in blue, pink, yellow or green on request. Microscope slide has a permanently positive charge which electrostatically attracts frozen tissue sections and cytological specimens, binding them onto the slide. Supplied in packs as indicated.

Menzel

Edge finish	Colour	Cat. No.	PK
Ground	White	9.161 155	72

**5 Superfrost slides**

In accordance with ISO 8037/1. With colour-coded writing patch as indicated.

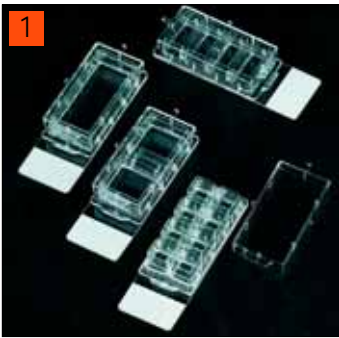
Size 76 x 26 mm. Nominal thickness 1.0 mm. With cut or ground edges.

With approx. 0.013 mm thick coating which prevents slides sticking together and being scratched.

Menzel

Edge finish	Colour	Cat. No.	PK
Cut	White	9.161 161	50
Cut	Blue	9.161 162	50
Cut	Pink	9.161 163	50
Cut	Yellow	9.161 164	50
Cut	Green	9.161 165	50
Ground 45°	White	9.161 171	50
Ground 45°	Blue	9.161 172	50
Ground 45°	Pink	9.161 173	50
Ground 45°	Yellow	9.161 174	50
Ground 45°	Green	9.161 175	50





1 Chamber Slides

- Iwaki chamber slides comprise a plastic polystyrene chamber attached to a glass microscope slide by means of a non-toxic, silicone rubber adhesive
- The slides allow culture, fixation, staining and observation of cells all on one slide
- Independent chambers help simultaneous multi-cultures with low risk of cross-contamination
- Iwaki glass based dishes are made from a choice of glass coverslip attached to the base of 35 mm polystyrene dish with non-toxic silicone adhesive
- The dishes are available with 27 mm and 12 mm diameter bases and are guaranteed sterile by gamma irradiation
- The glass or quartz area allows fluorescent measuring of live and dead cells, confocal laser microscope studies and observation of cells at a higher magnification than achievable using plastic dishes
- Higher transmittance and measurement of lower fluorescence can be achieved using the quartz based dishes

Iwaki

Type	No. of chambers	Chamber	Slide material	Cat. No.	PK
5702-001	1	19 x 44 mm	Glass	9.700 528	20
5712-002	2	19 x 19 mm	Glass	9.700 529	20
5722-004	4	9 x 19 mm	Glass	9.700 530	20
5732-008	8	9 x 9 mm	Glass	9.700 531	20



2 Diagnostic slides

25 x 75 x 1.0 mm, with 90° ground edges. Available with epoxy or Teflon coating, in the versions below:

Menzel

Type	Description	Dia. mm	Colour	Cat. No.	PK
Epoxy	1 cavity	8	Blue	9.161 181	100
Epoxy	3 cavities	14	Black	9.161 182	100
Epoxy	8 cavities	6	Black	9.161 183	100
Epoxy	10 cavities	6	Black	9.161 184	100
Epoxy	12 cavities	5	White	9.161 185	100
Teflon	1 cavity	8	Blue	9.161 186	100
Teflon	3 cavities	14	Black	9.161 187	100
Teflon	8 cavities	6	Black	9.161 188	100
Teflon	10 cavities	6	Black	9.161 189	100
Teflon	12 cavities	5	White	9.161 190	100



3 Diagnostic slides

Teflon with Adcell adhesive coating. Dimensions 25 x 75 x 1 mm, 12 cells, edges ground 90°, white.

Menzel

Type	Cat. No.	PK
Diagnostic slides teflon with adhesion coating	9.161 200	100



4 Microscope slides for latex coagulation

Size 76.2 x 101.6 x 1.5 mm, 3 cavities, colour black/yellow.

Menzel

Type	Cat. No.	PK
Microscope slides for latex coagulation	9.161 201	100



5 Cover slips, glass

Plain glass. Clean cut, no bubbles or smears. Thickness 0.13 to 0.16 mm.

Menzel

Width mm	Length mm	Cat. No.	PK
15	15	9.161 015	200
18	18	9.161 018	200
20	20	9.161 020	200
26	21	9.161 021	100
22	22	9.161 022	200
24	24	9.161 024	200
32	24	9.161 032	100
40	24	9.161 040	100
50	24	9.161 050	100
60	24	9.161 060	100



Forceps - please see page 134

1 Cover slips, glass

Circular. Plain glass. Clean cut. No bubbles or smears.
Thickness 0.12 to 0.18 mm. Diameters as indicated.

Menzel

Dia. mm	Cat. No.	PK
15	9.161 061	100
18	9.161 062	100
10	9.161 063	100
12	9.161 064	100
13	9.161 065	100
14	9.161 066	100

Haemocytometer cover glasses

Officially calibrated, optically parallel cut. Ce-marked.
Nominal thickness 0.4 mm.

Menzel

Width mm	Length mm	Cat. No.	PK
26	20	9.161 070	10
22	22	9.161 072	10
24	24	9.161 074	10

2 Counting chamber, Improved Neubauer

With double ruling. Without snap-on clips. Calibratable.
Cell depth 0.1 mm. Counting grid with 9 large squares each 1 mm².
The 4 large squares in the corners marked with an 'L' used for counting leucocytes are each subdivided into 16 squares with a side length of 0.25 mm.
The large square in the middle is subdivided into 25 squares each with a side length of 0.2 mm.
Each of these is further subdivided into 16 smaller squares each with a side length of 0.05 mm and an area of 0.0025 mm². The 5 group squares marked with an 'E' are used to count thrombocytes and erythrocytes. All group squares have triple boundary lines on each side. CE-marked according to IVD 98/79 EG.

BRAND

Type	Cat. No.	PK
Counting chamber, Improved Neubauer	9.161 078	1

3 Counting chamber, Improved Neubauer, bright line

Bright line. With double ruling. Without snap-on clips. Calibratable.
Same counting grid as the Improved Neubauer cell, but with rhodium coated chamber base. Rulings are engraved into the Rhodium layer and appear bright under normal microscope settings. By altering the contrast it is possible to reverse the image under the microscope to make the rulings appear brighter or darker as required. CE-marked according to IVD 98/79 EG.

BRAND

Type	Cat. No.	PK
Counting chamber, Improved Neubauer, bright line	9.161 079	1

4 Counting chamber, Neubauer

With double ruling. Without snap-on clips. Calibratable.
Cell depth 0.1 mm. Same ruling as Improved Neubauer, but the large square in the centre is divided into 16 squares each with a side length of 0.2 mm.
Unlike the more modern Improved Neubauer counting chambers, the counting area of each group square is limited by the outermost of the triple border lines. CE-marked according to IVD 98/79 EG.

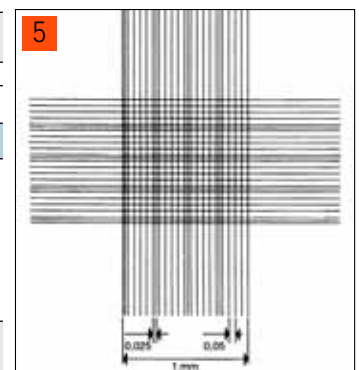
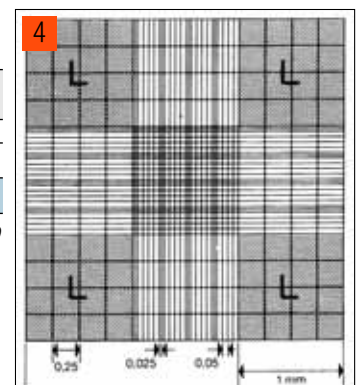
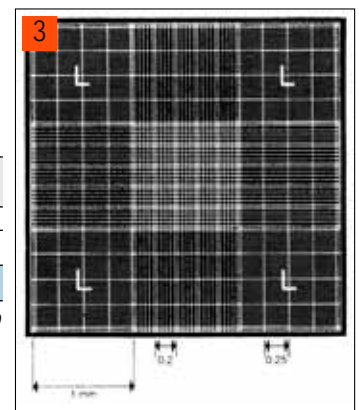
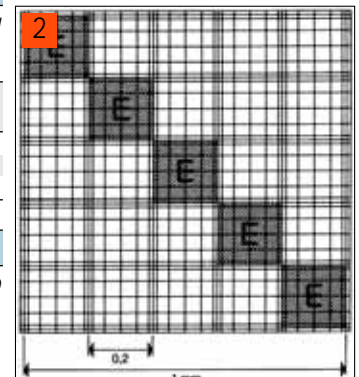
BRAND

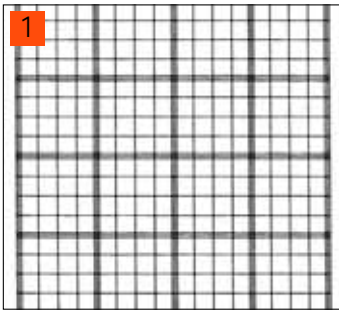
Type	Cat. No.	PK
Counting chamber, Neubauer	9.161 086	1

5 Counting chamber, Thoma ruling

Double ruling. Without snap-on clips. Calibratable. Cell depth 0.1 mm.
Grid is the same as the grid in the centre of large square in the Neubauer chamber. The area of the small square is 0.0025 mm².
Since the large outer squares are not included, the Thoma system is only used to count thrombocytes and erythrocytes. CE-marked according to IVD 98/79 EG.

Type	Cat. No.	PK
Counting chamber, Thoma ruling	9.161 080	1





1 Counting chamber, Fuchs-Rosenthal

With double ruling. Without snap-on clips. Calibratable.
 Cell depth 0.2 mm. Grid has 16 x large 1 mm² squares.
 Each square is divided into 16 smaller squares each with a side length of 0.25 mm and an area of 0.0625 mm².
 These counting chambers are commonly used to count cells in cerebrospinal fluid.
 CE-marked according to IVD 98/79 EG.

Type	Cat. No.	PK
Counting chamber, Fuchs-Rosenthal	9.161 098	1

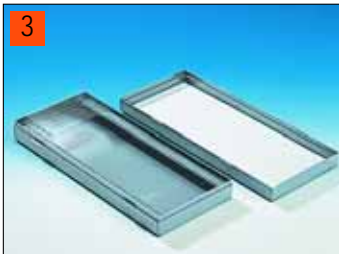


2 Microscope slide boxes

PP. For storing or shipping 5 thick or 10 thin slides. Sturdy design.
 Screw cap with fitting for sealing wire tag.
 When cap is open the slides protrude approximately 10 mm so they can be removed easily.

Kartell

Int. dia. mm	Height mm	Cat. No.	PK
45	90	9.161 395	1



3 Microscope slide boxes

PS. For 76 x 26 mm slides.
 Numbered slots in base. Index card in lid.

Kartell

To hold microscope slides	Width mm	Length mm	Height mm	Cat. No.	PK
25	96	120	35	9.161 380	1
50	97	230	35	9.161 381	1
100	187	230	35	9.161 382	1



4 Magazine for slide boxes

PVC, white. For holding 8 slide boxes in 4 stages.
 With carrying handle and rubber feet.
 Dimensions (W x D x H): 185 x 175 x 200 mm

Type	Cat. No.	PK
Magazine for slide boxes	9.161 383	1



5 Slide boxes

To hold 50 slides 76 x 26 mm.
 Clear and durable storage system - Easy to use.
 Dimensions: 172 x 83 x 31 mm.
 - High-grade polystyrene construction
 - Archive numbering system in the base
 - Freezer-resistant, max. -40°C
 - Stackable
 - Colour coded
 - Dustproof
 - Virtually unbreakable

Colour	Cat. No.	PK
White	9.161 361	1
Blue	9.161 362	1
Green	9.161 363	1
Red	9.161 364	1
Yellow	9.161 365	1
Purple	9.161 366	1
Orange	9.161 367	1
Mint	9.161 368	1
Black	9.161 369	1



6 Microscope slide tray

For 76 x 26 mm slides.

To hold microscope slides	Cover type	Cat. No.	PK
20	Without	9.161 260	1

Trays for other sizes of slide are available on request.

1 Microscope slide folder

Munich type. For 76 x 26 mm slides as indicated.

To hold microscope slides	Cover type	Cat. No.	PK
24	Without	9.161 250	1



2 Microscope slide folders

Stiff fibreboard. Available with, or without, gatefold cover. For 76 x 26 mm slides as indicated.

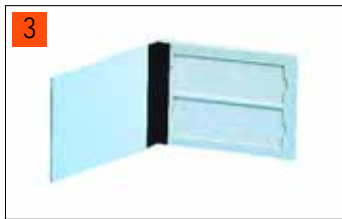
To hold microscope slides	Cover type	Cat. No.	PK
20	without	9.161 230	1
20	with	9.161 235	1



3 Slide mailers

For transporting 76 x 26 mm specimen slides, as indicated.

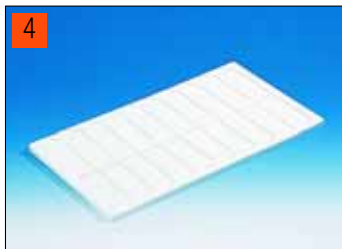
To hold microscope slides	Cover type	Cat. No.	PK
2	Without	9.161 270	1
6	Without	9.161 272	1



4 Microscope slide container

PVC. Kartell
 For storing slides 76 x 26 mm.
 White base increases contrast of stained specimen slides.

For	Cat. No.	PK
20 microscope slides	9.161 391	1
40 microscope slides	9.161 392	1



5 Slide storage box

Holds slides 76 x 26 mm slides as indicated.
 Dense fibreboard covered with imitation leather.
 Hinged lid with locking clips.

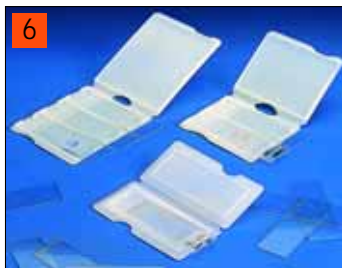
To hold microscope slides	Cover type	Cat. No.	PK
100	With	9.161 210	1
50	With	9.161 215	1



6 Slide mailers

Strong protection for 76 x 26 mm specimen slides during transportation. Kartell
 Each slide has its own compartment with support bars at 55 mm centres to protect subject matter from being scratched.
 Particularly useful for cytological and geological specimens.

Description	Material	Width mm	Length mm	Height mm	Cat. No.	PK
1	PE	51	99	6	9.161 281	1
2	HDPE	70	84	6	9.161 282	1
3	HDPE	84	97	6	9.161 283	1



7 Slide storage system

The basic unit has five drawers. Kartell
 Additional drawers can be added by removing the top lid, locating the drawer with the four dowels provided and replacing the lid. The maximum number of drawers is dictated by the height of the user. Castors can also be used to create a mobile workstation.
 Each drawer can accommodate 10 slide supports.
 Each support has a capacity of 100 slides.

Description	Width mm	Length mm	Height mm	Cat. No.	PK
Package of 5 drawers with lid	420	420	725	9.161 277	1
Single drawer unit without supports	420	420	140	9.161 275	1
Microscope slide support for 100 slides	38	360	100	9.161 279	1
Dust cover for 9.161 279	35	345	40	9.161 280	1
Drawer lid	420	420	25	9.161 276	1
Set of 4 wheels	-	-	-	9.161 278	1





1 Drying pads Grade 556Z

For retaining specimen visibility (50 sheets).

Whatman

Width mm	Length mm	Cat. No.	PK
37	100	9.069 003	50



2 Lens cleaning tissues, 105 series

Chemically pure and free from silicones and other additives. For the safe removal of surface moisture and grease from lenses and other optical surfaces.

Whatman

Width mm	Length mm	Cat. No.	PK
100	150	9.056 887	625
200	300	9.056 888	100



3 Scalpels, disposable Cutfix®

Sterile. For cleaner, smoother, more accurate incisions.

Braun

Type	Cat. No.	PK
10	9.409 804	10
11	9.409 805	10
12	9.409 806	10
15	9.409 807	10
20	9.409 808	10
21	9.409 809	10
22	9.409 810	10
23	9.409 813	10
24	9.409 814	10



4 Scalpel handles for disposable blades

For interchangeable, disposable blades using the Bayha interlocking system. All shapes of blade fit each handle. Blades insert into the side of the handle.

Bayha

Type	Length mm	Cat. No.	PK
1, non-rusting	130	9.409 841	1
4, non-rusting	160	9.409 844	1
5, hollow handle, non-rusting	150	9.409 845	1



5 Scalpel blades

For scalpel handles using the Bayha interlocking system. Non-sterile. Sterile scalpel blades are available on request.

Bayha

Type	Cat. No.	PK
11	9.409 911	12
15	9.409 915	12
16	9.409 916	12
18	9.409 918	12
19	9.409 919	12
20	9.409 920	12
21	9.409 921	12
22	9.409 922	12
23	9.409 923	12
24	9.409 924	12
26	9.409 926	12
27	9.409 927	12
28	9.409 928	12
29	9.409 929	12



6 Scalpels, reusable

Fine pattern. With metal handle. Choice of rounded, or pointed blade profile.

Aesculap

Description	Length mm	Cat. No.	PK
Round	125	9.160 512	1

1 2 3 Dissecting knives

Wironit CrNi 18/12. Fine pattern. With metal handle. *Hammacher*
Choice of rounded, or pointed blade profile.

Type	Length mm	Length* mm	Cat. No.	PK
Rounded	135	30	9.160 534	1
Pointed	135	30	9.160 535	1
Rounded	150	20	9.160 536	1
Pointed	150	20	9.160 537	1
Rounded	130	15	9.160 533	1
Pointed	130	15	9.160 543	1

* Blade length (mm)



4 Dissecting needles

Wironit. CrNi 18/12. Length 50 mm. *Hammacher*

Description	Cat. No.	PK
Lancet-shaped	9.160 040	1
Straight, sharp	9.160 030	1
Curved, sharp	9.160 035	1
Semi-lancet	9.160 036	10
Spatula	9.160 037	10



5 6 7 Dissecting needles

With plastic or metal handle. *Hammacher*
Length 140 mm.

Type	Description	Cat. No.	PK
Plastic	Pointed, straight	9.160 070	1
Plastic	Pointed, curved	9.160 072	1
Plastic	Lancet shaped	9.160 075	1
Metal	Pointed, straight	9.160 090	1
Metal	Pointed, curved	9.160 092	1
Metal	Lancet shaped	9.160 095	1



8 9 10 Dissecting needle holder

Wironit CrNi 18/12. *Hammacher*

Type	Length mm	Cat. No.	PK
Wironit shaft with plastic handle	240	9.160 020	1
Aluminium shaft with plastic handle	240	9.160 022	1
Aluminium handle	170	9.160 025	1



11 Blood lancets

Solofix®. Sterile. For single use. *Braun*
Sharp, flexible lancet made of V2A supra steel.
Optimal insertion depth 3.8 mm.

Type	Cat. No.	PK
Solofix®	9.409 820	200



12 Dissecting set I, small

Corrosion-free instruments with satin finish, in case
Dissecting set comprises:
Scalpel, pointed 35 mm long Forceps 105 mm long
Dissecting needle Scissors, straight 115 mm long
Lancet Section lifter

Type	Cat. No.	PK
Dissecting set I, small	9.160 014	1



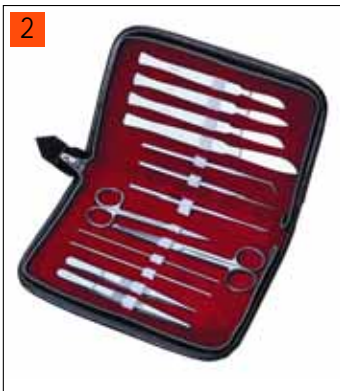


1 Microscopic set, large

Corrosion-free instruments with satin finish, in imitation leather case
Dissecting set comprises:

Metal scalpel, sharp 35 mm long	Dissecting probe curved
Razor knife	Splinter forceps 105 mm long
Section lifter 45 x 8 mm	Microscope scissors, straight 110 mm long
Dissecting needle pointed	Microscope scissors, curved 110 mm long
Dissecting needle lancet	

Type	Cat. No.	PK
Microscopic set, large	9.160 012	1



2 Dissecting set No. III

Corrosion-free instruments with satin finish, in imitation leather case
Dissecting set comprises:

Incision scissors 130 mm long	Metal scalpel rd 35 mm long
Scissors pointed 110 mm long	Cartilage knife
Splinter forceps 130 mm long	Double-ended button probe 1 mm dia.
Dissecting forceps 130 mm long	Double-ended button probe 2 mm dia.
Metal scalpel rd 30 mm long	Dissecting needle pointed
	Dissecting needle lancet
Metal scalpel rd 40 mm long	Dissecting probe curved

Type	Cat. No.	PK
Dissecting set II - large	9.160 013	1



3 Staining blocks

Moulded glass. With hemispherical cavity, 32 mm diameter and 40 x 40 mm glass cover plate.

Colour	Cat. No.	PK
Clear	9.163 285	1
Black	9.163 286	1



4 Cavity tiles

Ceramic.
With cavities as indicated.
Rectangular, white, glazed.

Haldenwanger

Number of cavities	Int. bore dia. mm	Cavity depth mm	Width mm	Length mm	Thickness mm	Cat. No.	PK
6	35	9	85	119	10	9.253 406	1
12	20	3	97	127	6	9.253 412	1



5 Staining jar

PMP (TPX).
Supplied with 2 lids, one complete lid for use providing evaporation-free storage of staining liquids, the other lid with an opening to allow the handle of accessory staining rack 9.161 341 to be inserted.
Note: Xylene can cause etching after 2 days at room temperature.

Kartell

Width mm	Length mm	Height mm	Cat. No.	PK
80	100	70	9.161 340	1

1 Staining rack

For use with staining jar 9.161 340. PP, with horizontal tray, holds 20 slides. *Kartell*

Width mm	Length mm	Height mm	Cat. No.	PK
20	86	700	9.161 341	1



2 Trough

Glass. Accepts one staining rack 9.163 280 (not supplied).

Width mm	Length mm	Height mm	Cat. No.	PK
85	105	70	9.163 281	1



3 Staining rack

Glass. Holds microscope slides 76 x 26 to 50 mm. Fits trough 9.163 281 (not supplied). An accessory wire lifting handle is available.

Type	Width mm	Length mm	Height mm	Cat. No.	PK
Staining rack	30	85	45	9.163 280	1
Wire handle	-	-	-	9.163 284	1



4 Staining rack

Hauser. Electro polished V2A steel. For 30 to 60 slides. For staining specimens on microscope slides. Extremely easy to use. Universal application. *Wagner & Munz*

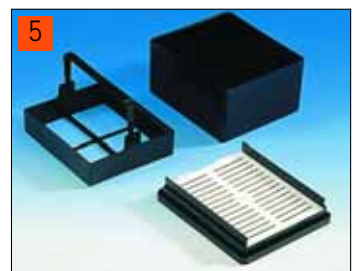
Type	Cat. No.	PK
Staining rack	9.163 500	1
Glass trough with drop-on cover	9.163 510	1



5 Staining trough with rack

POM. Accepts 25 slides 76 x 26 mm. Tightly fitting lid provides good protection against evaporation. Insert rack with folding handle. *BRAND*

To hold microscope slides	Width mm	Length mm	Height mm	Cat. No.	PK
25	88	99	52	9.161 370	1



6 Staining jar

Schiefferdecker pattern. PMP (TPX®). Accepts 20 slides 76 x 26 mm (10 pairs back to back). Transparent. Complete with lid. Note: Xylene can cause etching after 2 days at room temperature. *Kartell*

Width mm	Length mm	Height mm	Cat. No.	PK
70	86	51	9.161 352	1



7 Staining troughs

Hellendahl pattern. Glass with lid. Hold 16 slides, 76 x 26 mm.

Width mm	Length mm	Height mm	Cat. No.	PK
35	85	95	9.163 277	1
55*	60	105	9.163 278	1

* 9.163 278 with flared top



8 Staining trough

Schiefferdecker pattern. Holds 10 slides, 76 x 26 mm.

Width mm	Length mm	Height mm	Cat. No.	PK
70	85	45	9.163 279	1





1 Staining jar

Hellendahl pattern. PMP (TPX®). Accepts 16 slides 76 x 26 mm (8 pairs back to back).
Transparent, with grooves. Complete with lid.
Note: Xylene can cause etching after 2 days at room temperature.

Kartell

Width mm	Length mm	Height mm	Cat. No.	PK
57	57	90	9.161 350	1



2 Staining jar

Coplin pattern. Glass.

Dia. mm	Height mm	Cat. No.	PK
45	105	9.163 283	1



3 Staining cylinders

Soda lime glass.
With drop-on cover.

Type	Dia. mm	Width mm	Length mm	Height mm	Cat. No.	PK
Round	40	-0	-	85	9.163 273	1
Oval	-	25	40	85	9.163 274	1
Rectangular	-	20	40	85	9.163 275	1



4 Staining jar

Coplin pattern. PP.
With screw cap.
For batch staining of 10 microscope slides, 76 x 26 mm.

VITLAB

Height mm	Dia. mm	Cat. No.	PK
114	59	9.161 386	1



5 De-watering vessel

Romeis pattern. Glass/ceramic. Can be used for histology and pathology.
With ground joint to maximise the working life of the contents.

Wagner & Munz

Type	Cat. No.	PK
De-watering vessel	9.163 330	1



6 Tissue-embedding wax, Paraplast

For embedding tissue. Paraplast-Plus additionally contains dimethyl sulphoxide which improves speed and penetration into tissue samples.

Type	Capacity kg	Cat. No.	PK
Paraplast	1	9.170 015	1
Paraplast-Plus	1	9.170 020	1



7 Canada balsam bottle

Goldschmidt pattern. Clear glass. For microscopy examinations.
Ground joint maximises useful life of contents.

Wagner & Munz

Type	Cat. No.	PK
Canada balsam bottle	9.163 336	1

1 Paraffin section mounting bath, 1052

GFL



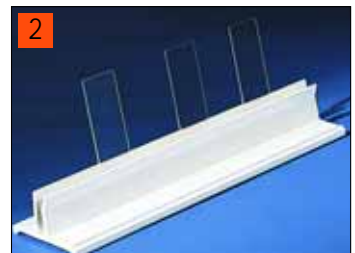
Specialised bath for histological, pathological, chemical, clinical and bacteriological laboratories where stretching and drying of cut tissue samples is required. Precise temperature control with stability of $\pm 0.1\text{ }^\circ\text{C}$ guarantees that sections are uniformly stretched and a black anodised aluminium bath tank provides optimum visibility. Black anodised heated rim allows uniform drying of sections placed on it. With low bath height (100 mm) for convenient and safe operation. Off-white outer casing made of aluminium (RAL 9002). Temperature range from approximately ambient plus $5\text{ }^\circ\text{C}$ to $+80\text{ }^\circ\text{C}$. Thermostat is attached to the rim of the bath with a grade 1.4301 stainless steel holder. With non-slip plastic feet. Complete with mains cable and two-pin impact-resistant plug. Instrument complies with German regulations for using instruments in clinical laboratories and is GS tested.

Technical Specification:
 Temperature range: up to $+80\text{ }^\circ\text{C}$
 Interior dimensions (Dia. x H): 200 x 60 mm
 Exterior dimensions (Dia. x H): 280 x 100 mm
 Supply requirement: 230 V 50/60 Hz, 0.3 kW
 Weight: 2 kg

Type	Cat. No.	PK
Paraffin section mounting bath, 1052	9.905 952	1
Black anodised aluminium cover, 1950	9.905 951	1

2 Microscope slide or paper strip holder

Plastic. White. With slanting grooves for storing 10 single or double slides. Also suitable for paper strips. Front storage area has space for drying slides.



Internal dimensions (W x D x H) mm	Cat. No.	PK
250 x 50 x 30	9.161 208	1

3 Microscope slide drying bench, MH 6616

Electrothermal

Accepts up to 50 slides 26 x 76 mm. With built-in energy regulator for temperatures up to $100\text{ }^\circ\text{C}$. Speeds up slide preparation. Slides can be placed in any position:
 - On storage bars
 - Against storage bars
 - Flat



Heating area: 702 cm²
 Dimensions: 480 x 480 x 170 mm
 Supply requirement: 220 V, 150 W

Type	Cat. No.	PK
Microscope slide drying bench, MH 6616	9.770 106	1
Spare heating element	9.770 108	1



1 2 3 Refractometers, hand-held, precision

Atago

For simple measurement of concentrations and refractive indices of liquids. (Readings taken by looking through an eyepiece at a glass scale inside the instrument). Hand-held precision refractometers with focusing eyepiece, matrix scale (E model) for improved readings, soft rubber eyecups (to reduce straylight ingress, also spectacle lenses do not slip off and are not scratched), case and conversion tables. Hand-held refractometers cannot be fitted with a thermostat (up to e.g. 20°C) and so measurements have to be temperature compensated.

- ATC: Automatic temperature compensation
- Temperature compensation scale: Compensation values can be read from the thermometer in the hinged prism cover and have to be checked against the readings taken.
- Thermometer on the prism cover displays measuring temperature and/or direct compensation values. Compensation values must be checked against readings taken.
- Occasional resetting to the actual measuring temperature can be achieved by turning an adjustment screw.

Type	For	Measuring range	Accuracy	Cat. No.	PK
H-93		53.0 to 93.0% Brix	0.5% Brix	9.801 303	1
N-20E		0.0 to 20.0% Brix	0.1% Brix	9.801 304	1
N-50E		0.0 to 50.0% Brix	0.5% Brix	9.801 305	1
Master-T		0.0 to 32.0% Brix	±0.2% Brix	9.801 306	1
Master-2M		28.0 to 62.0% Brix	0.2% Brix	9.801 308	1
N-3E		58.0 to 90.0% Brix	0.2% Brix	9.801 309	1
N-4E		45.0 to 82.0% Brix	0.2% Brix	9.801 310	1
N-10E		0.0 to 10.0% Brix	0.1% Brix	9.801 311	1
HSR-500	Sugar	0.0 to 90.0% Brix	0.2% Brix	9.801 312	1
R-5000	Refractive index	1.333 to 1.520 nD	0.001 nD	9.801 313	1
H-50	Samples up to 100°C	0.0 to 50.0% Brix	0.5% Brix	9.801 314	1
H-80	Samples up to 100°C	30.0 to 80.0% Brix	0.5% Brix	9.801 315	1
ATC-25E		0.0 to 25.0% Brix	0.1% Brix	9.801 329	1
N-3000E	Oil	1.435 to 1.520 nD	0.001 nD	9.801 330	1
HHR-2N	Honey	12.0 to 30.0% Brix	0.1% Brix	9.801 333	1
S-10E	Salinity	0.0 to 10.0% NaCl	0.1% NaCl	9.801 334	1
S-28E	Salinity	0.0 to 28.0% NaCl	0.1% NaCl	9.801 335	1
Uricon-NE	Urine	1.000 to 1.050 sg	0.001 sg	9.801 336	1
ATC-20E		0.0 to 20.0% Brix	±0.2% Brix	9.801 337	1
BC-2E	Freezing point coolant			9.801 338	1
	Battery fluid d20/20	1.150 to 1.300			
	Ethylene glycol	0 to -50°C			
	Propylene glycol	0 to -50°C			
BC-3E	Freezing point coolant			9.801 347	1
	Battery fluid d20/20	1.150 to 1.300			
	Ethylene glycol	32 to -60°F			
	Propylene glycol	32 to -50°F			
BR-1E	Freezing point coolant			9.801 348	1
	Ethylene glycol	0 to 70%, 0 to -50°C			
	Propylene glycol	0 to 70%, 0 to -50°C			
SUR-NE	Serum protein	0.00 to 12.0 g/ 100 ml	0.2g/100 ml	9.801 356	1
	Urine	1.000 to 1.060 sg	0.001 sg		
		1.3330 to 1.3660 nD	0.0005 nD		
ATC-S/Mill-E	Salinity	0.0 to 100.0% NaCl	0.1% NaCl	9.801 359	1
		1.000 to 1.070 g/ml	0.001 g/ml		
Master-2T		28.0 to 62.0% Brix	±0.2% Brix	9.801 361	1
S/Mill-E	Salinity	0 to 100 %		9.801 452	1
		1 to 1.070 g/ml	0.001 g/ml		

1 | 2 Refractometers, portable, precision

Simple and precise optical instruments to analyse liquids and their solid contents. Models are equipped with an automatic temperature compensation device (ATC). Supplied with a plastic box and comfortable leather-type case.

Type	For	Measuring range	Accuracy	Cat. No.	PK
RGA/ATC	Alcohol	0 to 80%	1% Vol	9.801 256	1
RBB/ATC	Wine	0 to 25% Vol 0 to 22° Be'	0.2% Vol 0.2° Be'	9.801 255	1
RBO/ATC	Wine	0 to 40% Brix 0 to 140° Oe 0 to 25° Babo	0.2% Brix 1° Oe 0.2° Babo	9.801 254	1
RMB/ATC	Wine	0 to 32% Brix 0 to 25% Vol 0 to 20° Be'	0.2% Brix 0.2% Vol 0.2° Be'	9.801 253	1
RMA/ATC	Wine	0 to 25% Vol 0 to 40% Brix	0.2% Vol 0.2% Brix	9.801 252	1
RPC/ATC	Freezing point batteries	-50° to 0°C 1.10 to 1.40	5°C 0.1	9.801 251	1
RCS/ATC	Salinity	0 to 28‰	0.2%	9.801 250	1
RSM/ATC	Salinity	0 to 100‰	1‰	9.801 249	1
RCZ/ATC		0 to 32% Brix	0.2%	9.801 200	1
RTS		0 to 90% Brix	0.2%	9.801 201	1
RPI/ATC	Salinity	0 to 12 g/dl 1.000 to 1.050 sg 1.3330 to 1.3600 nD	0.2 g/dl 0.002 sg 0.0005 nD	9.801 202	1
RBC/ATC		0 to 10% Brix	0.1%	9.801 241	1
RLC/ATC		0 to 18% Brix	0.1%	9.801 242	1
RFC/ATC		28 to 62% Brix	0.2%	9.801 244	1
RPD/ATC		45 to 82% Brix	0.5%	9.801 245	1
RPU		0 to 80% Brix	1%	9.801 246	1
RTS/ATC	Honey and jam	58 to 90% Brix 38 to 43° Be' 17 to 27 Water	0.5% Brix 0.5° Be' 1% Water	9.801 247	1



3 Abbe Refractometer Model RMT

Laboratory refractometer for precisely measuring liquids, solids, semi-liquids and powders.

Optical refraction index and Brix scale reading system, with an excellent boundary line brightness and contrast.

Prism with large windows, equipped with movable shrouds to keep out light.

Focussable eyepiece.

Standard accessories:

Calibrating prism, glass thermometer, dust cover.

Range: 1.300 to 1.700 nD
0 to 95% Brix
Precision: 0.001 nD
0.2 Brix

Type	Cat. No.	PK
RMT	9.801 257	1



4 Abbe Refractometer Model RMI

High-precision refractometer suitable for measuring high temperature liquids, solids, semiliquids and powders. Optical refraction index and Brix scale reading system, with an excellent boundary line brightness and contrast due to the low voltage lighting system.

Large sized prism (6 cm²) with movable shrouds. Focussable eyepiece.

Standard accessories:

Calibrating prism, glass thermometer, 6 V-5 W lamps (2 inc.), dust cover.

Range: 1.300 to 1.700 nD
0 to 95% Brix
Precision: 0.001 nD
0.2 Brix

Type	Cat. No.	PK
RMI	9.801 258	1





1 Abbe refractometer NAR-1T

The NAR-1T is a standard-type Abbe refractometer. It measures the refractive indices of liquids and solids quickly and accurately. It is designed to give D-line refractive indices without using a sodium lamp.

Atago

Measuring range	Graduations	Accuracy	Temp. range	Cat. No.	PK
			°C		
1.3000 to 1.7000 nD	0.001 nD	±0.0002 nD	0.0 to 50.0	9.801 316	1
0.0 to 95.0 % Brix	0.5 % Brix	±0.1 % Brix			



2 Abbe refractometer NAR-2T

Designed for use with substances requiring measurement at high temperature.

Atago

Measuring range	Graduations	Accuracy	Temp. range	Cat. No.	PK
			°C		
1.3000 to 1.7000 nD	0.001 nD	±0.0002 nD	0.0 to 120	9.801 317	1
0.0 to 95.0 % Brix	0.5 % Brix	±0.1 % Brix			



3 Digital Hand-held Pocket Refractometer PAL-1, PAL-2, PAL-3, PAL-RI

For measurement of various high concentration samples such as jam, marmalade, jelly, honey and concentrated juice.

Atago

Ingress Protection class IP 65 means that they can be cleaned under running water. Easily calibrated since "zero-setting" (calibration) is achieved using water.

Specifications

Resolution:	Brix 0.1%
Measurement accuracy:	Brix ±0.2%
Measurement temperature:	10 to 60°C (Automatic Temperature Compensation)
Ambient operating temperature:	10 to 40°C
Ingress protection class:	IP 65 dust- and waterproof
Power supply:	2 x AAA Batteries
Dimensions:	55 x 31 x 109 mm
Weight:	100 g

Type	Measuring range	Cat. No.	PK
PAL-1	0,0 to 53,0 Brix	9.801 375	1
PAL-2	45,0 to 93,0 Brix	9.801 381	1
PAL-3	0,0 to 93,0 Brix	9.801 382	1
PAL-RI	1,3306 to 1,5284 nD	9.801 383	1



4 Digital Wine Refractometer, Type WM-7

The WM-7 is a digital pocket wine refractometer with 7 scales, developed for the simple, rapid and precise measurement of grape must.

Atago

Measuring ranges: Brix, T.A., Oe, KMW, Baumé

Dimensions:	170 x 90 x 40 mm
Weight:	300 g

Measuring range	Graduations	Accuracy	Temp. range	Cat. No.	PK
			°C		
0.0 to 45.0% brix	0.1% brix	0.5% brix	10.0 to 35.0	9.801 345	1
0.0 to 26.0% T.A. 1990	0.1%	±0.2%			
0.0 to 25.0% T.A. 1971	0.1%	±0.2%			
0 to 240° Oe (Ger)	1°	±1°			
0.0 to 40.0° KMW	0.1°	±0.2°			
0.0 to 210° Baumé	0.1°	±0.2°			



5 Digital refractometer, UG1

Digital display of the automatically temperature-compensated result.

Atago

Battery powered, splashproof. For measuring the density of urine.

Measuring range	Resolution	Accuracy	Temp. range	Cat. No.	PK
	°C		°C		
1.000 to 1.050nD	0.001	±0.001	10 to 35	9.801 324	1

1 2 3 4 5 Digital refractometers

Type PR-32α

Can be used to measure fruit juices, soft drinks, diluted soluble oils, aqueous cleaning solutions, etc.

Type PR-101α

Applications include measuring fruit juices, lemonade, coffee, diluted soluble oils and anti-freeze solutions.

Type PR-201α

It can be used for accurately measuring jams, concentrated fruit juices, coolants and similar products.

Type PR-301α

Especially suited to measuring jellies, liquid cane sugar, etc.

Type PET-109

This model is used for simply determining the concentration of ethyl alcohol, which is used in foods and for cleaning, cooling and other purposes.

Specifications (all types)

Measurement time:	3 seconds (Type PET-109, Measurement time: 2 seconds)
Sample volume:	0.1 ml
Power supply:	9V battery
Dimensions:	170 x 90 x 40 mm
Weight:	300 g

Type	Measuring range	Graduations	Accuracy	Temp. range °C	Cat. No.	PK
Atago PR-32α	0.0 to 32.0 % Brix	0.1 % Brix	0.1 % Brix	5.0 to 40.0	9.801 376	1
Atago PR 101α	0.0 to 45.0 % Brix	0.1 % Brix	0.2 % Brix	5.0 to 40.0	9.801 377	1
Atago PR-201α	0.0 to 60.0 % Brix	0.1 % Brix	0.1 % Brix	10.0 to 40.0	9.801 378	1
Atago PR-301α	45.0 to 90.0 % Brix	0.1 % Brix	0.1 % Brix	10.0 to 40.0	9.801 379	1
Atago PET-109	0.0 to 35.0 (w / w)	0.1 % (w / w)	0.5 % (w / w)	10.0 to 35.0	9.801 344	1

Atago



6 Digital bench refractometer, Smart-1

The Smart-1 is an automatic refractometer with an extra-wide measurement range. This model measures low-concentration samples, e.g. soup, medium-concentration samples e.g. sauce or ketchup, and high-concentration (Brix) samples e.g. jam, marmalade or honey within a food factory. In addition the Smart-1 can be used to control the concentration of a variety of industrial solutions, including water-soluble cutting oil, cleaning solutions and glycol anti-freeze.

Specifications

Measurement range:	0.00 to 95.00 % Brix
Readability:	0.1 % Brix
Measurement accuracy:	±0.05 % Brix
Temperature compensation range:	5.00 to 40.00°C
Interface:	RS232C
Ingress protection class:	IP64 (except a.c. adapter)
Supply requirement:	100 - 240 V 50/60 Hz a.c.
Dimensions and weight	
Refractometer:	12 x 27 x 9 cm, 2.0 kg
a.c. adapter:	10.5 x 17.5 x 4 cm, 0.7 kg

Type	Cat. No.	PK
Smart-1	9.801 390	1

Atago



7 Polarimeter Polax-2L

The Polax-2L (manually-operating meter with digital indicator) is widely used in the sugar, pharmaceutical, chemical, perfume and educational industries. It can accurately measure the angle of rotation (or the value in the international standard sugar scale) with easy operation.

Specifications

Measurement range	
Angle of rotation:	-179.95 to +180°
International standard sugar scale:	-130 to +130°Z
Minimum unit displayed	
Angle of rotation:	0.05°
International standard sugar scale:	0.1°Z
Measurement accuracy	
Angle of rotation:	±0.10°
Measurement temperature range:	5 to 40°C
Observation tubes:	1 x 200 mm and 1 x 100 mm
Power supply:	100 - 240 V, 50/60 Hz a.c.
Power consumption:	40 VA
Dimensions:	43 x 22 x 30 cm
Weight:	11.5 kg

Type	Cat. No.	PK
Polax-2L	9.801 398	1

Atago





1 Hand spectrosopes

handy and precise. Ideal for demonstrations in schools and for:

Krüss

- Viewing/observation of emission and absorption spectra
- Control of the wavelength spectra of gas emission lamps
- Single - or comparison observation, for spectral analysis

Type	Features	Cat. No.	PK
1501	With adjustable split	9.841 501	1
1502	As 1501 with comparison prism	9.841 502	1
1504	Additional wavelength scale	9.841 504	1
1505	As 1504 with comparison prism	9.841 505	1
1506	As 1505 with reagent bottle holder	9.841 506	1



2 Spectrophotometer 6300 VIS

Jenway

- Simple operation
 - Versatile sampling system
 - G.L.P. compliant
 - Full interfacing capability
 - Simple keypad and operating protocols designed to enable reliable operation by unskilled operators
 - LCD gives simultaneously readout of wavelength and photometric result
 - Error messages, prompts, mode indication and a choice of concentration units are presented in an easily understood format
 - Cuvette holder allow 10 to 100 mm cells
- Various accessories available on request.

Specifications

Wavelength

Range:	320 to 1000 nm
Resolution:	1 nm
Accuracy:	±2 nm
Bandwidth:	8 nm

Transmittance

Range:	0 to 199.9 %
Resolution:	0.1 %
Stray light:	<0.5%T
Accuracy:	±1%

Absorbance

Range:	-0.300 to 1.999 A
Resolution:	0.001 A

Concentration

Range:	-300 to 1999 Concentration
Resolution:	0.1/1
Units:	ppm, mg/l, g/l, M, blank
Outputs:	Analogue (0 to 1.999 V d.c.) RS232 serial port

Light Source:	Tungsten halogen
Dims (W x D x H):	365 x 272 x 160 mm
Weight:	6 kg

Type	Cat. No.	PK
6300 VIS	9.775 412	1

1 2 3 4 5 6 Macro cells

For photometers and spectrophotometers.
With lid or stopper as indicated.
45/46 mm high, 12.5 mm wide.
Interior width 9.5 mm.

Hellma



Type	Material	Operating range nm	Path Capacity length		Cat. No.	PK
			mm	ml		
6030-OG*	Optical glass	360 to 2500	10.0	3500	9.144 300	1
6030-OG*	Optical glass	360 to 2500	20.0	7000	9.144 302	1
6030-OG*	Optical glass	360 to 2500	50.0	17500	9.144 350	1
6030-UV*	HOQ 310 H	230 to 2500	10.0	3500	9.144 301	1
100-OS**	Special optical glass	320 to 2500	10.0	3500	9.144 110	1
100-OS**	Special optical glass	320 to 2500	20.0	7000	9.144 120	1
100-OS**	Special optical glass	320 to 2500	50.0	17500	9.144 150	1
100-OS**	Silica Suprasil	200 to 2500	10.0	3500	9.144 210	1
100-OS**	Silica Suprasil	200 to 2500	20.0	7000	9.144 220	1
100-OS**	Silica Suprasil	200 to 2500	50.0	17500	9.144 250	1
110-OS***	Special optical glass	320 to 2500	10.0	3500	9.144 510	1
110-OS***	Silica Suprasil	200 to 2500	10.0	3500	9.144 610	1

*without profiled lid or stopper.
**with profiled lid.
***with stopper.

Other path lengths available - details on request

7 Spectrophotometer 6305 UV/Visible

- Self calibrating lamp at 3 wavelengths
 - 10 times more UV light energy
 - Very low lamp drift
 - Cuvette holder allow 10 to 100 mm cells
- Various accessories available on request.

Jenway



Specifications

Wavelength

Range: 198 to 1000 nm
Resolution: 1 nm
Accuracy: ±2 nm
Bandwidth: 6 nm

Transmittance

Range: 0 to 199.9%
Resolution: 0.1%
Stray light: <0.5% at 340 & 220 nm
Accuracy: ±1%

Absorbance

Range: -0.300 to 1.999 A
Resolution: 0.001 A

Concentration

Range: -3 to 199 Concentration
Resolution: 0.1/1

Units: ppm, mg/l, g/l, M, blank

Outputs

Analogue (0 to 1.999 V d.c.)
RS 232 serial port
Light Source: Xenon flash lamp module
Dims (W x D x H): 365 x 272 x 160 mm
Weight: 6 kg

Type	Cat. No.	PK
6305 UV-VIS	9.775 411	1



1 Spectrophotometer Model 6310

Jenway

The Model 6310 is a general purpose visible range spectrophotometer suited to a wide variety of applications in Education, Quality Control, Environmental and Clinical analysis.

- Photometric measurements in absorbance and transmittance
- Concentration measurement by direct factor entry or against blank and standard
- Quantitation using up to 6 standards- with curve correction and correlation coefficient
- Kinetics with real time graphical display of sample and standard runs
- Spectrum-scanning any range from 320 to 1000 nm
- Store up to 50 methods in each mode
- Includes free trial of PC software
- GLP

Various accessories available on request.

Specifications

Wavelength

Range: 320 to 1000 nm
 Resolution: 1 nm
 Spectral Bandwidth: 8 nm

Absorbance: -0.3 to 1.999 A

Transmittance: 0 to 199.9%

Concentration: -300 to 1999°C

Selectable Resolution: 1, 0.1, 0.01 or 0.001

Calibration: Blank with a single standard or factor

Quantitation: -300 to 1999

Selectable resolution: 1, 0.1, 0.01 or 0.001

Calibration: Blank with up to 6 standards

Curve Correction: Linear regression, interpolation or linear regression through zero

Kinetics Display: Graphical and calculated concentration value

Calibration: Against standard and factor

Correlation Factor: r squared value displayed with result

Spectrum: Any range between 320 and 1000 nm

Scan Data Interval: 1, 2 or 5 nm selectable

Analysis: Absorbance and wavelength of peaks and valleys

Outputs: Analogue and RS232 serial

Type	Cat. No.	PK
6310	9.775 415	1



2 Spectrophotometers, 6700 series

Jenway

A range of 3 split beam instruments:

Type 6700: Visible range scanning (320 to 1100 nm with 4 nm spectral bandwidth)

Type 6705: UV/Visible range scanning (190 to 1100 nm with 4 nm spectral bandwidth)

Type 6715: UV/Visible range scanning (190 to 1100 nm with 1.5 nm spectral bandwidth)

Modes of operation:

Photometrics, Kinetics, Quantitation, Multiwavelength analysis and Spectral scanning.

Featuring:

- Fast scanning rate of 1500 nm/minute with data collection at 0.1 nm intervals
- Up to 20 point calibration for Quantitative analysis
- Multiwavelength mode for DNA/RNA analysis
- Secure Multi-User Operation, full password protection
- Colour (TFT) LCD with Touch-Screen Interface and sealed QWheel™ Control
- Full post scan analysis (Peak/Valley pick, Peak Ratios, Area, Zoom, Wavelength table, Derivatives, Smoothing)
- Removable SD/Multi-Media Memory Card, up to 1 Gb available
- Plug-In Accessory Modules including 6 cell changer, Peltier devices for temperature controlled measurements and sipper systems for high throughput analysis.

A full range of cuvette and test tube holders are available.

Pharos PC Software, giving full instrument control and data transfer.

Type	Printer	Cuvette holder	Cat. No.	PK
6700	Non	Single	9.775 416	1
6700	Internal	Single	9.775 417	1
6700	Non	8 Positions	9.775 418	1
6700	Internal	8 Positions	9.775 419	1
6705	Non	Single	9.775 420	1
6705	Internal	Single	9.775 421	1
6705	Non	8 Positions	9.775 422	1
6705	Internal	8 Positions	9.775 423	1
6715	Non	Single	9.775 424	1
6715	Internal	Single	9.775 425	1
6715	Non	8 Positions	9.775 426	1
6715	Internal	8 Positions	9.775 427	1

1 Flame Photometer PFP7

- Industrial & clinical analysis
 - Low temperature
 - Na & K filters as standard
 - Ca, Ba & Li filters optional (factory fitted)
 - Electronic flame failure detection
 - Fine & coarse sensitivity controls
 - Operates on propane, butane, natural gas or L.P.G. supplies
- Fitted with automatic flame failure detection for user safety, making it ideal for use in clinical, industrial and educational applications.
Supplied with Na & K filters, connection hoses & clips, compressor plug, drain trap, fuses, mains lead and combined Instruction/Service manual.

Jenway



Specifications

Ranges:	0 to 199.9
Limits of detection	
Na/K:	< 0.2 ppm
Li:	< 0.25 ppm
Ca:	< 15 ppm
Ba:	< 30 ppm
Reproducibility:	< 1%/Coefficient of Variation for 20 consecutive samples using 10ppm Na set to read 50
Linearity:	Better than 2% when concentration of 3 ppm Na/K and 5 ppm Li are set to read 100
Specificity:	Interference from Na, K and Li equal in concentration to test element will be < 0.5%
Recorder o/p:	Nominal 1.00 V for a reading of 100.0
Electrical:	90 - 125 V or 190 - 250 V 50/60 Hz
Air:	Moisture and oil free 6 l/min at 1 Kg/cm ² (14psi)
Fuel:	Propane, Butane, Natural Gas or L.P.G.
Size:	420 x 360 x 300 mm
Weight:	8 Kg

Type	Cat. No.	PK
PFP7	9.309 409	1

Accessories to Flame Photometer PFP7

Please Note: These products will only operate with the correct type of air compressor and gas regulator as specified.
It is recommended that the filters listed below are factory fitted at the time of ordering - please specify.

Jenway

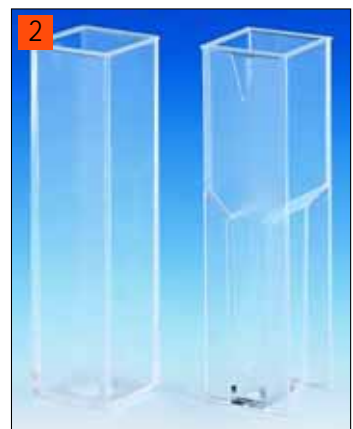
Description	Cat. No.	PK
Air compressor	9.309 410	1
Butane regulator	9.309 411	1
Propane regulator	9.309 412	1
Natural gas regulator	9.309 413	1
Ca filter	9.309 414	1
Li filter	9.309 415	1
Ba filter	9.309 416	1
Dilutor (230V 50 Hz)	9.309 417	1
Water separator (small)	9.309 419	1
Water separator (large)	9.309 420	1
Dust cover	9.309 421	1
Minor spares kit	9.309 423	1
Major spares kit	9.309 424	1
Industrial standard 1000ppm K	9.309 425	1
Industrial standard 1000ppm Li	9.309 426	1
Industrial standard 3000ppm Ba	9.309 427	1
Industrial standard 1000ppm Na	9.309 428	1
Industrial standard 1000ppm Ca	9.309 429	1



2 Disposable plastic cells

PS.
Height 45 mm.
Path length 10 mm.

Type	Width mm	Capacity ml	Cat. No.	PK
Macro	10	4.0	9.406 010	100
Semi-micro	4	1.6	9.406 004	100



Cuvettes



1 Disposable cuvettes

Disposable cuvettes for spectroscopy, in optical-quality PS and UV grade PMMA with optical windows for optimum transmittance when using wavelengths from 340 to 800 nm (PS) and from 280 to 800 nm (PMMA).

Kartell

Moulding and quality control determine the reproducibility of cuvettes.

Kartell cuvettes are strictly controlled and variations should be within the range $\pm 1\%$ absorption.

This is the vital when batch analysis is being undertaken.

Dust proof packaging: 100 pcs in expanded polystyrene box with lid,

5 boxes in inner carton and 12 inner cartons (60 boxes) per case.

Path length: 10 mm.

Description	Material	Capacity ml	Cat. No.	PK
Standard cuvettes	PS	4.5	9.406 431	100
Semi-micro cuvettes, low form	PS	1.5	9.406 432	100
Semi-micro cuvettes, high form	PS	2.5	9.406 433	100
Standard cuvettes, 4 clear faces	PS	4.5	9.406 434	100
Standard cuvettes	PMMA	4.5	9.406 435	100
Semi-micro cuvettes, high form	PMMA	2.5	9.406 436	100
Semi-micro cuvettes, low form	PMMA	1.5	9.406 437	100
Standard cuvettes, 4 clear faces	PMMA	4.5	9.406 438	100



2 Accessories for standard and semi-micro cuvettes

Kartell

Description	Material	Cat. No.	PK
Disposable stirrer	PS	9.406 439	100
Caps for cuvettes	PP	9.406 440	1000
Cuvette holder for 12 cuvettes	PE	9.406 441	1



3 Macro and semi micro cells

BRAND

Plastibrand®. Sorted by mould cavity number. PMMA or PS.

What does "sorted by mould cavity number" mean?

Injection moulds which produce 8 cells in one cycle have 8 cavities.

For serial analysis only cells with the same cavity number should be used, to minimise cell-to-cell variation.

Quality characteristics:

- Minimal extinction value variation.
- Optically perfect transmission range
- Recessed window, to protect against scratches
- Arrow head marking shows the direction of transmission.

Advantages to user:

- Ideal for kinetics measurements
- 1000 cells from the same cavity in each pack
- Practical packaging: clear, re-closable.

Polymethylmethacrylate (PMMA) cells

Typical operating range: from 300 nm.

Standard deviation at 320nm ± 0.004 extinction units.

Polystyrene (PS) cells

Typical operative range: from 340 nm.

Standard deviation at 360 nm ± 0.005 extinction units.

Dimensions:	12.5 x 12.5 x 45 mm
Path length:	10 mm
Window:	Macro cell 10 x 35 mm
	Semi micro cell 4.5 x 23 mm

Type	Capacity ml	Material	Operating range nm	Cat. No.	PK
Macro	2.5 to 4.5	PMMA	300 to 900	9.406 111	100
Semi-micro	1.5 to 3.0	PMMA	300 to 900	9.406 115	100
Macro	2.5 to 4.5	PS	340 to 900	9.406 110	100
Semi-micro	1.5 to 3.0	PS	340 to 900	9.406 114	100

1 Plastic disposable UV-Cuvettes for the UV/VIS range

BRAND



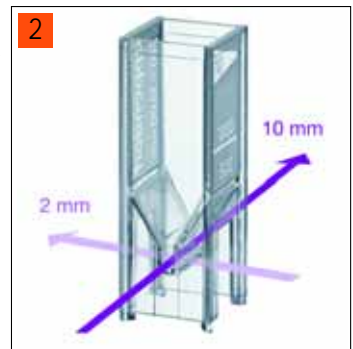
UV-transparent plastic cuvettes replace fragile glass or quartz cuvettes in many applications that were previously beyond the range of plastic cuvettes. Designed for single use, they eliminate time-consuming washing, and the cross-contamination risk associated with washing and re-using cuvettes. Their very high chemical resistance allows use with most polar solvents, acids and alkalis (e.g. Acetone, Butanone, DMF, hydrochloric acid). The UV-cuvette micro has a working range from 220 nm - sample volumes as small as 70 µl are sufficient. The UV-Cuvette is also available in macro and semi-macro sizes for applications from 220 nm to 900 nm.

- Specially designed for photometric determination of proteins, ssDNA, dsDNA, TNA and oligonucleotides in the UV range.
- Ideally suited for measurements at 260 nm, 280 nm and in the visible range.
- Two different centre heights (8.5 mm and 15 mm) allow use in most commercial spectrophotometers without adapters (for more information please visit the Brand website, www.brand.de).
- Round caps provide a tight seal and allow storage of samples at -20°C.
- Coloured caps are available for easy sample identification.
- Grouped by mould cavity number to minimize extinction value variation.
- Recessed windows protect against scratching.
- Arrow indicates optical path orientation.

Type	Path length mm	Capacity µl	Operating range nm	Cat. No.	PK
UV micro cuvette (centre height 8.5 mm)	10.0	70 to 850	220 to 900	9.406 120	100
UV micro cuvette (centre height 8.5 mm)	10.0	70 to 850	220 to 900	9.406 121	500
UV micro cuvette (centre height 15 mm)	10.0	70 to 550	220 to 900	9.406 122	100
UV micro cuvette (centre height 15 mm)	10.0	70 to 550	220 to 900	9.406 123	500
Cap for UV micro cuvette, blue	-	-	-	9.406 124	100
Cap for UV micro cuvette, yellow	-	-	-	9.406 125	100
Cap for UV micro cuvette, green	-	-	-	9.406 126	100
Cap for UV micro cuvette, orange	-	-	-	9.406 127	100
UV macro cuvette	10.0	2.5 ml to 4.5 ml	220 to 900	9.406 119	100
UV semi-micro cuvette	10.0	1.5 to 3.0 ml	220 to 900	9.406 118	100

2 | 3 UV cuvette UVette®

eppendorf



The plastic material of the UVettes provides a transparency range of 220 to 1600 nm. It is possible to carry out measurements in the UV range as well as the entire VIS range. Pipetting can be monitored clearly through the crystal-clear plastic and is always completely bubble-free, even the minute 50 µl sample volume. The design of the cuvette incorporates a funnel-shaped base, which prevents the capillary effect, and ensures that the liquids constantly remain in the centre of the measuring area.

Product features

- Suitable for measuring small volumes, min. 50 µl
- Individually blister-packed for sterile work
- DNA-/RNase- and protein-free
- Choice of two optical path lengths: 2 mm and 10 mm
- UV- and VIS-transparent between 220 and 1600 nm
- Volume markings at 500 and 1000 µl
- Total transparent material with outstanding surface properties
- Optimal filling guaranteed by tapered cuvette base
- Recessed optical window prevents scratches
- Self-standing design
- Marking possible on frosted gripping surface
- Optimal use in BioPhotometer and in most common spectrophotometers, using adapters.

Description	Path length mm	Cat. No.	PK
UVettes, 80 x individually wrapped, disposable cells for direct use in BioPhotometer	2 and 10	9.409 392	80
UVette routine pack, Eppendorf Quality	2 and 10	9.409 398	200
Adapter for photometers/spectrophotometers with beam centre height of 8.5 mm		9.409 393	1
Adapter for photometers/spectrophotometers with beam centre height of 10 mm		9.409 394	1
Adapter for photometers/spectrophotometers with beam centre height of 15 mm		9.409 395	1
Cuvette stand for 16 electroporation cuvettes		9.409 439	1
Adapter for photometers/spectrophotometers with beam centre height of GeneQuant I/II		9.409 396	1
Starter kit, 80 x UVettes + 1 universal adapter for photometers/spectrophotometers with beam centre height of 15 mm, convertible		9.409 397	1



1 2 3 Semi-micro cells

For photometers and spectrophotometers. Hellma
 With lid or stopper as indicated.
 45/46 mm high, 12.5 mm wide.
 Interior width 4 mm.
 Path length 10 mm.
 Volume 1400 µl.

Type	Path length mm	Material	Operating range nm	Cat. No.	PK
6040	10.0	Optical glass	360 to 2500	9.144 360	1
104-OS	10.0	Special optical glass**	320 to 2500	9.144 410	1
104B-OS*	10.0	Special optical glass**	320 to 2500	9.144 480	1
114-OS	10.0	Special optical glass***	320 to 2500	9.144 710	1
6040-UV	10.0	HOQ 310 H	230 to 2500	9.144 361	1
104-QS	10.0	Suprasil® silica**	200 to 2500	9.144 460	1
104B-QS*	10.0	Suprasil® silica**	200 to 2500	9.144 490	1
114-QS	10.0	Suprasil® silica***	200 to 2500	9.144 730	1
114B-QS*	10.0	Suprasil® silica***	200 to 2500	9.144 372	1

* Side panels black.
 **with profiled lid.
 ***with stopper.
 Other path lengths are available - details on request



4 5 Micro cuvettes

For photometers and spectrophotometers. Hellma
 45 mm high (46mm high with lid), internal width 2 mm.
 Path length 10 mm.

Type	Path length mm	Operating range nm	Material	Capacity µl	Cat. No.	PK
104.002-OS	10.0	320 to 2500	Special optical glass	700	9.144 750	1
104.002-QS	10.0	200 to 2500	Suprasil® silica	700	9.144 751	1
104.002B-OS	10.0	320 to 2500	Special optical glass*	700	9.144 755	1
104.002B-QS	10.0	200 to 2500	Suprasil® silica*	700	9.144 756	1
115-QS	10.0	200 to 2500	Suprasil® silica	400	9.144 758	1
115B-QS	10.0	200 to 2500	Suprasil® silica*	400	9.144 385	1

* Black side panels



6 7 8 Ultra-micro cells

For photometers and spectrophotometers. Hellma
 40/45 mm high, with PE stoppers and pipette ports.
 Window material: Suprasil® silica. Optical range 200 to 250 nm.
 Internal width 10 mm.

Type	Centre height mm	Aperture mm	Chamber vol. µl	Capacity µl	Cat. No.	PK
105.203	8.5	2.5 dia.	50	70	9.144 104	1
105.203	15.0	2.5 dia.	50	70	9.144 098	1
105.210	8.5	0.8 dia.	5	10	9.144 157	1
105.210	15.0	0.8 dia.	5	10	9.144 156	1
105.201	8.5	5 x 2	100	120	9.190 965	1
105.201	15.0	5 x 2	100	120	9.190 968	1
105.204	8.5	1.5 dia.	20	40	9.144 103	1
105.204	15.0	1.5 dia.	20	40	9.144 099	1

Alternative path lengths available on request!



9 10 11 Fluorescence macro/semi-micro cells

For fluorescence. All 4 windows optically worked. 45 mm high (46 mm high with lid), 12.5 mm wide. Suprasil® silica. Hellma
 Wavelength range: 200 to 2500 nm.

Type	Path length mm	Chamber vol. µl	Cat. No.	PK
101-QS	10 x 10	3500	9.144 761	1
104F-QS	10 x 4	1400	9.144 781	1
111-QS	10 x 10	3500	9.144 771	1
114F-QS	10 x 4	1400	9.144 791	1

1 Fluorescence ultramicro cells

Type 105.251 Hellma
 Ultramicro, for fluorimetry. 45 mm high, 12.5 mm wide.
 Suprasil® silica. Wavelength range: 200 to 2500 nm.
 Aperture: 5 x 3 mm
 Measuring chamber volume: 45 µl
 Volume: 70 µl

Type	Path length	Centre height	Cat. No.	PK
	mm	mm		
105.251-QS	3 x 3	8.5	9.144 390	1
105.251-QS	3 x 3	15.0	9.144 391	1



2 3 Micro test plates from quartz glass

96-cell-plates. Quartz glass, with synthetic quartz glass base. Hellma
 Ideal for use with aggressive media, for UV-range measurements, in microscopy, or in fluorescence studies.

Description	Cat. No.	PK
104F QS Suprasil® silica, clear	9.144 830	1
104F QS Suprasil® silica, black	9.144 831	1



4 Hellmanex® II liquid

Hellmanex® II is an alkaline liquid concentrate used for the highly effective cleaning of glass or silica cells and other sensitive optical components. Hellma
 Laboratory equipment made of glass, quartz, sapphire and porcelain can also be cleaned using the solution.
 Available in 0.7 kg (0.5 l) or 1.3 kg (1.0 l) PE bottles.

Type	Cat. No.	PK
Hellmanex® II liquid, 1.3 kg	9.190 972	1
Hellmanex® II liquid, 0.7 kg	9.190 979	1



5 Cell rack

Plastibrand®. PP. 16 numbered positions. Grey. BRAND
 Autoclavable (121°C).

Width mm	Length mm	Height mm	Cat. No.	PK
70	210	38	9.145 020	1



6 Mini cell washer, Vakuwasch

PE construction. Practically unbreakable. Schütt
 Glass cuvettes are washed and dried in a few seconds during one operating cycle, using a simple process. All that is required is a filter flask (with pierced rubber bung and pressure tubing) and a slight vacuum.

Type	Cat. No.	PK
Vakuwasch	9.145 300	1
Rubber bung with hole	9.145 301	1
Filter flask, Duran 500 ml	9.051 444	1
Pressure tubing, per metre	9.205 806	1
Density bottle adapter	9.145 305	1



7 Cell storage container, Küvibox 2

Dust-proof, rigid container for storing clean cells. Schütt
 Accommodates cells up to 55 mm in height.
 Cells are immediately ready for use when required.
 Küvibox 1 holds up to 16 x 10 mm path length cells
 Küvibox 2 holds up to 8 x 10 mm and up to 4 x 20 mm path length cells.

Type	Cat. No.	PK
Küvibox 1	9.145 124	1
Küvibox 2	9.145 118	1

