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www.wenk-labtec.com



Optical instruments/Magnifiers



1 Pocket magnifier **NEW!**
Isolab

- Suitable for reading small prints with a magnification of 2X.
- 3 LED bulbs with on/off control.
- Ergonomic design
- Protective bag included

Description	PK	Cat. No.
2X magnification	1	6.267 408



2 Illuminated magnifying lens Lux-50

Orange body colour, with illuminator and plastic lens. Requires 2 x 1.5 V AA batteries for operation (not included).

Mag-nification	Lens diam. mm	PK	Cat. No.
50x	2.5x to 5x	1	9.151 817



3 Handheld magnifier with illumination **NEW!**
Isolab

- Hand held magnifier with magnification of 3X and 5X (depending of the view location)
- Ergonomic handle design
- Aspherical lens provides spherical aberration and distortion free images with edge-to-edge sharpness.
- LED bulb with on/off control.
- Adjustable angle of illumination.

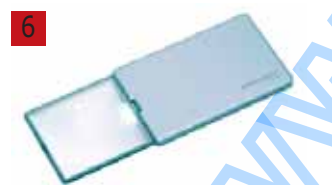
Description	PK	Cat. No.
3X / 5X magnification	1	6.267 407



Magnifying lens, economic Eschenbach

With practical additional lens in the handle. Particularly suitable for those who require a low level of magnification. An additional high-magnification lens enables small details to be read. Transparent plastic frame ensures easy orientation on the reading material. With eyelet in the end of the handle for round-the-neck cord which is supplied. The biconvex reading magnifiers offer a large visual field in a medium magnification range. Plano-convex additional lens with 5x magnification in handle.

Mag-nification	Lens diam. mm	PK	Cat. No.
3x/7,4 dpt	Ø 65	1	9.151 680 4
2,25x/5,1 dpt	Ø 80	1	9.151 682
2,25x/5,0 dpt	80 x 40	1	9.151 688 5



6 Magnifying lens, easyPOCKET Eschenbach

Silver, with illumination: ultra flat SMD-LED.

Mag-nification	Lens diam. mm	PK	Cat. No.
3x / 8.0dpt	86 x 55 x 6	1	9.151 147



7 Illuminated pocket magnifiers, mobilux LED **NEW!**
Eschenbach

The tried and tested illuminated hand-held magnifiers now feature a new design and improved functions.

- Easy to use: large, easy to operate light switch
- A choice of 2 different colours of light through use of the supplied filter
- The batteries are easy to change
- With handy eyelet on the end of the handle for round-the-neck cord
- Incl. case with strap for attaching to belt

Mag-nification	Dimensions mm	PK	Cat. No.
6x/28,0 dpt	Ø 58	1	7.970 900
7x/28,0 dpt	Ø 35	1	9.151 181
10x/38,0 dpt	Ø 35	1	9.151 182

1 Illuminated magnifier, powerlux Eschenbach

Very simple to use, the ergonomic design promotes intuitive movement on the reading material. Automatic switch-off function, preserves battery life. Very comfortable to hold in the hand. Consistently bright and glare-free illumination.

- 2 SMD LEDs are positioned opposite each other to provide shadow-free illumination
- Supplied with protective hard foam case.

Colour of light 3000 K available on request.



Mag-nification	Lens diam. mm	Light colour K	PK	Cat. No.
5x / 20.0dpt	dia. 58	8000	1	9.151 186

2 Micromagnifier with illumination Eschenbach

Suitable for inspecting a wide variety of surfaces such as metals, textiles, minerals, varnishes, etc. The wide focusing range enables raised or depressed features (e.g. holes) to be examined in detail.

- Precise focusing with adjustable wheel
- The light can be used when required
- Magnification 30 x, glass lenses



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

3 Precision linen testers, plastic Eschenbach

- Linen tester with lateral scale
- Black plastic housing
- Scale: lateral scale with mm graduation



Mag-nification	Lens diam. mm	Field of view mm	Height mm	PK	Cat. No.
8x/30dpt	diam. 18	20 x 20	35	1	6.236 477

4 Precision linen testers, metal A. Schweizer

- Brass frame, chrome-plated, silk matt finish
- Silica glass lenses, biconvex



Mag-nification	Lens diam. mm	Field of view mm	PK	Cat. No.
12x / 48dpt	diam. 12.5	10 x 10	1	9.151 423
10x / 40dpt	diam. 14.5	15 x 15	1	9.151 427
8x / 32dpt	diam. 17.5	20 x 20	1	9.151 433
6x / 24dpt	diam. 22.5	25 x 25	1	9.151 442
5x / 20dpt	diam. 31.5	30 x 30	1	9.151 453

Precision folding magnifiers, plastic Eschenbach

- Glass fibre reinforced, non-breakable polyamide body
- The body is dustproof when closed
- Glass lenses



9.151 055

Mag-nification	Lens diam. mm	Lens	Description	PK	Cat. No.
3x + 6x = 9x	Ø 23	Achromatic, coated	Distortion-free image	1	9.151 055
10x	Ø 23	Aplanatic	Distortion-free image	1	9.151 155

Optical instruments/Magnifiers

1



9.151 051

Precision folding magnifiers, metal

- Matte-chromed brass housing with eye
- Lens surround in black-painted metal

Eschenbach

Mag-nification	Lens	Lens diam. mm	PK	Cat. No.
10x	Achromatic	diam. 15	1	9.151 040
20x	Achromatic	diam. 17	1	9.151 050
8x	Aplanatic	diam. 21	1	9.151 051
10x	Aplanatic	diam. 21	1	9.151 052
12x	Aplanatic	diam. 15	1	9.151 053

2



9.151 107

3



9.151 108

Precision scale magnifiers

- Distortion-free image with pinpoint clarity
- Fine focusing via easy-grip focusing ring
- Supplied with standard scale, measuring range 20mm, 1/10mm graduation, size: diam. 23mm
- Housing made from glass fibre reinforced polyamide
- Supplied in a solid plastic box with space for other scales

Eschenbach

LED lighting unit for precision scale magnifiers.
- Handle holds 2 batteries (not included)

4



9.151 106

Description	Mag-nification	PK	Cat. No.
Magnification	7x / 28,0 dpt	1	9.151 107
Magnification	10x / 40,0 dpt	1	9.151 108
Handle with LED illumination for magnifying lenses	--	1	9.151 106

5



5 Mini Light Box and Mini Magnifier

Mini Light Box saves bench space and can be stored in a drawer. Viewing area is perfect for quick screening of 96-well plates, petri dishes, electrophoresis gels, slides, and transparencies. Powered by two AA batteries (included). Viewing area dimensions (W x D): 127 x 102mm. Overall dimensions (WxDxH): 161mm x 135mm x 44mm.

Heathrow Scientific

Mini Magnifier enlarges objects for easier viewing. To use with Mini Light Box or separately. Swiveling, molded lens. 1.75x magnification. Lens dimensions (W x D): 185mm x 100mm. Stand height: 207mm.

Description	PK	Cat. No.
Mini Magnifier, 1.75x	1	9.151 509
Mini Light Box, incl. 2 AA batteries	1	9.151 510

6



6 LLG-Table-top magnifier



- Multifunctional table-top magnifier with magnification power of 2X and 4X depending of the view location.
- Can be operated with one hand
- 4 LED bulbs with on/off control.
- Magnifying lens position and illumination angle can be individually adjusted via the flexible gooseneck system
- Flicker free illumination without heat development
- Aspherical lens provide spherical aberration and distortion free images with edge-to-edge sharpness.

Description	PK	Cat. No.
2X / 4X magnification	1	6.267 406

7



7 Illuminated magnifier

Magnifier lens complete with articulated arm.

Exacta Optech

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

Type	PK	Cat. No.
Magnifier lamp	1	9.170 701

Illuminated magnifier, RLL 122 T

Strong, shadow-free illumination, using circular 22W fluorescent lamp. Distortion-free, 4 dioptr, glass magnifier (120mm diameter). With an accessory snap-on lens of 8 dioptr, resolving is boosted to 12 dioptr. Smooth, easy adjustment. Spring balanced joints.

Waldmann



9.705 078

Specifications

Supply req.:	230V 50Hz
Fitted with:	1 x fluorescent lamp T-R29 22 W
Shade material:	Plastic
Lamp housing:	Opal white polycarbonate
Colour:	Light grey
Lens diameter:	120mm
Lens magnification, dioptr:	4

Type	Description	PK	Cat. No.
RLL 122 T	Illuminated magnifier 4 dioptr	1	9.705 078
RLL 122 T	Illuminated magnifier 4 dioptr incl. snap-on lens of 8 dioptr (dia. 31.5mm)	1	6.204 902
TK 1/45	Table clamp	1	9.705 088

2 Clip-on magnifiers labo-clip

The labo-clip system can be easily attached to the spectacle frame. The labo-clip leaves both hands free for working. Comfortable working distance even with a high level of magnification.

Eschenbach



- Used with distance spectacles to achieve optimum image quality.
- Lenses easily interchangeable.
- Lens sizes: monocular dia. 40mm, binocular 74.5 x 22.5mm
- Lightweight
- Lens clamp made from glass fibre reinforced plastic
- Supplied with protective box

Type	Magnification	Working Distance mm	Description	PK	Cat. No.
labo-clip	2x/2.5dpt	250	binocular	1	9.151 175
labo-clip	2.5x/5.0dpt	180	binocular	1	9.151 171

3 Headband magnifiers labo-med

Both hands are free for working. Comfortable working distance even with a high level of magnification.

Eschenbach



- Lenses easily interchangeable
- Lens clamp made from glass fibre reinforced plastic
- The labo-med clip-on magnifiers are only suitable for non-spectacle wearers
- Discreet metal frame, black matt finish
- Supplied with protective box
- labo-med can also be used with monocular lenses which are available as an accessory

Type	Magnification	Working Distance mm	Description	PK	Cat. No.
labo-med*	2x/2.5dpt	250	binocular	1	9.151 178
labo-med	2,5x/5.0dpt	180	binocular	1	9.151 179

* Shorter working distance due to integrated convergence supporting prisms.

4 Magnifying spectacles MaxDetail



For demanding detailed work. Both hands are kept free for carrying out intricate work, handicrafts or reading. Comfortable working distance and large visual field; lightweight, contemporary design.

Eschenbach



- With improved adjustment of dioptr compensation
- Easily adjustable temples (can be adjusted without warming)
- Large PD range 60-68mm
- Working distance approx. 40cm
- Dioptr compensation: ±3dpt, right/left can be separately adjusted, cylinder correction not possible
- Supplied in hard foam case

Type	Magnification	Working Distance mm	Weight g	PK	Cat. No.
MaxDetail	2x / ±3dpt	400	49	1	9.151 177



6.239 879

Educational Microscopes, F11 Series

- Monocular head, 45° inclined, 360° rotating
- Widefield eyepiece WF10X/18mm
- Quadruple revolving nosepiece
- Achromatic objectives DIN 4X, 10X, 40X S
- Separate Coarse and fine focusing system with tension adjustment
- Plain stage with sample clips
- 0.65 N.A. condenser built in on stage with iris diaphragm (F1110)
- Focusable 1.25 N.A. Abbe condenser with iris diaphragm (F1115)
- LED illumination 20mA, 3.5V, 70mW with intensity control
- Power supply 220V (CE)
- Dust cover

Motic

Type	Description	PK	Cat. No.
F1110 LED	0.65 N.A. condenser built in on stage with iris diaphragm	1	6.239 879
F1115 LED	Focusable 1.25 N.A. Abbe condenser with iris diaphragm	1	6.243 414



9.727 032

Educational Microscopes, BA81

- Monocular (BA81A-MS corded)/Binocular (BA81B-MS w/100X corded) head
- 45° inclined, 360° rotating
- Widefield eyepiece WF10X/18mm
- Reversed quadruple revolving nosepiece
- Achromatic objectives EA 4X, 10X, 40X S
- Achromatic objectives EA 4X, 10X, 40X S and 100x S Oil (BA81B-MS w/100X corded)
- Coaxial coarse and fine focusing system with tension adjustment
- Built in low position coaxial mechanical stage
- Focusable N.A. 1.25 Abbe condenser
- Iris diaphragm with filter holder
- LED illumination 20mA, 3.5V, 70mW with intensity control
- Main supply 220V-240V (CE)
- Dust cover

Motic

Type	Description	PK	Cat. No.
BA81A-MS	Monocular	1	9.727 032
BA81B-MS	Binocular	1	9.727 033



7.900 085

Binocular Microscopes for Schools/Laboratories, B1-220ASC, B1-223ASC

- Observation Tube Binocular 45° -/Phototube 30°, 360° rotating
- Widefield eyepieces WF10X/20mm
- Quadruple revolving nosepiece
- Achromatic Super Contrast objectives ASC 4X, 10X, 40X S, 100X S-Oil
- Coaxial coarse and fine focusing system with tension adjustment
- Built in low position coaxial mechanical stage
- Focusable 1.25 N.A. Abbe condenser with iris diaphragm and filter holder
- Halogen illumination 12V/20W with intensity control
- Power supply 100V-240V (CE)
- Blue, yellow and green filters, dust cover and immersion oil

Motic

Type	PK	Cat. No.
B1-220ASC	1	9.727 002
B1-220ASC UK	1	9.727 003
B1-223ASC	1	7.900 085

Advanced Microscope for University and Laboratory use, B3-220ASC, B3-223ASC

- Observation Tube Siedentopf Type, Binocular -/Phototube 30°, F.N. 20
- Widefield eyepieces WF10X/20mm
- Reversed quintuple revolving nosepiece
- Achromatic Super Contrast objectives ASC 4X, 10X, 40X S, 100X S-Oil
- Coaxial coarse and fine focusing system with tension adjustment
- Built in low position coaxial mechanical stage
- Focusable 1.25 N.A. Abbe condenser with iris diaphragm and filter holder
- Koehler illumination halogen 12V/20W with intensity control
- Power supply 100V-240V (CE)
- Blue, yellow and green filters, dust cover and immersion oil

Motic



6.243 410

Type	Description	PK	Cat. No.
B3-220ASC	binocular	1	6.243 410
B3-223ASC	trinocular	1	7.636 721

Basic Biological Microscope for Education and Routine, BA210E

- Infinity Optics [CCIS®]
- Observation Tube Siedentopf Type, Binocular -/Phototube 30°, F.N. 20
- Interpupillary Distance 55-75mm
- Eyepieces High-Eyepoint N-WF 10x/20mm with dioptre adjustment on both eyepieces
- Reversed quadruple revolving nosepiece
- Objectives CCIS EC Plan 4x, 10x, 40x-S, 100x-S-Oil
- Built in low position coaxial, rackless mechanical stage (right hand control)
- Focusable Abbe condenser N.A. 1.25 with iris diaphragm and slot
- Illumination 6V/30W halogen with intensity control
- Universal power supply 100-240V (CE)
- Ø 45mm blue filter, immersion oil (5ml), power cord, Allen hexagonal key, thumb crew, vinyl dust cover
- interchangeable LED module available

Motic



6.265 838

Optional available: Phase-contrast 10x/40x, DF 10x-40x, Polarization

Type	Description	PK	Cat. No.
BA210E	Binocular	1	6.265 838
BA210E	Trinocular	1	6.266 907

Advanced Upright Microscope for Life Science and Laboratories, BA310E

- Infinity Optics [CCIS®]
- Observation Tube Siedentopf Type, Binocular -/Phototube 30°, F.N. 20
- Interpupillary Distance 48-75mm
- Eyepieces High-Eyepoint N-WF 10x/20mm with dioptre adjustment on both eyepieces
- Reversed quintuple revolving nosepiece
- Objectives CCIS EC Plan 4x, 10x, 40x-S, 100x-S-Oil
- Built in low position coaxial, rackless mechanical stage (right hand control)
- Focusable Abbe condenser N.A. 0.90/1.25 with iris diaphragm and slot
- Koehler illumination quartz halogen 6V/30W with intensity control
- Universal power supply 100-240V (CE)
- Ø 45mm blue filter, immersion oil (5ml), power cord, Allen hexagonal key, thumb crew, vinyl dust cover
- interchangeable LED module available

Motic



7.659 854

Optional available: Phase-contrast 10x/20x/40x/100x for slider or Turret-condensor, DF 10x-40x for slider or Turret-condensor, Polarization

Type	Description	PK	Cat. No.
BA310E	Binocular	1	6.262 306
BA310E	Trinocular	1	7.659 854



9.727 050

Clinical & Lab Microscope for advanced applications, BA410E

Motic

- Infinity Optics [CCIS®]
- Observation Tube Siedentopf Type, Binocular -/Phototube 30°, F.N. 22
- Interpupillary Distance 48-75mm
- Eyepieces High-Eyepoint N-WF 10x/22mm with diopter adjustment on both eyepieces
- Reversed sextuple nosepiece
- Objectives CCIS EC-H Plan 4x, 10x, 40x-S, 100x-S-Oil
- Low position coaxial, rackless mechanical stage with ceramic insert (right hand control)
- Achromat swing-out condenser N.A. 0.90/0.13 with iris diaphragm
- Koehler illumination quartz halogen 12V/50W or 12V/100W with external lamp house and intensity control
- Auto-off and light-memory function when changing the magnification
- Universal power supply 100-240V (CE)
- Ø 45mm blue filter, immersion oil (5ml), power cord, Allen hexagonal key, vinyl dust cover
- arm rest, spare fuse

Optional available: Phase-contrast (Ph 1.2.3), DF 10x-40x, Polarization, Plan fluar objectives, Epi-fluorescence, Multi-head viewing system

Type	Description	PK	Cat. No.
BA410E	Binocular 50W	1	9.727 050
BA410E	Binocular 100W	1	9.727 051
BA410E	Trinocular 50W	1	9.727 052
BA410E	Trinocular 100W	1	9.727 053



9.727 031

Inverted Routine microscope for live cell, AE2000

Motic

- Infinity Optics [CCIS®]
- Observation Tube Siedentopf Type, Binocular -/Phototube 45°, F.N. 20
- Interpupillary Distance 48mm-75mm
- Eyepieces High-Eyepoint N-WF 10x/20mm provide dioptre adjustment for both eyes
- Side facing quadruple nosepiece
- Objectives CCIS Plan achromat PL 4x, LWD PL 40x
- CCIS Plan Achromat Phase PL Ph10x, LWD PL Ph20x
- Plain stage 200mm x 239mm surface with metal & glass stage inserts
- Condensor ELWD N.A. 0.3 with phase slider (Ph1, BF)
- Illumination 6V/30W halogen with intensity control and sleeping mode
- Universal power supply 100V-240V (CE)
- Ø 45mm blue, green interference and neutral density filters with filter slider, centering telescope, power cord, Allen hexagonal key, vinyl dust cover.
- Interchangeable LED module available

Optional: phase-contrast 4x/40x, mechanical stage with well plate holder.

Type	Description	PK	Cat. No.
AE2000	Binocular	1	9.727 030
AE2000	Trinocular	1	9.727 031



Inverted Microscope for advanced applications AE31E

Motic

- Infinity Optics [CCIS®]
- Observation Tube Siedentopf Type, Binocular -/Phototube 45°, F.N. 22
- Interpupillary Distance 48-75mm
- Eyepieces High-Eyepoint N-WF 10x/22mm with diopter adjustment on both eyepieces
- Side facing quintuple nosepiece
- Objectives CCIS Plan achromat PL 4x,
- CCIS Plan Achromat Phase PL Ph10x, LWD PL Ph20x, LWD PL Ph40x
- Plain stage 200mm x 239mm surface with metal & glass stage inserts
- Condensor ELWD N.A. 0.3 with phase slider (Ph1, BF)
- Illumination Externally mounted lamp house, Koehler 6V/30W Quartz halogen with intensity control
- Universal power supply 100V-240V (CE)
- Ø 45mm blue, green interference and ground glass filters, centering telescope power cord, Allen hexagonal key, vinyl dust cover
- Interchangeable LED module available

Optional available: mechanical stage with well plate holder, Epi-Fluorescence

Type	Description	PK	Cat. No.
AE31E	Binocular	1	6.268 477
AE31E	Trinocular	1	6.268 478

1 Advanced Microscope for Industrial & Materials, BA310 MET NEW!

The BA310 MET series is the ideal microscope for industrial quality inspection or materials science
 Different alternative stand options also allows applications in brightfield or examination of larger samples

- BA310 MET Trinocular
- Infinity Optics [CCIS®]
 - Observation Tube Trinocular 30° (Light split 100:00/20:80), F.N. 20
 - Interpupillary distance 48-75mm
 - Widefield high eyepoint eyepieces N-WF10X/20mm with diopter adjustment on both eyepieces and rubber eyecups
 - Reversed quintuple revolving nosepiece
 - CCIS LM Plan Achromatic objectives 5X, 10X, 20X, 50X
 - Coaxial coarse and fine focusing system
 - Mechanical stage 180x140mm, hard coated with built-in low position coaxial stage control
 - Epi-illuminator 12V/50W quartz halogen with integrated field and aperture diaphragms and external lamphouse
 - Power supply 100-240V (CE)
 - Power cord, Allen hexagonal key, vinyl dust cover

Motic



Type	Description	PK	Cat. No.
BA310 MET	Trinocular	1	6.264 712

2 C-Mount camera Adapter to BA & AE series NEW!

Description	PK	Cat. No.
adapter C-Mount 0,5x	1	7.626 193
adapter C-Mount 0,65x	1	6.243 486

Motic



Compact Zoom Stereo Microscope with LED, SMZ-161 Series NEW!

Convincing optical performance combined with compact footprint and robust mechanics makes the SMZ-161 the ideal stereo microscope for teaching environments in High Schools and Universities

- SMZ-161-BLED(R2LED)
- Greenough zoom optical system
 - Observation Tube Binocular -/Phototube 45°, 360° rotating, F.N. 20
 - 100:0 (eyetubes), 0:100 (right eyetube/trinocular tube) optical split
 - Widefield eyepieces WF10X/20mm, with rubber eyecups
 - Diopter adjustment on both eyepiece tubes
 - 6:1 Zoom ratio, WD=110mm
 - Objective magnification range: 0.75X-4.5X
 - R2LED: Compact incident/transmitted illumination stand
 - Coarse focusing system with tension adjustment
 - 3W incident and transmitted LED illumination with intensity control
 - Main supply 100V-240V (CE)
 - Black/White and frosted glass stage plates and dust cover

Motic



6.266 908

Type	Description	PK	Cat. No.
SMZ-161-BLED (R2LED)	Binocular	1	6.266 908
SMZ-161-TLED (R2LED)	Trinocular	1	7.658 531

We can supply this
**manufacturer's whole
 product range !**





7.671 016

High-performance Greenough Stereo Microscope with LED, SMZ-171 Serie

NEW!

Versatile Stereo microscope for a wide range of biological and material science applications

Motic

- improved optical and mechanical performance
- improved image contrast due to multi-layer lens coating
- improved illumination concept
- ESD compatible set ups available
- various accessories available

- Observation Tube Binocular -/Phototube 45°, 360° rotating, F.N. 23
- 100:0 (eyetubes), 0:100 (left eyetube/trinocular tube) optical split
- Widefield adjustable eyepieces WF10X/23mm
- 6.7:1 Zoom ratio, WD=110mm
- Objective magnification range: 0.75X-5X
- SMZ-171 Pole type stand with large working area and head holder
- Coarse focusing system with tension adjustment
- 3W incident and transmitted LED illumination with independent intensity controls
- Transmitted light with tilting reflector (oblique illumination)
- Option to adapt flexible light guide
- Main supply 100V-240V (CE)
- Black/White and frosted glass stage plates, and dust cover

Type	Description	PK	Cat. No.
SMZ-171-BLED	Binocular	1	6.264 087
SMZ-171-TLED	Trinocular	1	7.671 016



C-Mount Camera Adapter for SMZ series

NEW!

Motic

Description	PK	Cat. No.
adapter C-Mount 0,5x	1	7.626 193
adapter C-Mount 0,65x	1	6.243 486



6.253 610

Digital CMOS Microscope Cameras MOTICAM for all purpose

NEW!

Motic

Moticam Series: digital microscope cameras for every application
Ergonomic and compact housing. Exceptional color resolution.
Ideal for beginners in digital color microscopy, schools as well as labs.

- Output: USB 2.0 (cable attachable), progressive Scan, TWAIN-interface
- Supplied with two variable diameter eyepiece couplers, focusable macro lens, macrotube, Motic 4-dot calibration slide, Software Motic Images Plus 2.0 for PC (MI) and MAC
- Operation system: Windows XP (and higher) and Mac OSX

Type	Resolution	Sensor format	PK	Cat. No.
MOTICAM 1SP	1.3MP (max. 1280x1024 px)	1/3"CMOS	1	6.253 609
MOTICAM 2	2MP (max. 1600x2000 px)	1/3"CMOS	1	6.253 610
MOTICAM 3	3MP (max. 2048x1536 px)	1/2"CMOS	1	6.253 611
MOTICAM 5	5MP (max. 2592x1944 px)	1/2.5"CMOS	1	6.253 612
MOTICAM 10	10MP (max. 3664x2748 px)	1/2.5"CMOS	1	6.253 614



WiFi Digital Microscopy Moticam X

Motic

The Moticam X is the first WiFi Microscope Camera for wireless image transmission. With every Android and iOS hardware (tablet, smartphone), it is now possible to obtain microscopic image results freely and to share with others. This results e.g. for the work in the class composites completely new possibilities.

- Sensor: CMOS
- Resolution: 1.3 MP
- WiFi resolution: 1280 x10124
- Optical calculation: 1/3.2"
- Output: WiFi
- Power supply through USB
- Scope of delivery: 2 variable diameter eyepiece adapters, focusable lens 12mm, Macrotube for specimen observation, Motic 4-dot calibration slide, Motic Images Plus 2.0 ML & Mac
- Operation system: Windows XP and higher, Mac OSX; Android 4.0 and higher; iOS5 and higher

Description	PK	Cat. No.
Moticam X	1	9.727 022



Motic[®]

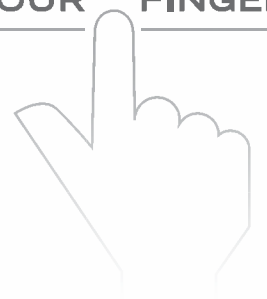
MORE THAN MICROSCOPY



NEW MOTICAM S2 & T2

ALL IT TAKES IS A TOUCH
OF YOUR FINGER

The new MotiCam S2 and T2 tablet cameras, which offer capture of 5.0 MP, will make your microscopy experience unique.



Capture, edit and share your images with our free App MotiConnect



MotiConnect | Motic's free app



www.moticeurope.com

www.wemkalelo.com

Microscopy/Digital microscopes and cameras



1 Digital Microscope Camera Moticam 580

CMOS-camera, suited for educational purpose and applications in routine laboratories. Pictures can be saved directly on the SD card. Dual-observation by directly connecting the camera on a Monitor or beamer with fast live image transmission.

Motic

- Sensor: CMOS
- Live resolution: 800x600 pixels USB (1280x960 extrapolated)
- Still resolution: 5.0 megapixels onto SD card
- Optical calculation: 1/2.5"
- Output: USB 2.0, HDMI 1080P, RCA and SD card slot (includes cables: USB, AV and Mini HDMI)
- Focusable lens: 12mm
- 2 variable diameter eyepiece adapters
- Macro tube for specimen observation
- Motic Images Plus 2.0 for PC and MAC
- Motic 4-dot calibration slide
- Operation system: Windows XP and higher, Mac OS X
- Power supply 100V-240V (CE)
- Remote control

Type	PK	Cat. No.
Moticam 580	1	6.253 613



2 3 Tablet Microscope Cameras MOTICAM S2 & T2



Touch Screen Tablet Solutions with 5MP microscope camera. A new dimension in interactive microscopy for classrooms, lab and industries. The operating system Android and the included Moticonnect T App allows users to capture, view and edit the Live image by one click. Features like measuring calibrating, annotating and generating reports complete the Moticonnect App. The WiFi capability (Hot Spot) enables to share the Live image up to 6 WiFi devices (Tablets, Smartphones, Laptops, Computer etc.) at the same time. The available data can be processed with the Moticonnect App (WiFi enabled devices) or the Motic image plus 2.0 (PC and Mac). Additionally you can share the Live image via HDMI connected to a beamer or monitor.

Motic



Moticam S2 7" Tablet Camera

- Sensor: CMOS 1/2.5" 5.0MP
- Live resolution: 1280 x 800 pixels (16:09) & 800 x 600 Pixel (4:3)
- Image capture resolution: 5.0MP (internal memory or SD card)
- Video capture resolution: 720P (HD)
- Output: HDMI 1080P, Live image to other WiFi devices with Android, iOS, PC, Mac and HTML
- Ports: SD card (up to 32 GB), 3.5mm Audio, DC 5V power input, Mini HDMI output
- Lens mount: C-Mount
- Battery: 3.7V/3000mAh rechargeable
- Operation system: Android 4.2
- Scope of delivery: MicroSD 4Gb included, HDMI Cable, Motic Images Plus 2.0 for PC and Mac, Motic 4-dot calibration slide, Power supply 100V-240V (CE)

Moticam T2 10" Tablet Camera

- Sensor: CMOS 1/2.5" 5.0MP
- Live resolution: 1280 x 800 pixels (16:09) & 800 x 600 Pixel (4:3)
- Image capture resolution: 5.0MP (internal memory or SD card)
- Video capture resolution: 720P (HD)
- Output: HDMI 1080P, Live image to other WiFi devices with Android, iOS, PC, Mac and HTML
- Ports: SD card (up to 32 GB), 3.5mm Audio, DC 5V power input, Mini HDMI output
- Lens mount: C-Mount
- Battery: 3.7V/3000mAh rechargeable
- Operation system: Android 4.2
- Scope of delivery: MicroSD 4Gb included, HDMI Cable, Motic Images Plus 2.0 for PC and Mac, Motic 4-dot calibration slide, Power supply 100V-240V (CE)

Type	PK	Cat. No.
Tablet Moticam S2	1	6.267 830
Tablet Moticam T2	1	6.267 831

10. Optical instruments and Microscopes

Microscopy/Cold light sources-Counting chambers

1 Cold light sources



Schott Fiber Optics

For sample 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, easy to use and maintenance-free. KL 300 LED without fan otherwise with a low-noise fan with air vented at the rear of the casing.

KL 300 LED - compact, save energy and cost-effective

30W halogen equivalent LED with continuous dimming. Convection cooling for silent and vibration-free operation. Max. light intensity: 80lm incl. wide-range power supply with international plug system.

KL 1600 LED - economy

The brightness is equivalent to a 150W halogen cold light source LED with continuous dimming. Max. lighting intensity: 680lm incl. broad range power supply

KL 2500 LCD - professional

Professional cold light source with 24V/250W 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: 1300lm.



Swan neck light guide please order separately.

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

Supply requirement

KL 300 LED, KL 1600 LED: 100-240V, 50/60Hz
 KL 2500 LCD: 230V, 50/60Hz, safety class II.

Type	Light colour K	Width mm	Depth mm	Height mm	PK	Cat. No.
KL 300 LED	5600	106	114	61	1	6.253 748
KL 1600 LED	5600	114	231	137	1	9.705 206
KL 2500 LCD	2000 - 3400	200	265	170	1	9.705 202

Cold light source, accessories, KL 300 LED/KL 1600 LED/KL 2500 LCD

Split ring illuminator, i.d. 58mm: For Leica M1-M7 microscopes. No adaptor required on Zeiss Stemi 1000 and 2000, SV6 and SV11. Required adapter is supplied directly by Zeiss. 6-point ring illuminator, i.d. 58mm and split light illuminator, i.d. 58mm: No adaptor required on Leica GZ6, M8, M10, M12 and MZAPO microscopes. When using 6-point ring illuminator, i.d. 66mm and split light illuminator, i.d. 66mm Lens adapter I is required.

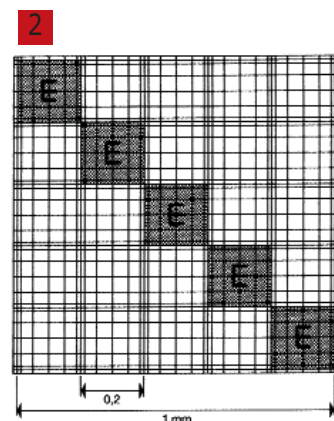
Schott Fiber Optics

Description	PK	Cat. No.
Swan-neck, fibre-optic light guide, single, 3.5mm diameter, length 500mm	1	9.705 221
Swan-neck, fibre-optic light guide, double, 3.5mm diameter, length 500mm	1	9.705 220
Flexible light guide, single, PVC sheathed, 4.5mm diameter, length 600mm	1	9.705 225
Flexible light guide, double, PVC sheathed, 4.0 mm dia., length 1000 mm	1	9.705 226
6 point ring light, Int. diameter 66mm	1	9.705 230
6 point ring light, Int. diameter 58mm	1	9.705 231
Focussing attachment and filter set	1	9.705 170
Polarisation filter for focussing attachment	1	9.705 176
Focussing attachment, without filter, for swan-neck and flexible fibre optic light guides	1	9.705 175
Conversion filter for focussing attachment	1	9.705 177
Lens adapter I (from 66 mm to 58 mm)	1	9.705 272
Split ring light, int. diam. 58 mm	1	9.705 194
Split ring light, int. diam. 66 mm	1	9.705 195

2 Counting chamber, Improved Neubauer

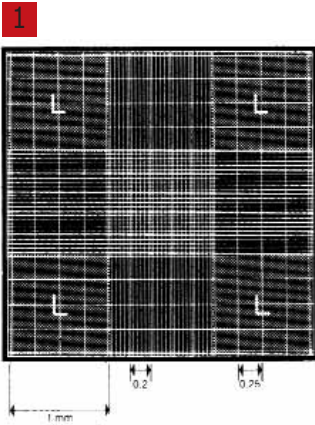
With double ruling. Calibratable. Cell depth 0.1mm. Counting grid with 9 large squares each 1 mm². The 4 large squares in the corners for counting leucocytes are each subdivided into 16 squares with a side length of 0.25mm. The large square in the middle is subdivided into 25 squares each with a side length of 0.2mm. Each of these is further subdivided into 16 smaller squares each with a side length of 0.05 mm and an area of 0.0025mm². 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	PK	Cat. No.
With snap-on clips	1	7.020 272
Without snap-on clips	1	9.161 078

Microscopy/Counting chambers



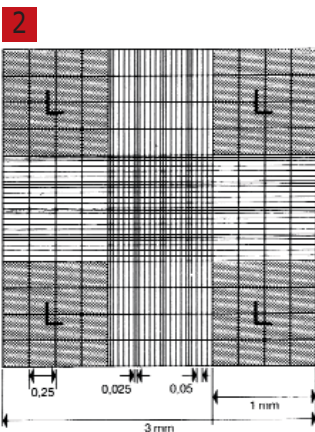
1 Counting chamber, Improved Neubauer, bright line

NEW!

BRAND

Bright line. With double ruling. 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.

Description	PK	Cat. No.
With snap-on clips	1	7.020 272
Without snap-on clips	1	9.161 079



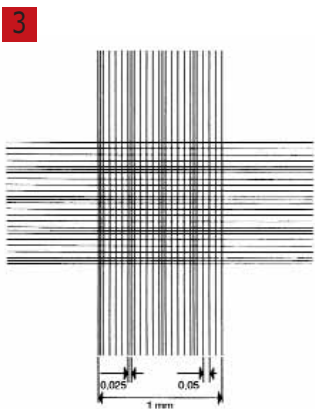
2 Counting chamber, Neubauer

NEW!

BRAND

With double ruling. Without snap-on clips. Calibratable. Cell depth 0.1mm. Same ruling as Improved Neubauer, but the large square in the centre is divided into 16 squares each with a side length of 0.2mm. 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.

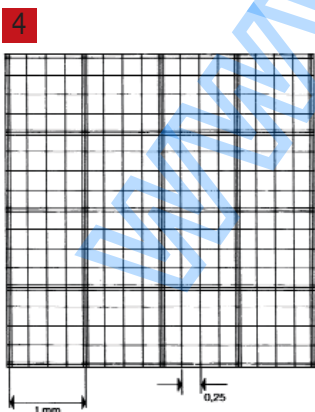
Type	PK	Cat. No.
With snap-on clips	1	7.020 278
Without snap-on clips	1	9.161 086



3 Counting chamber, Thoma ruling

Double ruling. Without snap-on clips. Calibratable. Cell depth 0.1mm. Grid is the same as the grid in the centre of large square in the Neubauer chamber. The area of the small square is 0.0025mm². 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	PK	Cat. No.
Counting chamber, Thoma ruling	1	9.161 080



4 Counting chamber, Fuchs-Rosenthal

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

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

 For our Life Science product range, please see page 1180.

1 Hand tally counter

Use for counting blood cells, bacterial colonies, drops of liquid, or any repetitive event. Tallies up to 9999. Features a quick-reset knob, lens window for easy reading, and finger ring for a secure grip. Sturdy, chrome-finished, metal housing.
Dimensions: 46mm diameter x 41mm W.

Description	PK	Cat. No.
Hand tally counter	1	6.237 971



2 Economy Counters

Mechanical, benchtop counters are ideal for determining the number of cells, counting parts, etc. Use with blood cell labels provided or insert your own. Each key records up to 999 count strokes. A totalising window keeps track of the total number of strokes made on all keys; a bell rings at every 100 total counts reached.

Description	Width mm	Length mm	Depth mm	PK	Cat. No.
6-key Economy Counter	76	250	56	1	9.521 801
9-key Economy Counter	76	320	56	1	9.521 802



3 Microscope slides

According to ISO 8037/I. Prewashed and polished. Nominal thickness 1mm. Size 76 x 26mm. Also available with 20mm, frosted, writing patch at one end. Menzel

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



4 Microscope slides with cavities

Dimensions: 76mm x 26mm x 1.2mm to 1.5 mm, with cavities approx. 15mm to 18mm diameter and approx. 0.6 to 0.8 depth. Menzel

Number of cavities	Colour	Edge finish	PK	Cat. No.
1	extra white glass	90° ground edges	1	9.161 151



5 Superfrost® Plus adhesive microscope slides

Size: 75mm x 25mm x 1.0mm. Ground edges 90°, white SuperFrost marking area. A new application method provides the surface of a slide with a permanent positive charge. Electrostatic attraction binds fresh frozen tissue sections and cytology preparations. Also available with blue, yellow or green SuperFrost marking area. Menzel

Type	Colour	PK	Cat. No.
SuperFrost® Plus	White	72	9.161 155



Microscopy/Slides-Slide covers



1 Superfrost® slides

According to ISO 8037/I. With colour-coded writing patch as outlined below. Size 76mm x 26mm. Nominal thickness 1.0mm. With cut or ground edges. With approx. 0.013mm thick coating which prevents slides sticking together and being scratched.

Menzel

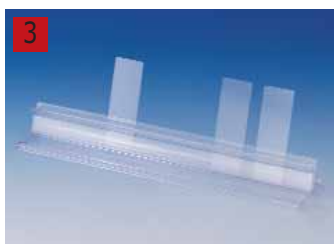
Edge finish	Colour	PK	Cat. No.
Cut	white	50	9.161 161
Cut	blue	50	9.161 162
Cut	pink	50	9.161 163
Cut	yellow	50	9.161 164
Cut	green	50	9.161 165
Ground 45°	white	50	9.161 171
Ground 45°	blue	50	9.161 172
Ground 45°	pink	50	9.161 173
Ground 45°	yellow	50	9.161 174
Ground 45°	green	50	9.161 175



2 LLG-Slide dispenser

Slide dispenser can dispense 91 slides, individually. By turning the knob, one slide is dispensed. Only dry slides should be inserted into the storage magazine. With transparent, removable upper section for easy viewing of remaining slides and clean storage. For microscope slides with dimensions 75 x 25mm and 76 x 26mm.

Type	PK	Cat. No.
Dispenser	1	9.161 000

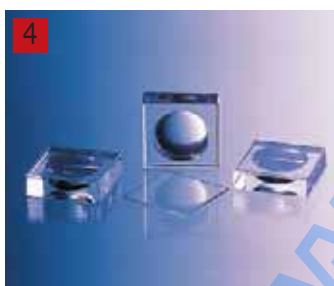


3 Microscope slide or paper strip holder, PS

This slide holder has a sloped groove that accepts up to 10 single or double slides standing on end. Front ledge serves as a place to dry slides. Made of durable polystyrene.

Bel-Art Products

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



4 Staining blocks, moulded glass

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

Number of cavities	Int. bore diam. mm	Colour	PK	Cat. No.
10	32	Clear	1	9.163 285
10	32	Black	1	9.163 286



5 Square cover slips

Made of clear white glass. Accurate cutting free of flaws and blisters. Further thicknesses are available on request.

Menzel

Width mm	Length mm	Thickness mm	PK	Cat. No.
15	15	0.13-0.16	200	9.161 015
18	18	0.13-0.16	200	9.161 018
20	20	0.13-0.16	200	9.161 020
22	22	0.13-0.16	200	9.161 022
24	24	0.13-0.16	200	9.161 024
26	21	0.13-0.16	100	9.161 021
32	24	0.13-0.16	100	9.161 032
40	24	0.13-0.16	100	9.161 040
50	24	0.13-0.16	100	9.161 050
60	24	0.13-0.16	100	9.161 060

1 Prepared Slides

Prepared microscope slides for education and studies.
Sets of 10 slides.

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



2 LLG-Cover glass forceps, self-locking

Stainless steel 4301

Length mm	Form	PK	Cat. No.
105	Straight	1	9.160 380
105	Curved	1	9.160 381



3 LLG-Cover glass forceps, acc. to Kühne, stainless steel

Stainless steel 4301

Length mm	Form	PK	Cat. No.
115	curved	1	9.160 386
130	curved	1	9.160 387
145	curved	1	9.160 388
115	straight	1	9.160 391
130	straight	1	9.160 392
145	straight	1	9.160 393



4 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 10mm so they can be removed easily.

Kartell

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

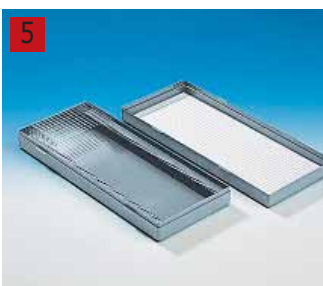


5 Microscope slide boxes

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

Kartell

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



Microscopy/Slide storage



1 Microscope slide folders

Cardbord. Available with, or without, gatefold cover. For 76mm x 26mm slides as outlined below.

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



2 20- and 30-place Cardboard Slide Trays

NEW!

Heathrow Scientific

Features thumb cut for easy slide removal.

Cardboard slide trays hold standard slides (76mm x 26mm and 3 x 1"). The horizontal compartments are recessed to protect the specimens when the cover is closed. Features thumb cut for easy slide removal.

To hold microscope	Size	Colour	PK	Cat. No.
slides				
20	208 x 341 x 9 mm	black	1	9.161 295
30	281 x 328 x 10 mm	black	1	9.161 296
20	208 x 341 x 9 mm	blue	1	9.161 297
20	208 x 341 x 9 mm	green	1	9.161 298
20	208 x 341 x 9 mm	red	1	9.161 302



3 Microscope slide folder, Munich type

Cardboard. For 76mm x 26 mm slides.

To hold microscope	PK	Cat. No.
slides		
24	1	9.161 250



4 Slide storage box

Plastic. Hinged lid with locking clips. Holds slides 76mm x 26mm slides as outlined below.

To hold microscope	Cover type	PK	Cat. No.
slides			
100	with	1	9.161 211



5 Microscope slide tray without lid

Cardboard. For 76mm x 26mm slides.

To hold microscope	PK	Cat. No.
slides		
20	1	9.161 260

Trays for other sizes of slide are available on request.



6 Slide storage box

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

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

1 Durable microscope slide boxes (NEW)

Colour-coded for easy identification. Slide boxes are perfect for storage or transportation of standard size slides (76mm x 26mm). With cork lining. Stackable. Each 100 place box is secured with a rust-resistant nickel-plated clasp and hinge pin. The 50 place box is secured by a thumb-latch lock mechanism. Each slot is numbered to correspond to the slide inventory sheet on the inside cover of the box.

To hold microscope slides	Colour	Dimensions (W x D x H) mm	PK	Cat. No.
50	Blue	209 x 86 x 35	1	9.161 300
50	Red	209 x 86 x 35	1	9.161 289
100	White	208 x 175 x 34	1	7.079 563
100	Blue	208 x 175 x 34	1	9.161 284
100	Green	208 x 175 x 34	1	9.161 285
100	Red	208 x 175 x 34	1	9.161 286
100	Black	208 x 175 x 34	1	9.161 287
100	Yellow	208 x 175 x 34	1	9.161 288



2 20-Place Slide Tray Rack, ABS

Holds safely five of the 20-place slide trays. Ideal for microbiology, histology, and pathology fields. Matching clasps provide area for identification labels and doubles as a handle. Place rack in refrigerator for those needed cold samples. Includes five ABS clasps. Stackable. Dimensions (L x W x H): 226mm x 340mm x 125mm

Description	PK	Cat. No.
20-Place Slide Tray Rack for 5 Slide trays	1	9.161 299

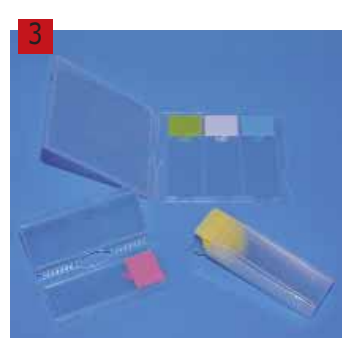


3 LLG-Slide mailers

Manufactured from high density polypropylene, for shipping, storing or staining slides. Flat mailers can hold 1, 2, 3 or 5 standard (up to 76mm x 26mm) slides securely.

- Light weight and flat
- With marking area and "Top" printed on top surface
- With large, easy-to secure snaps.
- Slotted channels inside mailer keep slides safely separated

To hold microscope slides	PK	Cat. No.
1	10	9.161 291
2	10	9.161 292
3	10	9.161 293
5	10	9.161 294



4 Slide mailers

For transporting 76mm x 26mm specimen slides, as outlined below.

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



5 Slide Mailers

Ideal for shipping, storing, or staining slides. These polypropylene containers hold five standard slides (75mm x 25mm and 3 x 1"). Inside wall features slotted channels to keep slides separated and to make removal easier. Close securely to keep slides safe. Dimensions: 43mm x 24mm x 88mm.

Colour	PK	Cat. No.
natural	25	6.242 062
red, yellow, blue, purple, orange	25	9.409 662





1 Drying pads Grade 556Z
 For retaining specimen visibility (50 sheets). GE Healthcare

Width mm	Length mm	PK	Cat. No.
37	100	1	9.069 003



2 Lens cleaning tissues
 Non-abrasive cleaning for delicate optical surfaces. Lint-free fibre paper is ideal for cleaning lens and optics. Heathrow Scientific
 5 Booklets with 100 sheets.

Width mm	Length mm	PK	Cat. No.
100	150	500	9.056 899



3 Lens cleaning tissues, 105 series
 For the safe removal of surface moisture and grease from lenses and other optical surfaces. Chemically pure and free from silicones and other additives. GE Healthcare

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

Lens cleaning tissues, MN 13 **NEW!**
MACHEREY-NAGEL
 Very thin and soft, nonfluffing tissue paper for cleaning optical glasses and cuvettes.

Width mm	Length mm	PK	Cat. No.
120	120	500	7.400 939



4 Canada balsam bottle
 Goldschmidt pattern. Clear glass. For microscopy examinations.
 Ground joint maximises useful life of contents.

Capacity g	PK	Cat. No.
30	1	6.070 616
60	1	6.053 546



10. Optical instruments and Microscopes

Refractometers/Hand held refractometers

1 | 2 Precision refractometers, basic model

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	PK	Cat. No.
RSM/ATC	Salinity	0 - 100‰	1‰	1	9.801 249
RMA/ATC	Wine	0 - 25% Vol 0 - 40% Brix	0,2% Vol 0,2% Brix	1	9.801 252
RGA/ATC	Alcohol	0 - 80% Vol	1% Vol	1	9.801 256
RCS/ATC	Salinity	0 - 28‰	0,2‰	1	9.801 250
RPC/ATC	Freezing point batteries	-50° - 0°C 1,10 - 1,40	5°C 0,1	1	9.801 251
RBO/ATC	Wine	0 - 140° Oe 0 - 25° Babo 0 - 32% Brix	1° Oe 0,2° Babo 0,2% Brix	1	9.801 254
RBB/ATC	Wine	0 - 25% Vol 0 - 22° Be' 0 - 40% Brix	0,2% Vol 0,2° Be' 0,2% Brix	1	9.801 255
RCZ/ATC		0 - 32% Brix	0,2%	1	9.801 200
RBC/ATC		0 - 10% Brix	0,1%	1	9.801 241
RLC/ATC		0 - 18% Brix	0,1%	1	9.801 242
RFC/ATC		28 - 62% Brix	0,2%	1	9.801 244
RPU		0 - 80% Brix	1%	1	9.801 246
RMM/ATC	Honey and jam	58 - 90% Brix 38 - 43° Be' 17 - 27 water	0,5% Brix 0,5° Be' 1% water	1	9.801 247

Refractometers, hand-held, precision



For simple, manual measurement of concentrations and refractive indices of liquids. Hand-held, precision refractometers with focussing eyepiece, 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 thermostatic controller and so measurements have to be temperature compensated.

ATAGO

Models with extra code M: Basic model

Models with extra code T: with automatic temperature compensation (ATC)

Models with extra code α: with automatic temperature compensation (ATC) and protection class IP65

Type	For	Measuring range	Accuracy	Minimum scale value	PK	Cat. No.
MASTER-α	Sugar	0,0 - 33,0 % Brix	± 0,2 % Brix	0,2 % Brix	1	6.230 184
MASTER-10α	Sugar	0,0 - 10,0 % Brix	± 0,2 % Brix	0,1 % Brix	1	9.801 371
MASTER-S10α	Sodium chloride	0,0 - 10,0 g/100 g	± 0,2 g/100 g	0,1 g/100 g	1	9.801 372
MASTER-T	Sugar	0,0 - 33,0% Brix	± 0,2 % Brix	0,2 % Brix	1	9.801 306
MASTER-2T	Sugar	28,0 - 62,0% Brix	± 0,2 % Brix	0,2 % Brix	1	9.801 361
MASTER-3T	Sugar	58,0 - 90,0 % Brix	± 0,2 % Brix	0,2 % Brix	1	9.801 364
MASTER-4T	Sugar	45,0 - 82,0% Brix	± 0,2 % Brix	0,2 % Brix	1	9.801 351
MASTER-20T	Sugar	0,0 - 20,0% Brix	± 0,2 % Brix	0,1 % Brix	1	9.801 301
MASTER-M	Sugar	0,0 - 33,0% Brix	-	0,2 % Brix	1	9.801 327
MASTER-2M	Sugar	28,0 - 62,0% Brix	-	0,2 % Brix	1	9.801 308
MASTER-3M	Sugar	58,0 - 90,0% Brix	-	0,2 % Brix	1	9.801 309
MASTER-53M	Sugar	0,0 - 53,0% Brix	-	0,5 % Brix	1	9.801 302
MASTER-S10M	Sodium chloride	0,0 - 10,0 g/100 g	-	0,1 g/100 g	1	9.801 370
MASTER-S/Mill-α	Salinity, Sea water Spec. density	0,0 - 100,0 ‰ 1,000 - 1,070	± 2 ‰ ± 0,001	1 ‰ 0,001	1	9.801 359
MASTER-BR	Freezing point coolant*	0 - 70%, 0 ... -50°C	-	5 °C	1	9.801 348
MASTER-RI	Refractive index	1,435 - 1,520 nD	-	0,001 nD	1	9.801 360
HSR-500	Sugar	0,0 - 90,0% Brix	-	0,2 % Brix	1	9.801 312
R-5000	Refractive index	1,333 - 1,520 nD	-	0,001 nD	1	9.801 313
HHR-2N	Honey	12,0 - 30,0% humidity	-	0,1 %	1	9.801 333
MASTER-Honey	Honey	12,0 - 30,0% humidity	± 0,2 % Brix	0,2 % Brix	1	9.801 473

*for Ethylene glycol and Propylene glycol



6.230 184



9.801 312



9.801 333

Manual hand-held refractometers

Precision instruments for quick daily use. Various scales and functions ensure there is a suitable refractometer for every application area.

A.KRÜSS Optronic

Type	Measuring range	Accuracy	PK	Cat. No.
HRKFZ1	Anti freeze: 50-0 °C Battery acid: 1.10-1.30 g/cm ³	Ethylene-Propylene: 5%, Battery acid: 0.01	1	7.603 129
HRN32	0-32% Brix	0.2% Brix	1	9.801 121 1
HR181	0-18% Brix	0.1% Brix	1	9.801 123 2
HRN82	45-82% Brix	0.2 %Brix	1	9.801 124
HR27-100	1000-1070 d2020, 0-100‰ Salinity	0.001 d2020, 1‰ Salinity	1	9.801 127
HRH30	12-30% water content in honey	0.1% water	1	9.801 130
HRT32	0-32% Brix	0.2% Brix	1	9.801 142
HRN20	0-20% Brix	0.2% Brix	1	9.801 149
HR900	0-90% Brix	0.2% Brix	1	9.801 150 3
HR901	1333-1517 nD	0.0005 nD	1	9.801 151



9.801 121



9.801 123



9.801 150



4 Digital hand-held refractometer DR101-60

As an entry-level model in digital refractometry, the DR101-60 covers many areas of application where the wide measurement range of the DR201-95 is not required. It offers excellent value for money, in terms of both procurement and operation. Calibration is also with distilled water. The waterproof case allows the DR101-60 to be rinsed under running water. This digital handheld refractometer also has an automatic temperature compensation feature, of course.

A.KRÜSS Optronic

Specifications

Temperature compensation:	10°C - 40°C
Dimensions:	110mm x 62mm x 32mm
Weight:	160g
Power supply:	1.5V DC battery

DR101-60

Type	Measuring range	Accuracy	Graduations	PK	Cat. No.
DR101-60	1.330-1.4419 nD 0.0-60.0% Brix	0.0005 nD 0.1 %Brix	0.0001nD 0.5 %Brix	1	9.801 117



9.801 375

5 Digital Hand-held Pocket Refractometer PAL series

NEW!

For measurement of various high concentration samples such as jam, marmalade, jelly, honey, concentrated juice or acidity and salinity. Ingress Protection class IP 65 means that they can be cleaned under running water. Easily calibrated since "zero-setting" (calibration) is achieved using water. Temperature measurement with Automatic Temperature Compensation.

Specifications

Resolution:	Brix 0.1%
Measurement accuracy:	Brix ±0.2%
Ambient operating temperature:	10 to 40°C
Ingress protection class:	IP65
Power supply:	dust- and waterproof 2 x AAA Batteries (incl.)
Dimensions:	55 x 31 x 109mm
Weight:	100g

Type	Measuring range	Temp. range °C	PK	Cat. No.
PAL-1	0.0 - 53.0 Brix	10 - 100	1	9.801 375 5
PAL-2	45.0 - 93.0 Brix	10 - 100	1	9.801 381
PAL-3	0.0 - 93.0 Brix	10 - 100	1	9.801 382
PAL-Alpha	0.0 - 85.0 Brix	10 - 100	1	9.801 362
PAL-RI	1.3306 - 1.5284nD	5 - 45	1	9.801 383
PAL-BX/RI	0.0 - 93.0 Brix, 1.3306 - 1.5284nD	Brix: 10 - 100, nD: 5 - 45	1	6.231 591
PAL-22S	12.0 - 30%	10 - 40	1	6.232 434
PAL-UREA	0.0 - 55.0%	10 - 40	1	6.258 218
PAL-ACID2	1.0 - 40.0g/l*	10 - 40	1	9.801 475
PAL-ACID3	1.0 - 45.0g/l**	10 - 40	1	9.801 476
PAL-SALT PROBE***	0.00 - 7.0% (g/100g)	10 - 40	1	9.801 477

*Tartaric acid concentration

**Lactic acid concentration

***Conductivity measurement

Digital hand-held refractometers DR201-95/ DR-201-95OE



A.KRÜSS Optronic

DR201-95 and DR201-95OE are compact digital hand-held refractometers, which eliminate the problem of reading errors by users. Handling is fast and very easy, distilled water is used for calibration. Thanks to several scales and a broad measuring range, the device is almost always suitable. For wine-growers, a device equipped with a special Oechsle-scale is available. DR301-95 offers 2 additional user-defined scales and can be connected to a computer. Specialties: optional temperature compensation feature and upper and lower tolerance alarm.

Specifications

Temperature measurement:	0-40°C 0-40°C 5-40°C
Temperature accuracy:	0.5°C
Temperature compensation:	10-40°C 10-40°C 5-40°C
Dimensions:	130x80x40 130x80x40 180x100x40mm
Weight:	200 200 500g
Power supply:	1.5V battery 1.5V battery 9V battery, AC adapter

Type	Measuring range	Accuracy	Graduations	PK	Cat. No.
DR301-95LT	1.3330-1.5318nD 0-95% Brix	0.00015 nD 0.1 % Brix	0.0001 nD 0.1 % Brix	1	6.262 637
DR201-95 OE	0-250° Oechsle 0-95 % Brix	1° Oechsle 0.2 % Brix	1° Oechsle 0.1 % Brix	1	9.801 116 1
DR301-95	1.3330-1.5318nD 0-95% Brix	0.00015 nD 0.1 % Brix	0.0001 nD 0.1 % Brix	1	6.236 921 2



9.801 116



6.236 921

3 Digital Refractometer HI 96801

Portable digital Refractometer measures the refractive index to determine the % Brix of sugar in aqueous solutions. Wide range : 0 to 85% Brix , can be used for various applications. Automatic temperature compensation, % Brix and temperature are displayed simultaneously. Quick and precise measurements. Easy Calibration with distilled or deionized water. Supplied with 9V battery and instruction manual.

Hanna

Specifications

Measuring range:	0 to 85% Brix
Resolution:	0.1% Brix
Measuring accuracy:	±0.2% Brix
Temperature compensation range:	10 to 40°C
Dimensions:	192 x 102 x 67mm
Weight:	300g
Power supply:	9V (9.012 923 Battery)

Type	Measuring range	PK	Cat. No.
HI 96801	0 to 85% Brix	1	9.801 185



4 Digital Refractometer for Sodium Chloride Measurement HI 96821

Portable digital Refractometer to determine Sodium Chloride concentration in aqueous solutions used in Food preparation. NaCl concentration of the solution can be displayed in 4 different ranges g/100g, g/100ml, specific gravity and °Baumé. Automatic temperature compensation, NaCl concentration and temperature are displayed simultaneously. Fast and reliable measurements, a small sample size of some drops is sufficient. Easy calibration with distilled or deionized water. Instrument is supplied with battery.

Hanna

Specifications

Temperature Compensation:	+10 to +40°C
Dimensions (WxDxH):	192 x 102 x 67mm
Weight:	300g
Power supply:	9 Volt battery

Type	Measuring range	Accuracy	Graduations	PK	Cat. No.
HI 96821	0.0 - 28.0g/100g	±0.2g/100g	0.1g/100g	1	7.627 062
	0.0 - 34.0g/100ml	±0.2g/100ml	0.1g/100ml		
	1.000 - 1.216sg	±0.002sg	0.001sg		
	0.0 - 26.0°Baume	±0.2°Baume	0.1°Baume		



1 Digital refractometers

Type PR-32α

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

ATAGO

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.

Type PR-RI

A new Refractive Index model has been added to the popular long-selling "Palette Series". It is suitable for measuring the refractive indices of liquid samples in pharmaceutical and chemical products. Ambient temperature: 10 to 40°C.

Specifications (all types):

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

Type	Measuring range	Graduations	Accuracy	Working Temp. range °C	PK	Cat. No.
PR-32α	0,0 - 32,0 % Brix	0,1 % Brix	0,1 % Brix	5,0 - 40,0	1	9.801 376
PR 101α	0,0 - 45,0 % Brix	0,1 % Brix	0,2 % Brix	5,0 - 40,0	1	9.801 377
PR-201α	0,0 - 60,0 % Brix	0,1 % Brix	0,1 % Brix	10,0 - 40,0	1	9.801 378
PR-301α	45,0 - 90,0 % Brix	0,1 % Brix	0,1 % Brix	10,0 - 40,0	1	9.801 379
PET-109	0,0 - 45,0 % (w / w)	0,1 % (w / w)	0,5 % (w / w)	10,0 - 35,0	1	9.801 344
PR-RI	1,3306 - 1,4436 nD	-	± 0,0002 nD / 20°C	5,0 - 45,0	1	9.801 369

2 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.

ATAGO

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 50/60Hz a.c.
Dimensions and weight:	12 x 27 x 9cm, 2.0kg
a.c. adapter:	10.5 x 17.5 x 4cm, 0.7kg

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



1 Digital Refractometer RX-5000i/RX-5000i-Plus NEW!

The most accurate refractometer in the world is now even more stylish, smart, and functional. Featuring intuitive touch screen technology, the new RX-i series makes navigation and selection a breeze. The RX-5000i measures with the same accuracy level as the RX-5000alpha ±0.03% Brix and ±0.00004nD. The RX-5000i-Plus measures with the same accuracy level as the RX-5000alpha-Plus ±0.010% Brix and ±0.00002nD. The RX-i series come with newly added functions, such as USB flash drive and self-diagnosis capability. These products come standard with a 2 year warranty. The warranty period can be extended to 3 years if the product is registered with ATAGO. FDA 21 CFR Part 11 Software Included in Standard Delivery

Modes:

- Displays the measurement value once the sample reaches the target temperature
- Measures refractive index and temperature at fixed intervals and displays the estimated measurement value at the target temperature
- The thermo-module can be turned off. Without temperature control, the measurement value is displayed in 4 seconds after the START key is pressed
- Displays the measurement value once a certain level of sample stability is achieved.
- Only on the RX-5000i-Plus: Measuring of Low Brix Liquid Samples (such as teas), obtaining highly repeatable results (0.010% Brix).

Specifications

Measurement range:	0.000 to 100.00% Brix, 1.32422 to 1.58000nD
Resolution	
RX-5000i:	0.01% Brix, 0.00001nD
RX-5000i-Plus:	0.005% Brix, 0.00001nD
Accuracy	
RX-5000i:	0.03% Brix, 0.00004nD
RX-5000i-Plus:	0.010% Brix, 0.00002nD
Working temperature:	5 to 40°C
Output terminals:	USB, RS-232C
Power supply:	100 - 240V, 50/60Hz
Dimensions:	370 x 260 x 140mm
Weight:	6.6kg

Type	PK	Cat. No.
RX-5000i	1	6.266 906
RX-5000i-Plus	1	6.245 034

2 Digital Refractometer RX-5000/RX-5000Alpha/RX-5000Alpha Plus/RX-9000Alpha NEW!

The RX-5000, RX-5000 Alpha and RX-5000Alpha Plus are reliable and cost effective instruments with a measurement accuracy of ±0.03% Brix and ±0.00004nD. An excellent alternative to traditional Abbe refractometers and essential to any QC/QA lab. Equipped with 60 programmable user scales and 4 level password protection feature. RX-5000 is designed to connect to an external circulating waterbath. RX-5000 Alpha and RX-5000Alpha Plus are equipped with a Peltier thermo module. RX-5000Alpha Plus has the highest accuracy of the RX series. All refractometers can be connected with an optional printer.

Specifications

Measurement range:	0.00 to 95.00% Brix, 1.3270 to 1.5800nD
Resolution:	0.01 % Brix, 0.00001nD
Accuracy	
RX-5000/RX-5000Alpha:	0.03% Brix, 0.00004nD
RX-5000Alpha Plus:	0.01% Brix, 0.00002nD
Working temperature:	5 to 60°C
Input voltage:	AC 100-240V, 50/60Hz
Output voltage:	DC, 6A for refractometer, DC 6.5V, 1.5A for printer
Dimensions:	370 x 260 x 140mm
Weight:	6.4kg

Type	PK	Cat. No.
RX-5000	1	9.801 373
RX-5000Alpha	1	9.801 374
RX-5000Alpha Plus	1	9.801 386
RX-9000Alpha	1	6.227 423



1


1 Digital desk refractometers

The DR6000 refractometers work with hardly any service and are very quiet, good for long-term work in the lab. Very easy to operate due to an intuitive touch screen. Optional connections to printer, PC or network provide highest flexibility. High precision through integrated peltier thermostat (T-model). Flow measurement cells enable continuous measuring (F-model). The devices are used wherever a substance in watery solutions has to be measured. Areas of usage: beverage, chemistry, pharma, food, paper, sewerage, textile, petrochemistry, cosmetics.

A.KRÜSS Optronic

Specifications

Interface:	RS-232, USB, Ethernet
Temperature measurement:	5 to 90°C
Temperature resolution:	0.1°C
Temperature measurement accuracy:	0.05°C (0.1°C T-models)
Measurement mode:	Single, interval
Scales:	7 default, custom
Protection class:	IP 65
Power supply:	90-260V, 56/60Hz, 60W

Type	Measuring range	Accuracy	Graduations	PK	Cat. No.
DR6000	1.3200-1.5800 nD 0-95% Brix	0.0001 nD 0.1 % Brix	0.0001 nD 0.1 % Brix	1	6.239 384
DR6000-T	1.3200-1.5800 nD 0-95 % Brix	0.0001 nD 0.1 % Brix	0.0001 nD 0.1 % Brix	1	6.237 965
DR6000-TF	1.3200-1.5800 nD 0-95 % Brix	0.0001 nD 0.1 % Brix	0.0001 nD 0.1 % Brix	1	9.801 101
DR6100-T	1.3200-1.700 nD 0-95% Brix	0.0001 nD 0.1 % Brix	0.0001 nD 0.1 % Brix	1	6.241 690
DR6100-TF	1.3200-1.700 nD 0-95% Brix	0.0001 nD 0.1 % Brix	0.0001 nD 0.1 % Brix	1	6.235 892
DR6200-T	1.32000-1.58000 nD 0-95 % Brix	0.00002 nD 0.02 % Brix	0.00002 nD 0.01 % Brix	1	9.801 102
DR6200-TF	1.32000-1.58000 nD 0-95 % Brix	0.00002 nD 0.02 % Brix	0.00002 nD 0.01 % Brix	1	9.801 103
DR6300-T	1.32000-1.70000 nD 0-95 % Brix	0.00002 nD 0.02 % Brix	0.00002 nD 0.01 % Brix	1	9.801 104
DR6300-TF	1.32000-1.70000 nD 0-95 % Brix	0.00002 nD 0.02 % Brix	0.00002 nD 0.01 % Brix	1	9.801 105

2


2 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.

Exacta Optech

Standard accessories: Calibrating glass prism, thermometer, dust cover, mono-bromonaphtalene standard (bottle), calibrating screw driver, wooden box.

Specifications

Range:	1.300 to 1.700nD 0 to 95% Brix
Precision:	0.001 nD 0.2% Brix
Manual temperature compensation:	0 to 70°C

Type	PK	Cat. No.
RMT	1	9.801 257

3


3 Abbe refractometer AR4

Classic refractometer for solids and liquids. Coloration and clouding scarcely influence the measuring results. Handling is simple and the device can easily be calibrated through calibration plates (included). LED illumination (guarantees extremely long life), digital thermometer, optional flow measurement cell and thermostat connections. Specialty: adjustable scales, temperature-controlled prisms.

A.KRÜSS Optronic

Specifications

Thermometer:	digital -40 to 120°C
Illumination	Scale lighting, LED light (590nm) for measuring prism
Dimensions	140x100x270mm
Weight	4.4kg
Power supply	110V/220V, switchable

Type	Accuracy	Measuring range	Graduations	PK	Cat. No.
AR4	0.0002 nD 0.1 % Brix	1.3000-1.7000nD 0-95 % Brix	0.0005 nD 0.1 % Brix	1	9.801 110

1 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 (6cm²) with movable shrouds. Focussable eyepiece. *Exacta Optech*

Standard accessories: Calibrating glass prism, thermometer, 6V-5W lamps (2 inc.), dust cover, mono-bromonaphtalene standard (bottle), stabilised mains adapter, calibrating screw driver.

Specifications

Range: 1.300 to 1.700nD
0 to 95% Brix
Precision: 0.001nD
0.2% Brix
Manual temperature compensation: 0 to 100°C

Type	PK	Cat. No.
RMI	1	9.801 258



2 Abbe refractometers, NAR-1T series/NAR-2T

Type NAR-1T-Liquid

The Abbe Refractometer for liquid sample measurement only. It has the Refractive Index Scale and the Brix scale, and it comes with D-line (589nm) light source. Calibration can be achieved using distilled water. *ATAGO*

Type NAR-1T Solid

Abbe Refractometer for solid sample measurement (it can also be used to measure liquid samples). It has the Refractive Index Scale and the BRIX scale, and it comes with D-line (589nm) light source.

Type NAR-2T

Designed for use with substances requiring measurement at high temperature.

Type	Measuring range	Graduations	Accuracy	Working Temp. range °C	PK	Cat. No.
NAR-1T Liquid	1,3000 - 1,7000 nD	0,001 nD	±0,0002 nD	0,0 - 50	1	6.231 748
	0,0 - 95,0 % Brix	0,5 % Brix	±0,1 % Brix			
NAR-1T Solid	1,3000 - 1,7000 nD	0,001 nD	±0,0002 nD	0,0 - 50	1	6.228 976
	0,0 - 95,0 % Brix	0,5 % Brix	±0,1 % Brix			
NAR-2T	1,3000 - 1,7000 nD	0,001 nD	±0,0002 nD	0,0 - 120	1	9.801 317
	0,0 - 95,0 % Brix	0,5 % Brix	±0,1 % Brix			



3 Digital Abbe refractometer, DR-A1

Very simple operation, where only the refraction boundary line has to be moved to the measurement cross hairs. The refractometer displays measurements directly (as a refractive index or in Brix (%)) in digits together with temperature. Measurements can be taken easily by anyone using this refractometer without taking an analogue scale reading in advance. Dispersive value can not be measured using this refractometer. *ATAGO*

Specifications

Measurement range: 1.3000 - 1.7100nD
0.0 - 95.0Brix
Resolution: 0.0001nD
0.1%Brix
Accuracy: 0.0002nD
0.1%Brix
Temperature range: 0 to 50.0°C
Power supply: a.c. adapter (100 to 240V 50/60Hz)
Dimensions: 130 x 290 x 310mm
Weight: 6.0kg

Type	PK	Cat. No.
DR-A1	1	9.801 325





1 Sucrose (Brix) Standards

Reagecon

Certified stabilized Sucrose (Brix) Standards.

- Test results are ISO17025 accredited with an uncertainty of measurement of 0.11% for all Brix values
- Nominal Refractive Index values are taken from the ICUMSA published tables
- The Brix value of the standard is verified using a high performance calibrated, temperature controlled refractometer
- Can be used with any brand of Refractometer
- Extended shelf life of 1 year
- Convenient high quality dropper bottle

Brix %	Refractive Index at 20 °C	PK	Cat. No.
0	1.332986	1	6.264 212
5	1.340264	1	6.265 876
10	1.347824	1	6.257 923
15	1.355679	1	6.263 260
20	1.363842	1	6.264 889
30	1.381149	1	6.258 368
40	1.399860	1	7.660 408
50	1.420087	1	6.258 369
60	1.441928	1	6.265 875



2 Refractive Index standards

Reagecon

Certified standards with values expressed in Refractive Index (R.I) units nD.

- Test results are ISO17025 accredited with an uncertainty of measurement up to ± 0.00014 nD units for all Refractive Index values.
- Nominal Refractive Index values are taken from the ICUMSA published tables.
- Extended shelf life of 1 year.
- Can be used with any brand of Refractometer.
- Convenient high quality dropper bottle.

Refractive Index at 20 °C	PK	Cat. No.
1.34325	1	6.265 877
1.34782	1	7.658 877
1.37233	1	6.265 878
1.38115	1	6.258 375
1.39032	1	6.265 879
1.40978	1	6.265 142
1.42009	1	6.258 376
1.44193	1	6.265 880

We can supply this
 manufacturer's whole
 product range !

partner of the

 Lab Logistics Group

1 Digital Refractometer/Polarimeter RePo-1



ATAGO

A fusion of index of refraction and angle of optical rotation.

Brix can only indicate the overall amount of dissolved solids in a solution. With RePo-1, it is possible to determine if a product has been adulterated by measuring the optical rotation. Announcing an All-in-One, refractometer and polarimeter hybrid unit. As little as 3mL sample, RePo-1 can measure both brix and optical rotation of the sample. With the press of a button, purity, international sugar scale, specific rotation and concentration can be displayed. Users can also set an upper and lower measurement limit. An indicator light alerts the user if a measurement value is within the limits, allowing for optimal efficiency. RePo-1 can be utilized for many uses, including helping to determine the rate of crystallization in honey.

Specifications

Measurement range	
Angle of Rotation:	-5 to +5°
International Sugar Scale:	-130 to +130°Z
Brix (%):	0 to 85%
Temperature:	15 to 40°C
Resolution	
Angle of Rotation:	0.01°
International Sugar Scale:	0.1°Z
Temperature:	0.1%
Brix (%):	0.1°C
Accuracy	
Angle of Rotation:	±0.1° (at 20°C)
International Sugar Scale:	±3°Z (at 20°C)
Brix (%):	±0.2%
Temperature:	±1°C
Working temperature:	5 to 40°C
Wavelength:	589nm
Power supply:	4 x Size AAA alkaline battery
Dimensions:	101x160x38mm
Weight:	325g
Protection class:	IP 64

Type	PK	Cat. No.
RePo-1	1	6.266 905

2 Polarimeter Polax-2L

ATAGO

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 200mm and 1 x 100mm
Power supply:	100-240V, 50/60Hz a.c.
Power consumption:	40 VA
Dimensions:	43 x 22 x 30cm
Weight:	11.5kg

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



1 Automatic Economical Polarimeter P3000-Serie

It measures samples in just 1 second, regardless of the rotation angle, saving much time over measurement with conventional polarimeters. The P3000 is operated fully automatically with an intuitive touchscreen. Measured values can be displayed as optical rotation angles or in the ICUMSA international sugar scale, and can be printed out with the printer interface. The P3000 offers unbeatable value for money for all applications where measurement accuracy to 2 decimal points is sufficient. A.KRÜSS Optronic

Specifications

Measuring method:	Optical rotation, int. sugar scale
Measuring range:	$\pm 90^\circ \pm 259^\circ Z$
Measuring units:	Angle [$^\circ$, $^\circ Z$]
Resolution:	0.01 $^\circ$ 0.01 $^\circ Z$
Accuracy:	$\pm 0.01^\circ \pm 0.01^\circ Z$
Reproducibility:	0,01 $^\circ$
Measuring time:	$\pm 90^\circ$ 1 s
Light source:	1 LED with filter
Wavelength:	589nm
Wavelength selection:	1 fixed wavelength
Max. length of tube:	220mm
Sensitivity:	min 0.1 % (OD3)
Calibration:	Automatic (menu-driven)
Display:	LCD 3.5" colour display
Operation:	Touchscreen
Interfaces:	RS-232
Operating voltage:	100-250V, 50/60Hz
Temperature measurement:	0 to 99.9 $^\circ C$
Temperature resolution:	0.1 $^\circ C$
Accuracy of temperature control:	$\pm 0.2^\circ C$
Temperature reading point:	Tube

Type	PK	Cat. No.
P3000	1	9.801 190

2 Polarimeter AP-300

Model AP-300 is generally used in pharmaceutical, perfume, cosmetic, industrial, chemical, and food factories and is the optimal unit for measuring angle of rotation. In addition, the built-in International Sugar Scale is widely used in sugar refineries. ATAGO
The AP-300 has a manual calibration facility which allows the user to compensate for any differences to standard liquids and measurement values by other standard instruments.

Specifications:

Measurement range	
Angle of Rotation:	-89.99 to 89.99 $^\circ$
International sugar scale:	-130.00 to +130.00
Minimum Indication	
Angle of Rotation:	0.1 $^\circ$
International sugar scale:	0.01 $^\circ Z$
Measurement accuracy	
Angle of Rotation:	$\pm 0.01^\circ$
International sugar scale:	$\pm 0.03^\circ Z$
Observation tubes:	1 x 200mm and 1x 100mm
Dimensions:	48.5 x 28.5 x 17.5cm
Weight:	11.5kg

Type	PK	Cat. No.
AP-300	1	6.227 906



1 Polarimeter SAC-i **NEW!**

Measurement Scales: Angle of rotation, specific rotation, International Sugar Scale, concentration, purity. ATAGO

- Measurement stability in 13 seconds (4 seconds in the high-speed and consecutive measurement mode)
- Resolution of up to 3 decimal places
- Repeatability of $\pm 0.003^\circ$ Angle of Rotation and $\pm 0.009^\circ Z$
- Up to 999 automatic consecutive measurements followed by average value display
- Sleep and timer feature to take measurement later at specified time
- Improved usability due to touch screen technology
- Connectivity to RX Digital Refractometers for automatic purity measurement

Specifications

Measurement range	
Angle of rotation:	-89.999 to +90.000° or -360 to +360°
International standard sugar scale:	-259 to +259°Z
Resolution	
Angle of rotation:	0.001°
International standard sugar scale:	0.001°Z
Measurement accuracy	
Angle of rotation:	$\pm 0.005^\circ$ (-45 to +45°)
International standard sugar scale:	$\pm 0.015^\circ Z$ (-130 to +130°Z)
Measurement temperature range:	5 to 40°C
Observation tubes:	100mm (5ml), 200mm (10ml)
Power supply:	100-240V, 50/60Hz a.c.
Dimensions:	600 x 365 x 210mm
Weight:	20kg

Type	PK	Cat. No.
SAC-i	1	9.801 474



2 Hand spectroscopes

Handy and precise. Angle dispersion: C -F 7°. Linear dispersion: 60 mm (direct vision prism of Amici type)

A.KRÜSS Optronic

- Ideal for demonstrations in schools and for:
- Viewing/observation of emission and absorption spectra
 - Control of the wavelength spectra of gas emission lamps

Type	Features	PK	Cat. No.
1501	with adjustable split	1	9.841 501
1504	with adjustable split and wavelength scale (400 to 750nm)	1	9.841 504



1 LLG Spectrophotometer uniSPEC 2



uniSPEC 2 is an inexpensive, basic UV/VIS-spectrophotometer suitable for pharmaceutical, biochemical and clinical lab applications as well as routine measurements such as kinetics, wavelength scans, quantitative analysis, multi-wavelength and DNA/Protein analysis. It is possible to store and save 200 calibration curves. Both lamps can be individually turned on/off to extend the durability. A pre-adjusted lamp design allows a fast and easy lamp replacement. 3 years warranty.

Supplied with: Photometer, manual, 4 glass cells and 2 quartz cells.

Specifications

Optical system:	Single beam, Grating 1200 lines/mm, Silicium photodiode detector
Wavelength range:	190 to 1100nm
Bandwidth:	2nm
Wavelength accuracy:	±0.5nm
Wavelength repeatability:	0.3nm
Wavelength setting:	automatic
Photometric accuracy:	±0.5%T
Photometric repeatability:	0.3%T
Photometric range:	-0.3-3A, 0-200%T, 0-9999C
Stability:	±0.002A/h at 500nm
Stray light:	≤0.1%T
Data output:	USB port
Printer port:	parallel port
Display:	128 x 64 Dots LCD
Standard cell holder:	4-position 10 mm cell changer
Lamps:	D2 lamp and W lamp
Dimension (WxDxH):	460 x 360 x 225mm
Weight:	18kg
Power supply:	220V/50Hz or 110V/60Hz
Guarantee:	3 years



Type	PK	Cat. No.
uniSPEC 2, with EU-plug	1	6.263 610
uniSPEC 2, with UK-plug	1	6.263 611

2 LLG Spectrophotometer uniSPEC 4



uniSPEC 4 is a reasonably priced UV/VIS-spectrophotometer suitable for advanced pharmaceutical, biochemical and clinical lab applications as well as quality control and routine measurements such as kinetics, wavelength scans, quantitative analysis, multi-wavelength and DNA/Protein analysis. The software can be updated through the internet (for stand-alone instruments). It is possible to store and save 200 calibration curves. A Real-time clock to help state date and time of results. Both lamps can be individually turned on/off to extend the durability. A pre-adjusted lamp design allows a fast and easy lamp replacement. 3 years warranty.

Supplied with: Photometer, manual, 4 glass cells and 2 quartz cells.

Specifications

Optical System:	single beam, grating 1200 lines/mm, silicium photodiode-detector
Wavelength Range:	190 to 1100nm
Bandwidth:	1.8nm
Wavelength Accuracy:	±0.3nm
Wavelength Repeatability:	0.2nm
Wavelength Setting:	automatic
Photometric Accuracy:	±0.3%T
Photometric Repeatability:	0.2%T
Photometric Range:	-0.3-3A, 0-200%T, 0-9999C
Stability:	±0.002A/h at 500nm
Baseline Flatness:	±0.001A/h
Stray Light:	≤0.05%T at 220nm, 360nm
Data Output:	USB port
Printer Port:	parallel port
Display:	320 x 240 Dots LCD
Standard Cell Holder:	4-position 10mm cell changer
Lamps:	D2 lamp and W lamp
Dimension (WxDxH):	625 x 430 x 206mm
Weight:	28kg
Power supply:	220V/50Hz or 110V/60Hz
Guarantee:	3 years



Type	PK	Cat. No.
uniSPEC 4 with EU-plug	1	6.263 620
uniSPEC 4 with UK-plug	1	6.263 621

1 Spectrophotometers, 6700 series



Jenway

A range of three split-beam instruments:

- Type 6700: Visible range scanning (320nm to 1100nm with 4nm spectral band width)
- Type 6705: UV/Visible range scanning (190nm to 1100nm with 4nm spectral band width)
- Type 6715: UV/Visible range scanning (190nm to 1100nm with 1.5nm spectral band width)

Modes of operation: Photometrics, Kinetics, Quantitation, Multiwavelength analysis and Spectral scanning.

Featuring:

- Fast scanning rate of 1500nm/minute with data collection at 0.1nm 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 2GB 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	Description	PK	Cat. No.
6700	Spectrophotometer with single cuvette holder	1	9.775 416
6705	Spectrophotometer with single cuvette holder	1	9.775 420
6715	Spectrophotometer with single cuvette holder	1	9.775 424
for all types	Sample chamber with automatic 8-cell	1	6.253 506
for all types	Sample chamber with water heated automatic six- cell changer module fitted	1	6.236 532
for all types	Sample chamber with sipper Peltier module fitted	1	6.236 533
for all types	Sample chamber with Peltier module fitted	1	7.900 098
for all types	10 to 100mm adjustable path length cuvette holder	1	9.775 430
for all types	Printer, incl. 1 roll paper	1	9.775 434
for all types	Sample chamber with sipper module fitted	1	9.775 435
for all types	Test tube holder for 10mm square cuvettes, 16mm and 24mm diameter tubes	1	9.775 436

1



We can supply this

manufacturer's whole

product range ! **JENWAY**

partner of the



1 Spectrophotometer Models 6300 VIS/6305 UV-VIS

Models 6300 and 6305 are general purpose visible and UV/Visible range spectrophotometers which are suited to a wide range of applications in education and quality control.

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 10mm to 100mm cells

Supplied with: Mains lead, pack 100 disposable cuvettes, 10 x 10mm cell holder, PC Application Software on CD-ROM and operating instructions.

Various accessories e.g. sipper pump, cells, cell holders, cuvettes and lamps available on request.

Specifications

Wavelength

Range:	198 to 1000nm (6305) 320 to 1000nm (6300)
Resolution:	1nm
Accuracy:	±2nm
Bandwidth:	8nm, 6nm over UV range

Transmittance

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

Absorbance

Range:	-0.300 to 1.999A
Resolution:	0.001A

Concentration

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

Light Source:

Xenon flash lamp module (6305)
Tungsten halogen (6300)

Dimensions (WxDxH):

365 x 272 x 160mm

Weight:

6kg

Supply requirements:

230V/50Hz

Type	PK	Cat. No.
6300 VIS	1	9.775 412
6305 UV-VIS	1	9.775 411

2 Accessories for Spectrophotometer Model 6300/6305

Jenway

Description	PK	Cat. No.
Adjustable path length cuvette holder for 10mm to 100mm cuvettes	1	9.775 430



Spectrophotometer Models 7300 VIS/7305 UV-VIS

Models 7300 and 7305 use icon driven software and have an improved navigation system for easy and intuitive usability. These instruments have measurement modes for absorbance, % transmittance and concentration. The 7300 and 7305 are easy to use and are ideal for use in education and general QC laboratories.

Jenway

- Small footprint
- Autologging capabilities
- Press to read xenon lamp (7305)
- PC software included
- 3 year warranty

Supplied with: Mains lead, pack 100 disposable cuvettes, 10mm x 10mm cell holder, PC Application Software on CD-ROM and operating instructions.

Accessories available include an automatic 8 cell changer, peltier, sipper pump, combined sipper peltier pump, adjustable path length cuvette holders and micro-cuvette holders. Cuvettes and lamps available on request.

Specification

Wavelength

Range: 320 to 1000nm (7300)
198 to 1000nm (7305)

Resolution: 1nm
Accuracy: ±2nm
Bandwidth: 5nm

Transmittance

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

Absorbance

Range: -0.300 to 2.500A
Resolution: 0.001A

Concentration:

Range: -300 to 9999
Resolution: Selectable 1/0.1/0.01/0.001
Units: no units, %, ppm, EBC, SRM, mEq/l, mEq, M, mM, µM, nM, U, U/l, U/ml, g/l, mg/l, µg/l, ng/l, g/dl, mg/dl, µg/dl, mg/ml, µg/ml, ng/ml, µg/µl, ng/µl, mol/l, mmol/l

Outputs:

Analogue (0 to 1999mV d.c.)
RS232 serial port optional integrated printer

Light Source:

Tungsten halogen (7300)
Xenon lamp (7305)

Dimensions (WxDxH):

275 x 400 x 220mm

Weight:

6kg

Supply requirements:

230V/50Hz

Type	PK	Cat. No.
7300 VIS	1	9.775 440
7305 UV-VIS	1	9.775 441



9.775 440

Spectrophotometer Models 7310/7315

Models 7310 and 7315 use icon driven software and have an improved navigation system for easy and intuitive usability. These instrument have measurement modes for absorbance, % transmittance, concentration, scanning, kinetics and quantitation. The 7310 and 7315 are easy to use and are ideal for routine testing in clinical, veterinary, pharmaceutical and QC laboratories.

Jenway

- Small footprint
- Autologging capabilities
- Press to read xenon lamp (7315)
- Result and method storage to USB memory stick
- PC software included
- 3 year warranty

Supplied with: Mains lead, pack 100 disposable cuvettes, 10 x 10mm cell holder, 2GB USB memory stick, interface cable, PC Application Software on CD-ROM and operating instructions.

Accessories available include an automatic 8 cell changer, peltier, sipper pump, combined sipper peltier pump, adjustable path length cuvette holders and micro-cuvette holders. Cuvettes and lamps are available on request.

Specifications

Wavelength

Range: 320 to 1000nm (7310)
198 to 1000nm (7315)

Resolution: 1nm

Accuracy: ± 2 nm

Bandwidth: 5nm

Transmittance

Range: 0 to 199.9%

Resolution: 0.1%

Stray light: $< 0.5\%T$

Accuracy: $\pm 1\%$

Absorbance: -0.3 to 2.500

Concentration: -300 to 9999

Resolution: Selectable 1, 0.1, 0.01 or 0.001

Calibration: Blank with a single standard or factor

Quantitation: -300 to 9999

Resolution: Selectable 1, 0.1, 0.01 or 0.001

Calibration: Blank with up to 6 standards

Curve fit algorithms: Linear regression, interpolation, quadratic, quadratic through zero or linear regression through zero

Kinetics display: Graphical rate of change, initial and final absorbance/%T and calculated concentration value against standard and factor

Spectrum: 320 to 1000nm (7310)

198 to 1000nm (7315)

Scan Data Internal: 1, 2 or 5nm selectable

Analysis: Absorbance and wavelength of peaks and troughs

Outputs: USB, analogue and serial RS232 optional integrated printer

Supply requirements: 230V/50Hz

Type	PK	Cat. No.
7310	1	9.775 442
7315	1	9.775 443

1



2



➔ For our Life Science product range, please see page 1180.



Good quality! Great value!



www.llg-labware.com

www.wenk-labtec.com

Spectrophotometer UviLine



SI Analytics

UviLine 8100 and UviLine 9100 for measurements at VIS-range from 320nm to 1100nm
 UviLine 9400 for measurements at UV-VIS-range from 190nm to 1100nm
 UviLine 8100 with an optical resolution of 6nm, UviLine 9100 and 9400 with an optical resolution of 4nm.

Wide performance range

- measurements of absorbance, transmission and concentration up to 8 standards
- multi-wavelength e.g. for measurements of DNA/RNA or the determination of protein according to Warburg-Christian
- spectra scan with online graphic and various evaluation functions
- kinetics (short and long term measurements)

Easy accessible accessories are available on request:

Quick-lock system requires no tools.

- 10mm cell holder (standard)
- 10mm cell holder (water thermostatable)
- 10mm cell holder (peltier thermostatable from 15 - 40°C)
- cell holder from 10mm up to 100mm
- sipper (incl. flow trough cell)
- automatic 5+1 cell changer

Peltier cell holder, sipper and 5+1 cell changer can be fully controlled from the software.

Modern Interfaces

- USB A interface for the connection of USB-sticks, keyboard or printer. More than 1 device can be connected at the same time using a USB-hub.
- RS232 and USB-(B)-interfaces for the PC connection.

Accessories are not valid for UviLine 8100, except passive cell holders.

Specifications:

Technique:	Single beam
Wavelength accuracy:	±1 nm
Wavelength repeatability:	< ±0.5 nm
Photometric range:	-3.3 to 3.3A
Photometric accuracy:	±0.003A (from 0- 0.3 A); 0.5 % from 0.3 to 2.5A
Photometric linearity:	< 1% at 2 A between 340 to 900nm
Stray Light:	< 0.1% at 340 and 400nm
Display:	Back graphic display with 320 x 240 signs
Data storage:	1000 values; for spectra and cinetics appr. 4 MB
Interfaces:	1 x USB master 1 x USB-slave, 1 x RS232-C
Power supply:	100 - 260V, 50/60Hz
Temperature range:	Operating temp. + 10°C to 35°C, Storage: - 25°C to 65°C
Dimensions (W x H x D):	404 x 197 x 314mm
Weight:	3.7kg without power supply

Type	Description	PK	Cat. No.
UviLine 8100	Single beam spectro photometer, 6nm with a measuring range from 320 - 1100nm	1	9.775 455
UviLine 9100	Single beam spectro photometer, 4nm with a measuring range from 320 - 1100nm	1	9.775 450 1
UviLine 9400	Single beam spectro photometer, 4nm with a measuring range from 190 - 1100nm	1	9.775 451 2
SZ 2100	5+1 cell changer, controlled from UviLine	1	6.251 233
SZ 2110	Cell holder Single, 10 - 100mm	1	6.240 323
SZ 2130	Cell holder Single, 10mm, (included in delivery of all UviLines)	1	9.775 452
SZ 2140	Cell holder Single 10mm, water thermostatable	1	7.628 259
SZ 2150	Sipper controlled from UviLine	1	6.242 634
SZ 2160	Cell holder Single 10mm, Peltier thermostatable	1	9.775 453

Extensive accessories on request!

1


9.775 450

2


9.775 451

1 Flame Photometer PFP7

- Industrial analysis
- Low temperature
- Incl. Na, K, Ca, Ba und Li filters
- Electronic flame failure detection
- Fine & coarse sensitivity controls
- Operates on propane, butane, natural gas or L.P.G. supplies

Jenway

Fitted with automatic flame failure detection for user safety, making it ideal for use in clinical, industrial and educational applications.

Supplied with: Fitted with electronic flame fail safe and supplied with Na, K, Li, Ba and Ca filters, connecting hoses and clips, compressor plug, drain trap, fuses and operating/service instructions

Specifications

Ranges:	0 to 199.9ppm
Limits of detection	
Na/K:	< 0.2ppm
Li:	< 0.25ppm
Ca:	< 15ppm
Ba:	< 30ppm
Reproducibility:	< 1%/Coefficient of Variation for 20 consecutive samples using 10ppm Na set to read 50
Linearity:	Better than 2% when concentration of 3ppm Na/K and 5ppm 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 1.00V for a reading of 100.0
Electrical:	90 - 125V or 190 - 250V 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 300mm
Weight:	8kg
Supply requirements:	230V, 50Hz



Type	PK	Cat. No.
PFP7	1	9.309 409

2 Accessories to Flame Photometer PFP7

Please Note: These products will only operate with the correct type of air compressor and gas regulator as specified below.

Jenway

It is recommended that the filters listed below are factory fitted at the time of ordering - please specify.

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





9.190 980



1 Calibration - Qualification of spectrophotometers with the certified reference materials from Hellma Analytics

To maintain constant good measurement results, a regular review of the accuracy of the spectrophotometer is required. With the use of certified reference materials from Hellma Analytics, you make sure that your equipment qualifications meet the requirements of the pharmacopoeias and fulfill your internal quality requirements, at the same time you reach the international comparability of your measurement results. The certified reference materials (calibration standards) of the DIN EN ISO 17025 accredited Hellma Analytics calibration laboratory are traceable to the primary standards of NIST (National Institute of Standards and Technology) and meet the requirements of the major pharmacopoeias (e.g. EP, DAB, USP).

Hellma Analytics

Your benefits:

- High quality of the measurement results
- International comparability of measurement results
- Meeting the requirements of the major pharmacopoeias (EP, DAB, USP)
- Results traceable to NIST primary standards
- 30 years warranty* on the reference materials

Scope of delivery:

- Certified reference materials (Calibration Standards) in quality storage box
- DAKKS Calibration Certificate (DIN 17025)
- Handling guidelines

Certified reference materials for qualifying spectrophotometer as a complete set

Glass Filters: For testing spectrophotometers. Photometric accuracy and wavelength accuracy in the visible spectral region.

Hellma Analytics

Liquid Filters: For testing spectrophotometers according to European Pharmacopoeia, wavelength accuracy, photometric accuracy, stray light behaviour, resolution.

Type	Description	Capacity	Material	Wave-length nm	PK	Cat. No.
666-S000	Complete Set Glass Filters	666-F1	Holmium Oxide Glass Filter	279, 361, 453, 536, 638	1	9.190 973
		666-F2	Neutral Density Glass Filter NG 11	440; 465; 546,1; 590; 635		
		666-F3	Neutral Density Glass Filter NG 5	440; 465; 546,1; 590; 635		
		666-F4	Neutral Density Glass Filter NG 4	440; 465; 546,1; 590; 635		
		666-F0	Empty Filter Mount			
667.003-UV	Complete Set Liquid Filters	667.100-UV	Potassium Chloride + blank	198, 200 (certified)	1	9.190 980
		667.200-UV	Toluene in Hexane + blank	266, 269		
		667.305-UV	Potassium Dichromate in HClO ₄ + blank	235, 257, 313, 350, 430		
		667-UV5	Holmium Perchlorate in Perchloric Acid	241,15; 287,15; 361,5; 536,3		

Filters also available individually.

Check for stray light

Hellma Analytics

Type	Description	Wave-length nm	PK	Cat. No.
667.100-UV	Calibration set according to European Pharmacopoeia, contains filter UV1, UV12		1	6.228 184
667-UV1	Liquid filter UV1, Potassium chloride	198 - 385	1	9.190 981
667-UV12	Reference filter UV12, purified water	-	1	9.190 982

Check for spectral resolution

Hellma Analytics

Type	Description	Wave-length nm	PK	Cat. No.
667.200-UV	Calibration set according to European Pharmacopoeia, contains filter UV6, UV9		1	6.240 535
667-UV6	Liquid filter UV6, Toluene in n-hexane	266, 269	1	9.190 983
667-UV9	Reference filter UV9, n-hexane	-	1	6.231 555

Check the wavelength accuracy

Hellma Analytics

Type	Description	Wave-length nm	PK	Cat. No.
667-UV5	Liquid filter UV5, Holmium oxide in Perchloric acid	240 - 650	1	6.227 666
666-F1	Glass filter F1, Holmium oxide	279 - 638	1	6.201 067
666-F7	Glass filter F7, Didymium	329 - 875	1	7.612 486

Check for photometric accuracy

Hellma Analytics

Type	Description	Wave-length nm	PK	Cat. No.
667.305-UV	Calibration set according to European Pharmacopoeia, contains filter UV60, UV600, UV14		1	7.626 372
667-UV60	Liquid filter UV60, Potassium dichromate 60mg/l	235 - 350	1	6.240 039
667-UV600	Liquid filter UV600, Potassium dichromate 600mg/l	430	1	9.190 984
667-UV14	Reference filter UV14, Perchloric acid	-	1	6.240 040
666-F7	Glass filter F7, Didymium	270 - 340	1	7.612 486
666-F2	Neutral density glass filter F2, 0.25 absorbance	440 - 635	1	6.801 867
666-F3	Neutral density glass filter F3, 0.5 absorbance	440 - 635	1	6.801 332
666-F4	Neutral density glass filter F4, 1.0 absorbance	440 - 635	1	6.801 868



Cells for Fluorescence Measurement, UV-Range

Wavelength Range: 200nm - 2500nm
Optical material: Quartz SUPRASIL®

Hellma Analytics

Type	Path length mm	Description	External dimensions (W x D x H) mm	internal width (mm) / aperture (mm x mm/Ø)	Centre height mm	PK	Cat. No.
macro	10 x 10	PTFE lid, 4 window	12,5 x 12,5 x 45	10		1	9.144 761
macro	10 x 10	PTFE stopper, 4 window	12,5 x 12,5 x 46	10		1	9.144 771
semi-micro	10 x 4	PTFE lid	12,5 x 12,5 x 45	4		1	9.144 781
semi-micro	10 x 4	PTFE stopper	12,5 x 12,5 x 46	4		1	9.144 791
semi-micro	10 x 4	screw cap *	12,5 x 12,5 x 56	4		1	6.222 630
semi-micro	10 x 4	PTFE stopper **	12,5 x 12,5 x 49,5	4		1	6.080 511
micro	10 x 2	PTFE stopper	12,5 x 12,5 x 40	2		1	9.144 759
micro	10 x 2	PTFE lid	12,5 x 12,5 x 45	2	20.0	1	6.081 483
micro	10 x 2	PTFE lid	12,5 x 12,5 x 45	2		1	9.144 801
ultramicro	3 x 3	PE stopper, 3 window	12,5 x 12,5 x 45	5 x 3	15.0	1	9.144 391
ultramicro	3 x 3	PE stopper, 3 window	12,5 x 12,5 x 45	5 x 3	8.5	1	9.144 390
ultramicro	10 x 2	PE stopper, 3 window	12,5 x 12,5 x 45	5 x 2	15.0	1	6.051 579
ultramicro	10 x 2	PE stopper, 3 window	12,5 x 12,5 x 45	5 x 2	8.5	1	6.510 380

* with silicone rubber seal and with ISO thread GL 14
**for magnetic stirrers
***Connection Ø 8 mm, length 80 mm spigot



Cells for Fluorescence Measurement, Vis-Range

Wavelength Range: 320nm - 2500nm
Optical material: Special optical glass

Hellma Analytics

Type	Path length mm	Capacity µl	Description	External dimensions (W x D x H) mm	internal width mm	PK	Cat. No.
macro	10 x 10	3500	PTFE-lid	12,5 x 12,5 x 45	10	1	9.144 760
macro	10 x 10	3500	PTFE-stopper	12,5 x 12,5 x 46	10	1	9.144 770

Cells for Absorption Measurement, UV- Range

Wavelength Range: 200nm - 2500nm
Optical material: Quartz SUPRASIL®

Hellma Analytics

Type	Path length	Capacity	Description	External dimensions (W x D x H) mm	internal width (mm) / aperture (mm x mm/Ø)	Centre height mm	PK	Cat. No.
	mm	µl						
macro	100	35000	PTFE lid	12,5 x 102,5 x 45	9,5		1	6.088 125
macro	10	3500	PTFE lid	12,5 x 12,5 x 45	9,5		1	9.144 210 ¹
macro	1	350	Glass-lid	12,5 x 3,5 x 45	9,5		1	9.144 201
macro	20	7000	PTFE lid	12,5 x 22,5 x 45	9,5		1	9.144 220
macro	2	700	Glass-lid	12,5 x 4,5 x 45	9,5		1	9.144 202
macro	40	14000	PTFE lid	12,5 x 42,5 x 45	9,5		1	9.144 240
macro	50	17500	PTFE lid	12,5 x 52,5 x 45	9,5		1	9.144 250
macro	5	1750	PTFE lid	12,5 x 7,5 x 45	9,5		1	9.144 205
macro	10	3500	PTFE stopper	12,5 x 12,5 x 46	9,5		1	9.144 610 ²
macro	1	350	PTFE stopper	12,5 x 3,5 x 52	9,5		1	9.144 601
macro	2	700	PTFE stopper	12,5 x 4,5 x 52	9,5		1	9.144 602
macro	50	17500	2 PTFE stopper	12,5 x 52,5 x 46	9,5		1	9.144 650
macro	5	1750	PTFE stopper	12,5 x 7,5 x 46	9,5		1	9.144 605
macro	10	3500	Screw cap **	12,5 x 12,5 x 56	9,5		1	6.801 219
semi-micro	10	1400	PTFE lid	12,5 x 12,5 x 45	4		1	9.144 460
semi-micro	50	7000	PTFE lid	12,5 x 52,5 x 45	4		1	9.144 465
semi-micro	10	1400	PTFE lid *	12,5 x 12,5 x 45	4		1	9.144 490
semi-micro	10	1000	PTFE lid	12,5 x 12,5 x 45	4	15.2	1	6.250 017
semi-micro	10	1400	PTFE stopper	12,5 x 12,5 x 46	4		1	9.144 730
semi-micro	10	1400	PTFE stopper *	12,5 x 12,5 x 46	4		1	9.144 372 ³
semi-micro	10	1400	Screw cap **	12,5 x 12,5 x 56	4		1	6.076 639
micro	10	700	PTFE lid	12,5 x 12,5 x 45	2		1	9.144 751
micro	10	700	PTFE lid *	12,5 x 12,5 x 45	2		1	9.144 756 ⁴
micro	10	500	PTFE lid	12,5 x 12,5 x 45	2	15.2	1	6.084 722
micro	10	500	PTFE lid *	12,5 x 12,5 x 45	2	15.2	1	6.076 641
micro	10	400	PTFE lid	12,5 x 12,5 x 40	2		1	9.144 758
micro	10	400	PTFE lid *	12,5 x 12,5 x 40	2		1	9.144 385
ultramicro	10	180	PE stopper	12,5 x 12,5 x 45	8 x 2	15.0	1	9.190 969
ultramicro	10	180	PE stopper	12,5 x 12,5 x 45	8 x 2	8.5	1	9.190 966
ultramicro	10	120	PE stopper	12,5 x 12,5 x 45	5 x 2	15.0	1	9.190 968
ultramicro	10	120	PE stopper	12,5 x 12,5 x 45	5 x 2	8.5	1	9.190 965
ultramicro	10	70	PE stopper	12,5 x 12,5 x 45	2,5 x 2	15.0	1	9.190 967
ultramicro	10	70	PE stopper	12,5 x 12,5 x 45	2,5 x 2	8.5	1	9.190 964
ultramicro	10	70	PE stopper	12,5 x 12,5 x 45	Ø 2,5	15.0	1	9.144 098 ⁵
ultramicro	10	70	PE stopper	12,5 x 12,5 x 45	Ø 2,5	8.5	1	9.144 104

* black side walls and base

**with silicone rubber seal and with ISO thread GL 14

***for magnetic stirring bars



Cells for Absorption Measurement, NIR- Range

300 Wavelength Range: 200nm - 3500nm
Optical material: Quartz SUPRASIL®

Hellma Analytics

Type	Path length	Capacity	Description	External dimensions (W x D x H) mm	internal width mm	PK	Cat. No.
	mm	µl					
macro	10	3500	PTFE-lid	12,5 x 12,5 x 45	9,5	1	6.086 375
macro	10	3500	PTFE-stopper	12,5 x 12,5 x 46	9,5	1	6.052 763

Cells for Absorption Measurement, Vis-Range

Hellma Analytics

Wavelength Range:
260nm - 2500nm
320 nm - 2500 nm
360 nm - 2500 nm

Optical material:
HOQ 310H (UV)
Pecial optical glass (OS)
Optical glass (OG)

Type	optical material	Path length	Capacity	Description	External dimensions (W x D x H)	internal width	PK	Cat. No.
		mm	µl		mm	mm		
macro	UV	10 (± 0,05)	3500		12,5 x 12,5 x 45	9,5	1	9.144 301
macro	OS	1	350	Glass coverslip	12,5 x 3,5 x 45	9,5	1	9.144 101
macro	OS	2	700	Glass coverslip	12,5 x 4,5 x 45	9,5	1	9.144 102
macro	OS	5	1750	PTFE lid	12,5 x 7,5 x 45	9,5	1	9.144 105
macro	OS	10	3500	PTFE lid	12,5 x 12,5 x 45	9,5	1	9.144 110
macro	OS	10	3500	PTFE stopper	12,5 x 12,5 x 46	9,5	1	9.144 510
macro	OS	20	7000	PTFE lid	12,5 x 22,5 x 45	9,5	1	9.144 120
macro	OS	40	14000	PTFE lid	12,5 x 42,5 x 45	9,5	1	9.144 140
macro	OS	50	17500	PTFE lid	12,5 x 52,5 x 45	9,5	1	9.144 150
macro	OG	10	3500		12,5 x 12,5 x 45	9,5	1	9.144 300
macro	OG	20	7000		12,5 x 22,5 x 45	9,5	1	9.144 302
macro	OG	40	14000		12,5 x 42,5 x 45	9,5	1	9.144 340
macro	OG	50	17500		12,5 x 52,5 x 45	9,5	1	9.144 350
semi-micro	UV	10 (± 0,05)	1400		12,5 x 12,5 x 45	4	1	9.144 361
semi-micro	OS	10	1400	PTFE lid	12,5 x 12,5 x 45	4	1	9.144 410
semi-micro	OS	50	7000	PTFE lid	12,5 x 52,5 x 45	4	1	9.144 450
semi-micro	OG	10	1400		12,5 x 12,5 x 45	4	1	9.144 360
micro	OS	10	700	PTFE lid	12,5 x 12,5 x 45	2	1	9.144 750

* black side walls and base

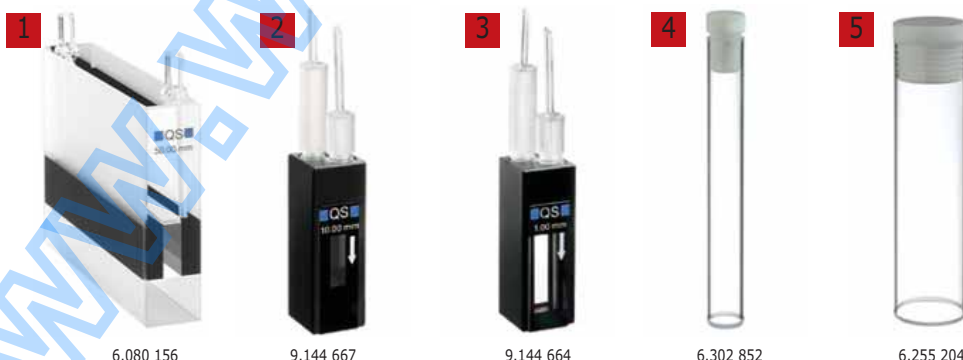
Cells for Absorption Measurement, Flow-Through Measurement, UV- Range

Wavelength Range: 200nm - 2500nm
Optical material: Quartz SUPRASIL®

Hellma Analytics

Type	Path length	Capacity	Description	External dimensions (W x D x H)	internal width	Centre height	PK	Cat. No.
	mm	µl		mm	mm	mm		
semi-micro	10	450	Supply and outlet tubes	12,5 x 12,5 x 45	11 x 4	15.0	1	6.051 845
semi-micro	10	450	Supply and outlet tubes	12,5 x 12,5 x 38	11 x 4	8.5	1	6.059 056
semi-micro	50	2250	Supply and outlet tubes	12,5 x 52,5 x 45	11 x 4	15.0	1	6.080 156 ¹
semi-micro	50	2250	Supply and outlet tubes	12,5 x 52,5 x 38,5	11 x 4	8.5	1	6.242 811
semi-micro	5	195	2 screw terminals *	12,5 x 12,5 x 35	11 x 3,5	15.0	1	6.059 697
semi-micro	5	195	2 screw terminals *	12,5 x 12,5 x 35	11 x 3,5	8.5	1	6.300 696
semi-micro	10	390	2 screw terminals *	12,5 x 12,5 x 35	11 x 3,5	15.0	1	9.144 667 ²
semi-micro	10	390	2 screw terminals *	12,5 x 12,5 x 35	11 x 3,5	8.5	1	9.144 666
micro	0,1	6	2 screw terminals *	12,5 x 12,5 x 35	17,5 x 3,5		1	9.144 660
micro	0,2	12	2 screw terminals *	12,5 x 12,5 x 35	17,5 x 3,5		1	6.206 587
micro	0,5	31	2 screw terminals *	12,5 x 12,5 x 35	17,5 x 3,5		1	9.144 662
micro	1	62	2 screw terminals *	12,5 x 12,5 x 35	17,5 x 3,5		1	9.144 664 ³
micro	2	124	2 screw terminals *	12,5 x 12,5 x 35	17,5 x 3,5		1	9.144 663

* M 6 x 1 and FEP tubes (outside diameter 1.9mm, inner diameter 1.1mm, length 500mm)



6.080 156

9.144 667

9.144 664

6.302 852

6.255 204

Cells for light scattering measurements, UV-range

Wavelength: 200nm - 2500nm
Optical material: SUPRASIL®

Hellma Analytics

Type	Capacity	Description	External dimensions (H x Ø)	Internal dimensions (H x Ø)	PK	Cat. No.
	µl		mm	mm		
scatter measurement	2800	PTFE-stopper	75 x 10	74 x 8	1	6.302 852 ⁴
scatter measurement	2800	PTFE-stopper, outer cylinder fire-polished	75 x 10	74 x 8	1	6.073 106
scatter measurement	14000	PTFE-stopper	75 x 20	74 x 18	1	6.255 204 ⁵



1 LLG-Disposable plastic cells, PS

The new generation of cuvettes with clearly improved, photometric properties. The new optimized shape and narrow wall thickness of the cuvettes provides increased heat transfer resulting in more constant sample temperatures during photometric measurements.

- Cavity sorted
- Glass clear polystyrene (PS)
- Applicable wavelength range 340nm to 900nm
- Very low variation of extinction values
- Excellent optical transmission range
- Path length 10mm
- Overall dimensions 12.5mm x 12.5mm x 45mm
- Styrofoam racks: 100 cuvettes in a styrofoam box with cover

Description	Capacity ml	Path length mm	Material	Operating range nm	PK	Cat. No.
Macro	4.0	10.0	PS	340 to 900	100	9.406 011
Semi-micro	1.6	10.0	PS	340 to 900	100	9.406 012



2 Cuvette rack

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

BRAND

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



3 Cuvette rack with attached lid, PP

NEW!

Isolab

For safe handling and holding up to 12 cuvettes with a 10 mm light path. These racks consist of hinged lids with secure clasps and removable inserts for easy cleaning. The height of the lid is designed to accommodate all spectrophotometer cells - even those with covers or stoppers.

Description	PK	Cat. No.
Cuvette rack with attached lid	1	6.267 353

➔ Further cuvettes please see page 1047.

