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KRÜSS
A.KRÜSS OPTRONIC
GERMANY

MICROSCOPES

MML SERIES
MBL2000 SERIES
MBL3000 SERIES
MBL3200
MBL3300
MBL3400
MSL4000 SERIES
MSZ5000 SERIES
KSW4000 SERIES
KSW5000 SERIES
ACCESSORIES

3 + 2 years
WARRANTY EXTENSION
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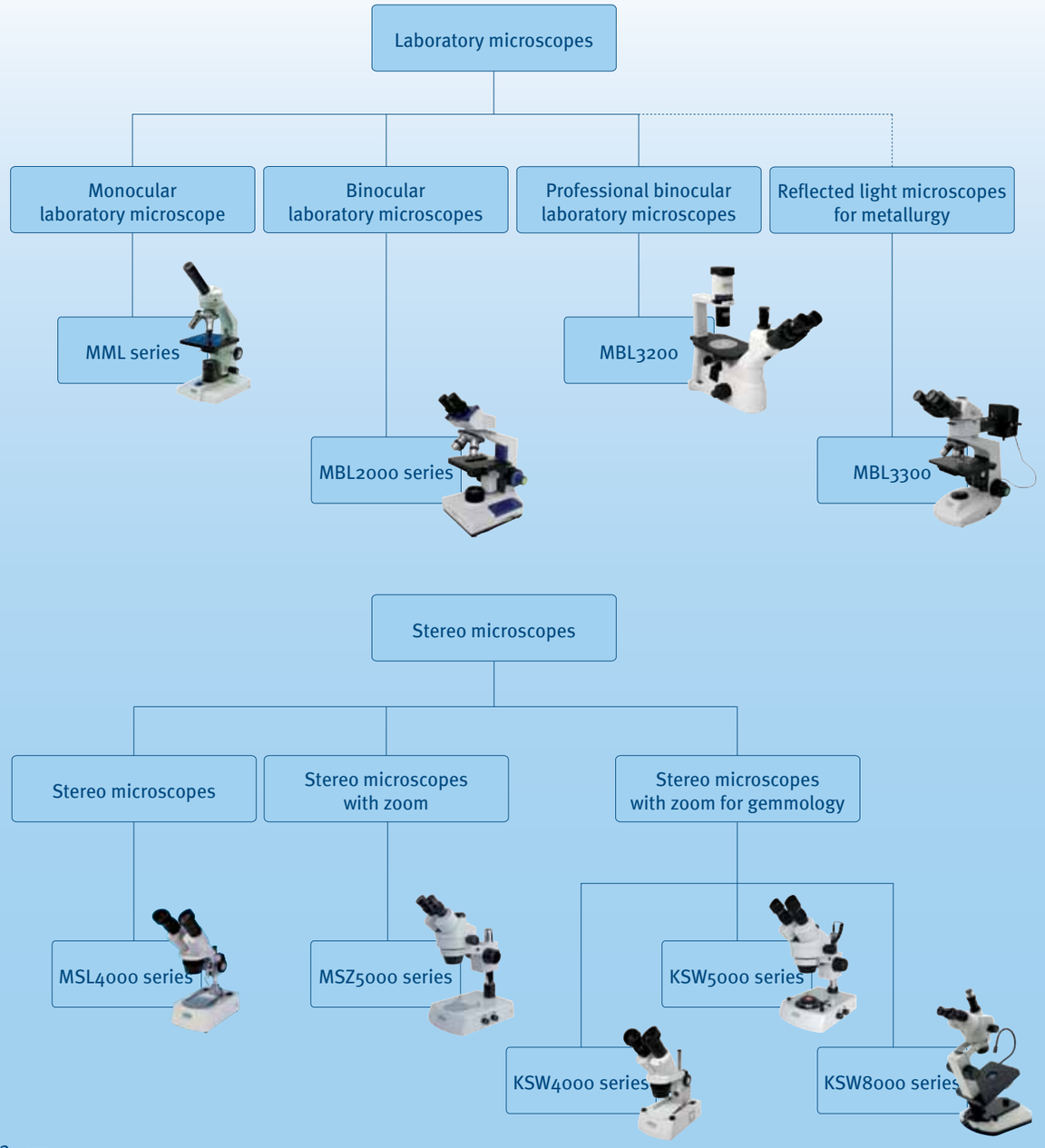
on our website
www.kruess.com

www.kruess.com

KRÜSS Microscopes

As a company with a long-standing tradition, A.KRÜSS has set the goal for itself of offering top quality and an excellent value for money. We build instruments providing the performance and reliability buyers can depend on in the long run. The solid weight of the microscopes ensures stability even in harsh environments and the long-lasting precision engineering ensures quality work in the laboratory for many years to come.
Take advantage of over 200 years of tradition and experience. The 3-year warranty on the housing, optics and mechanics shows that A.KRÜSS truly believes in the products it makes!
Customer satisfaction is our top priority, which is why our developers and production staff are more than happy to make special customer requests a reality. All microscopes can be upgraded or converted, thus giving you the best quality at a good price. A.KRÜSS: microscopes you can depend on!



Overview: KRÜSS Microscopes

Laboratory microscopes

MML series:

MML1200
MML1300
MML1400

MBL2000 series:

MBL2000
MBL2000-T
MBL2000-30W
MBL2000-T-30W
MBL2000-PL
MBL2000-T-PL
MBL2000-PL-PH
MBL2000-T-PL-PH
MBL2000-PL-30W
MBL2000-T-PL-30W
MBL2000-PL-PW-30W
MBL2000-T-PL-PH-30W
MBL2000-B
MBL2000-T-B
MBL2000-PL-B
MBL2000-T-PL-B

MBL3000 series:

MBL3200 (inverted biological)
MBL3300 (metallurgical)

Stereo microscopes

MSL4000 series:

MSL4000-10/30-IL-TL
MSL4000-10/30-IL-S
MSL4000-10/30-S
MSL4000-20/40-IL-TL
MSL4000-20/40-IL-S
MSL4000-20/40-S

MSZ5000 series:

MSZ5000
MSZ5000-T
MSZ5000-RL
MSZ5000-T-RL
MSZ5000-S
MSZ5000-T-S
MSZ5000-S-RL
MSZ5000-T-S-RL
MSZ5000-IL-TL
MSZ5000-T-IL-TL
MSZ5000-TL-LED
MSZ5000-T-TL-LED

KSW4000 series:

KSW4000
KSW4000-K
KSW4000-K-W

KSW5000 series:

KSW5000
KSW5000-T
KSW5000-T-K-W

KSW8000 series:

KSW8000

Key microscope features:

T	Trinocular/phototube
PL	Planachromatic objectives
PH	Phase contrast feature
PH40	40x phase contrast feature
30W	30 Watt illumination
63	63x objective
B	Blood test setup
10/30	10x/30x magnification
20/40	20x/40x magnification
IL	Incident light
TL	Transmitted light
TL-LED	LED transmitted light
S	Swivelling arm/stand
RL	Ring light
I	Infinity System
K	Cold light source
W	Horizontal construction

On request, we are of course happy to build a microscope customised to meet your specific needs.

Light Microscopy

The microscope was invented around 1600 in the Netherlands and has undergone continuous development ever since.
With the advent of electron microscopes, light microscopes have been declared dead numerous times.Yet these predictions have proven overly hasty.
Just as before, biologists and physicians appreciate the easy-to-use light microscopes thanks to their natural images and the ability to observe living tissue.

Composite light microscopes consist of two lens systems: one eyepiece toward the eye and one toward the object-side objective. The objectives are the most important and valuable part of the microscope, because their quality is critical for determining the overall performance of the microscope.
Achromatic objectives consist of compound lenses made of different materials. This makes it possible to correct longitudinal chromatic aberration for two colours, i.e. the varying focal points of several different wavelengths.
Apochromatic objectives are corrected for three colours and the deviation of the image location for the intermediate colours is very small. Objectives that are used to correct the curvature of the image field are referred to as plane objectives.

The eyepiece acts as a magnifying glass and magnifies the intermediate image of the objective.
Wide-field eyepieces have a larger field-of-vision number than normal eyepieces. The field-of-vision number is the diameter of the object field in mm multiplied by the magnification factor of the objective: an eyepiece with a field-of-vision of 18 mm with a 4x objective yields an object field with 4.5 cm.
Plane eyepieces smooth out the image field similar to the plane objectives.

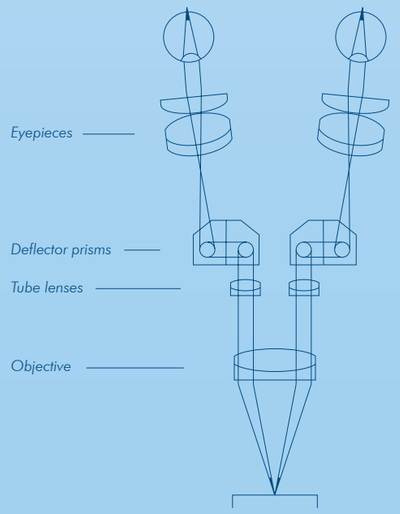
Modern light microscopes are basically categorised as monocular, binocular or stereo microscopes depending on the number of eyepieces and objectives. Monocular microscopes have one eyepiece and one objective and are the most simple type of microscopes.
Binocular microscopes have two eyepieces and one objective. They provide for fatigue-free working as microscopes with one eyepiece. However, they do not allow for three-dimensional viewing of the object.
Stereo microscopes have two eyepieces and two objectives, which can, however, be combined to form a main objective and thus project a separate image of the object in each eye. This allows objects to be viewed three dimensionally.

In biology and medicine, the object is usually illuminated with transmitted light before the light passes through the objective. This is referred to as transmitted light microscopy.
In incident light microscopy, the light is cast from above onto the object and is reflected back into the objective.
Incident light microscopy is used for the microscopic examination of opaque objects.

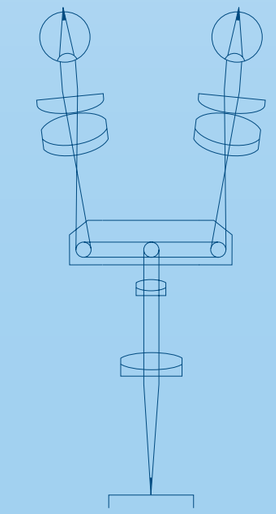
The Köhler illumination makes it possible to illuminate precisely the object area that can be overlooked.
This prevents unnecessary stray light from illuminated parts of the object that are not in the field of view.

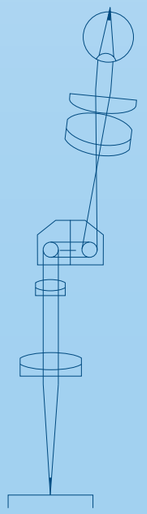
Dark-field microscopy is used to examine objects that are particularly lacking in contrast such as micro-organisms or red blood cells. The dark-field feature directs the light at an oblique angle through the object, past the objective.
The light that is refracted from the object hits the objective where a bright image is then produced against a dark background. This makes it possible to see outlines of objects that are normally mostly transparent.

Phase-contrast microscopy was developed for the microscopy of particularly transparent objects.
Transparent objects are, for the most part, optically denser than the surrounding medium and therefore create more resistance to the light. The light is therefore slowed down, which results in a phase shift when it exits the object again.
This phase shift is used to create a brightness contrast.
This also requires a ring aperture in the condenser and a phase ring in the objective which must be calibrated to each other.



Beam path in the stereo microscope


Beam path in the binocular microscope


Beam path in the monocular microscope

A strong start
MML monocular - compact and inexpensive

Monocular microscopes are ideal for many applications in the laboratory, teaching and production.
All models have 45° inclined viewing and 360° rotating optical head. The sturdy metal tripod ensures high stability and the option to choose between coarse and fine adjustment facilitates precise working. The microscopes are equipped with integrated illumination.

Power supply: 230 V (115 V optional).
A wide range of accessories is available for all models.


MML1200

	Optical equipment	Illumination	Special features	Application
MML1200	10x plane eyepiece Objectives (achromatic) 4x/NA 0.10 10x/NA 0.25 40x/NA 0.65	6 V 10 W bright-field Abbe condenser		Schools Training Simple laboratory applications
MML1300	10x plane eyepiece Objectives (achromatic) 4x/NA 0.10 10x/NA 0.25 40x/NA 0.65	6 V 10 W bright-field Abbe condenser, adjustable	Adjustable illumination	Schools Training Simple laboratory applications
MML1400	10x plane eyepiece Objectives (achromatic) 4x/NA 0.10 10x/NA 0.25 40x/NA 0.65 100x/NA 1.25 oil	6 V 10 W bright-field Abbe condenser, adjustable	Adjustable illumination 4x objective turret	Schools Training Simple laboratory applications

MBL2000 series

The robust Allrounder

MBL2000 - The laboratory microscope for all applications

Robust and universal. This model is ideal for general microscopy in laboratories, schools and universities.
The MBL2000 offers an extensive range of add-on options: for example, with phase-contrast setting, a dark-field condenser, micrometre setup, planachromatic objectives and additional eyepieces.
A binocular optical head offers inclined viewing and inter-ocular adjustment. A wide range of accessories is available for all models.

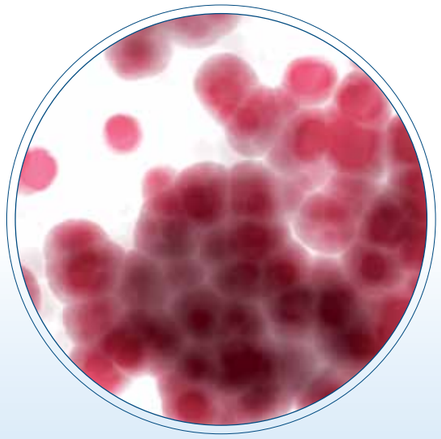
- Dioptre compensation with compensation scale
- Sturdy metal stand
- Coarse and fine focussing, double coaxial (0–200 μm, division 2 μm)
  Coarse focussing range: 30 mm,
  Fine focussing range: 30 mm
- Right-side coarse focussing knob with fast focus adjustment, left-sided knob with quick-focus setting
- Graduated XY cross table with coaxial operation
- Low-voltage illumination with lighting control and removable pre-condenser
- Twin-lens Abbe condenser: NA 1.25
- Iris diaphragm
- Pivoting filter holder
- Height adjustment
- Glass filters: blue, yellow, green
- Power supply: 230 V (115 V optional)

MBL2000

T Trinocular/phototube
PL Planachromatic objectives
PH Phase contrast feature
B Blood test setup
30W 30 Watt illumination

	Optical equipment	Illumination	Special features:	Application
MBL2000 (Basic model)	10x plane eyepiece Objectives: 4x/NA 0.10 10x/NA 0.25 40x/NA 0.65 100x/NA 1.25 oil	6 V 20 W adjustable Bright-field Abbe condenser		Research Diagnostics Quality control
MBL2000-T	10x plane eyepiece Objectives: 4x/NA 0.10 10x/NA 0.25 40x/NA 0.65 100x/NA 1.25 oil	6 V 20 W adjustable Bright-field Abbe condenser	Phototube	Research Diagnostics Quality control
MBL2000-30W	10x plane eyepiece Objectives: 4x/NA 0.10 10x/NA 0.25 40x/NA 0.65 100x/NA 1.25 oil	6 V 30 W adjustable Bright-field Abbe condenser	30 W illumination	Research Diagnostics Quality control
MBL2000-T-30W	10x plane eyepiece Objectives: 4x/NA 0.10 10x/NA 0.25 40x/NA 0.65 100x/NA 1.25 oil	6 V 30 W adjustable Bright-field Abbe condenser	Phototube 30 W illumination	Research Diagnostics Quality control
MBL2000-PL	10x plane eyepiece Objectives (planachromatic): 4x/NA 0.10 10x/NA 0.25 40x/NA 0.65 100x/NA 1.25 oil	6 V 20 W adjustable Bright-field Abbe condenser	Planachromatic objectives	Research Diagnostics Quality control
MBL2000-T-PL	10x plane eyepiece Objectives (planachromatic): 4x/NA 0.10 10x/NA 0.25 40x/NA 0.65 100x/NA 1.25 oil	6 V 20 W adjustable Bright-field Abbe condenser	Phototube Planachromatic objectives	Research Diagnostics Quality control
MBL2000-PL-PH	10x plane eyepiece Objectives (planachromatic): 4x/NA 0.10 PH10x/NA 0.25 PH40x/NA 0.65 PH100x/NA 1.25 oil	6 V 20 W adjustable Bright-field Abbe condenser Phase contrast Dark-field	Phase contrast feature with dark-field	Research Diagnostics Quality control Sewage treatment plants
MBL2000-T-PL-PH	10x plane eyepiece Objectives (planachromatic): 4x/NA 0.10 PH10x/NA 0.25 PH40x/NA 0.65 PH100x/NA 1.25 oil	6 V 20 W adjustable Bright-field Abbe condenser Phase contrast Dark-field	Phototube Phase contrast feature with dark-field	Research Diagnostics Quality control Sewage treatment plants
MBL2000-PL-30W	10x plane eyepiece Objectives (planachromatic): 4x/NA 0.10 10x/NA 0.25 40x/NA 0.65 100x/NA 1.25 oil	6 V 30 W adjustable Bright-field Abbe condenser	Planachromatic objectives 30 W illumination	Research Diagnostics Quality control
MBL2000-T-PL-30W	10x plane eyepiece Objectives (planachromatic): 4x/NA 0.10 10x/NA 0.25 40x/NA 0.65 100x/NA 1.25 oil	6 V 30 W adjustable Bright-field Abbe condenser	Phototube Planachromatic objectives 30 W illumination	Research Diagnostics Quality control
MBL2000-B	10x plane eyepiece Objectives: 4x/NA 0.10 10x/NA 0.25 40x/NA 0.65 100x/NA 1.25 oil	15 V 150 W adjustable cold light source Dark-field condenser for blood examination	Cold light source Dark-field for blood	Blood testing with Enderlein-microscopy Non-medical practitioners
MBL2000-T-B	10x plane eyepiece Objectives: 4x/NA 0.10 10x/NA 0.25 40x/NA 0.65 100x/NA 1.25 oil	15 V 150 W adjustable cold light source Dark-field condenser for blood testing	Phototube Cold light source Dark-field for blood	Blood testing with Enderlein-microscopy Non-medical practitioners
MBL2000-PL-B	10x plane eyepiece Objectives (planachromatic): 4x/NA 0.10 10x/NA 0.25 40x/NA 0.65 100x/NA 1.25 oil	15 V 150 W adjustable cold light source Dark-field condenser for blood testing	Cold light source Dark-field for blood Planachromatic objectives	Blood testing with Enderlein-microscopy Non-medical practitioners
MBL2000-T-PL-B	10x plane eyepiece Objectives (planachromatic): 4x/NA 0.10 10x/NA 0.25 40x/NA 0.65 100x/NA 1.25 oil	15 V 150 W adjustable cold light source Dark-field condenser for blood testing	Phototube Cold light source Dark-field for blood Planachromatic objectives	Blood testing with Enderlein-microscopy Non-medical practitioners

MBL3200 Inverted Microscope



Multicultural in the lab

MBL3200 - Inverted microscope for biology and medicine

The inverted microscope is specially designed for the identification and analysis of biological substances and cultures.
The lenses have a large working distance making it possible, for example, to examine samples through the bottom of Petri dishes.
The photo and C-mount video adapter lets you connect SLR and video cameras.

Power supply: 90–240 V.
A wide range of accessories is available for the MBL3200.

MBL3200

	Optical equipment	Equipment	Illumination	Special features	Application
MBL3200	10x plane eyepiece Visual field number: 22 Objectives (planachromatic, infinity): 4x/NA 0.10 // object field Ø: 5,5 mm 10x/NA 0.25 // object field Ø: 2,2 mm 40x/NA 0.65 // object field Ø: 0,55 mm PH20x/NA 0.40 // object field Ø: 1,1 mm	XY table Coaxial coarse/fine adjustment Iris diaphragm Filter holder Blue filter Green filter	6 V 30 W adjustable	Inverted microscope Third tube for connecting photo and video cameras	Laboratory

MBL3300 Incident Light Microscope

Impeccable view of detailed structures

MBL3300 - Metallurgical incident light microscope

The MBL3300 is a real specialist. It is a perfect instrument for the identification and analysis of steel connections and other metals.
It is also ideal for quality assessment, raw material analysis and examining metal structures following heat treatment.
This metallurgical microscope is particularly well suited for laboratory and industrial applications.
It is equipped with a phototube for connecting a camera or a video recorder.

Power supply: 90–240 V.
A wide range of accessories is available for the MBL3300.

MBL3300

	Optical equipment	Equipment	Illumination	Special features	Application
MBL3300	10x plane eyepiece Field of view: 18 Objectives (planachromatic): 4x/NA 0.10 // object field Ø: 4,5 mm 10x/NA 0.25 // object field Ø: 1,8 mm 40x/NA 0.65 object field Ø: 0,45 mm	XY table Coaxial coarse/fine adjustment Iris diaphragm Filter holder Blue filter Green filter (optional)	6 V 30 W adjustable Incident light through objectives	Metallurgical microscope with incident light Phototube	Laboratory Material testing

Fantastic perspective for small budgets
MSL4000 - stereo microscopes

MSL4000-series stereo microscopes offer an optimal value for money. Thanks to the wide range of accessories and different eyepieces, these microscopes are suitable for a wide range of applications.
All microscopes have a 45° inclined viewer piece, an eye-distance adjustment and dioptre adjustment.
The metal casing is sturdy and durable.
To allow you the option for working anywhere without having to depend on any external power supply, some of the MSL microscopes have a battery providing a user-friendly 25 hours of power.

Power supply: 100–240 V, 50–60 Hz.
A wide range of accessories is available for all models.

MSL4000-10/30-S

MSL4000-10/30-IL-TL

IL Incident light
TL Transmitted light

10/30 10x/30x magnification
20/40 20x/40x magnification
S Swivelling arm

	Optical equipment	Illumination	Special features
MSL4000-10/30-IL-TL	10x wide-field eyepieces 1x and 3x objectives 10x and 30x magnification	LED incident and transmitted light	Battery life: 25 hours
MSL4000-10/30-IL-S	10x wide-field eyepieces 1x and 3x objectives 10x and 30x magnification	LED incident light	Swivelling arm
MSL4000-10/30-S	10x wide-field eyepieces 1x and 3x objectives 10x and 30x magnification		Swivelling arm
MSL4000-20/40-IL-TL	10x wide-field eyepieces 2x and 4x objectives 20x and 40x magnification	LED incident and transmitted light	Battery life: 25 hours
MSL4000-20/40-IL-S	10x wide-field eyepieces 2x and 4x objectives 20x and 40x magnification	LED incident light	Swivelling arm
MSL4000-20/40-S	10x wide-field eyepieces 2x and 4x objectives 20x and 40x magnification		Swivelling arm

Zoom in: sharpness for professionals
MSZ5000 - stereo microscopes have an impressive zoom range

A robust zooming stereo microscope for the professional examination of electronics, precision engineering, plastics and medical products.
The microscope is used for inspection, assembly, analysis, for soldering and polishing and finishing – an excellent tool for quality control.
The large zoom range, large working distance and broad depth of field facilitates very comfortable work in many areas.
It offers continuously variable magnification with 7–45x total zoom.
The rugged metal housing makes it easier to work with reliability, even in harsh environments.
Accessories include various eyepieces and auxiliary lenses to modify the magnification and working distances.

- Zoom feature for continuous magnification settings
- Large depth of focus
- Incident and transmitted light (depending on configuration)
- 45° inclined viewer piece with dioptre adjustment on both sides and eye-distance adjustment 51–75 mm
- Range of vision 20 mm, object field 28.6–4.44 mm
- Power supply: 230 V, option with 115 V available

MSZ5000-T-IL-TL

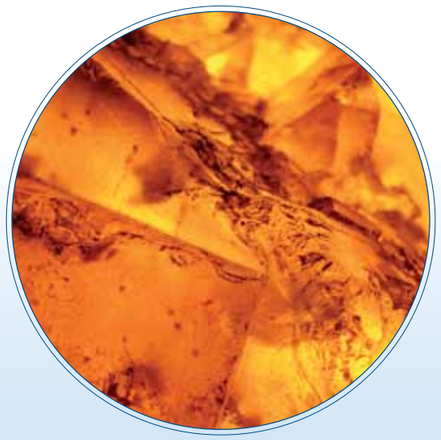
T Trinocular/phototube
IL Incident light
TL Transmitted light

TL-LED LED transmitted light
RL Ring light
S Swivelling stand

	Optical equipment	Illumination	Special features
MSZ5000	10x wide-field eyepieces 0.7–4.5x zoom objective 7–45x total magnification		
MSZ5000-T	10x wide-field eyepieces 0.7–4.5x zoom objective 7–45x total magnification		Phototube
MSZ5000-RL	10x wide-field eyepieces 0.7–4.5x zoom objective 7–45x total magnification	Incident light (ring light)	
MSZ5000-T-RL	10x wide-field eyepieces 0.7–4.5x zoom objective 7–45x total magnification	Incident light (ring light)	Phototube
MSZ5000-S	10x wide-field eyepieces 0.7–4.5x zoom objective 7–45x total magnification		Swivelling stand
MSZ5000-T-S	10x wide-field eyepieces 0.7–4.5x zoom objective 7–45x total magnification		Phototube Swivelling stand
MSZ5000-S-RL	10x wide-field eyepieces 0.7–4.5x zoom objective 7–45x total magnification	Incident light (ring light)	Swivelling stand
MSZ5000-T-S-RL	10x wide-field eyepieces 0.7–4.5x zoom objective 7–45x total magnification	Incident light (ring light)	Phototube Swivelling stand
MSZ5000-IL-TL	10x wide-field eyepieces 0.7–4.5x zoom objective 7–45x total magnification	12 V 15 W incident and transmitted light infinitely variable adjustment	
MSZ5000-T-IL-TL	10x wide-field eyepieces 0.7–4.5x zoom objective 7–45x total magnification	12 V 15 W incident and transmitted light infinitely variable adjustment	Phototube
MSZ5000-TL-LED	10x wide-field eyepieces 0.7–4.5x zoom objective 7–45x total magnification	LED transmitted light infinitely variable adjustment	
MSZ5000-T-TL-LED	10x wide-field eyepieces 0.7–4.5x zoom objective 7–45x total magnification	LED transmitted light infinitely variable adjustment	Phototube

Jewels in sight: precision optics for professional gemmology

KSW4000 - Stereo microscope for inspecting diamonds and gemstones



The stereo microscopes from the KSW4000 series (each with 1x and 3x objectives) are ideal for inspecting diamonds and gemstones. The magnification factor is 10x and 30x (optional 20x and 60x). The rugged metal housing facilitates reliable work, even in harsh conditions.
These microscopes are equipped with wide-range power units (90–240 V or 100–240 V, 50/60 Hz).
The microscopes of this series are equipped with a dark-field, objective turret and stone pincers.
All models have power-saving, long-lasting LED illumination.
Also available in options with twin-arm light conductor, cuvette and cuvette table, built-in cold light source or 12 V 10 W. Available with incident and transmitted light.

KSW4000

K cold light source
W Horizontal construction

	Optical equipment	Illumination	Special features	Application
KSW4000	10x wide-field eyepieces 1x and 3x objectives 10x and 30x magnification	LED incident and transmitted light Dark-field illumination	Stone holder Akku mit 25 h Laufzeit	Gemmology Diamond and gemstone examination
KSW4000-K	10x wide-field eyepieces 1x and 3x objectives 10x and 30x magnification	LED transmitted light LED cold light source with light conductor Dark-field illumination	Stone holder	Gemmology Diamond and gemstone examination
KSW4000-K-W	10x wide-field eyepieces 1x and 3x objectives 10x and 30x magnification	LED transmitted light, LED cold light source with light conductor Dark-field illumination	Stone holder Glass cuvette Cuvette table Horizontal mounting of the microscope head possible	Gemmology Diamond and gemstone examination

Nothing escapes the view of these optics

KSW5000 - stereo microscopes with zoom objective for professional gemmology

The KSW5000 series consists of three models that are based on the MSZ5000 or MSZ5000-T. They offer a continuously variable magnification setting with 7–45x total zoom factor.
The rugged metal housing facilitates reliable working, even in difficult environments.
The voltage of the microscopes of this series are available in 115 or 230 V models; switching the voltage is not possible.
The power supply is not reversible.
The microscopes of this series are equipped with dark-field and stone holders, some also including a cuvette table and polarisation feature.

KSW5000

T Trinocular/phototube
K Cold light source
W Horizontal construction

	Optical equipment	Illumination	Special features	Application
KSW5000	10x wide-field eyepieces 0.7–4.5x zoom objective Total magnification 7–45x	Incident and transmitted light Dark-field	Stone holder	Gemmology Diamond and gemstone examination
KSW5000-T	10x wide-field eyepieces 0.7–4.5x zoom objective Total magnification 7–45x	Incident and transmitted light Dark-field	Phototube Stone holder	Gemmology Diamond and gemstone examination
KSW5000-T-K-W	10x wide-field eyepieces 0.7–4.5x zoom objective Total magnification 7–45x	Transmitted light Cold light source with light conductor Dark-field Polarisation feature	Phototube Stone holder Glass cuvette Cuvette table Horizontal mounting of the microscope head possible	Gemmology Diamond and gemstone examination

KSW8000

Uncompromisingly good

KSW8000 - The pivoting stereo microscope with zoom objective lens for the professional gemologist.

The KSW8000 microscope leaves nothing to be desired. Its modern lighting system consists of a combination of transmitted light, incident light and dark-field LED illumination as well as integrated daylight illumination. Both the main body and the head of the microscope can be rotated up to 360° and the stands can be tilted at angles of up to 90°. The magnification factor is between 7x and 45x and is continuously variable over the whole range of magnification.

A large selection of accessories, for example stone tongs, plane objectives with iris diaphragms, polarization units and immersion cuvettes, offer the highest level of flexibility.

KSW8000

	Optical equipment	Illumination	Special features	Application
KSW8000	10x wide-field eyepieces 0.7-4.5x zoom objective 45° insight 90° tiltable 360° pivotable	LED incident and transmitted light Extra fiber optic light guide Dark-field with iris diaphragm	Stone holder Phototube	Gemmology Diamond and gemstone examination

Microscope Accessories

Cold light sources

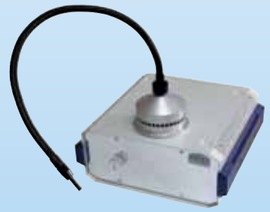
KL5110
- Cold light source without light conductor
- 8 V 20 W, **not** adjustable
- Power supply 100–240 V, i.e. can be used internationally
- Constant colour temperature: 3200 Kelvin

KL5120
- Cold light source without light conductor
- 8 V 20 W, **adjustable**
- Power supply 100–240 V, i.e. can be used internationally
- Brightness control using iris diaphragm, therefore no change in colour temperature
- Constant colour temperature of 3200 Kelvin

KL5125
- 230 V Cold light source without light conductor
- 150 W halogen lamp
- Colour temperature 3200 Kelvin
- Electronic brightness control

KL5110

KL5120



KL5125

Light conductors

KL5130
One-arm light conductor for all cold light sources

KL5131
Twin-arm light conductor for all cold light sources

Video-Eyepieces

VOPC91
- Video eyepiece for PC
- Resolution: 1.3 megapixels
- USB 2.0, driver software included
- Windows 2000/XP/Vista/7

VOPC93
- Video eyepiece for PC
- Resolution: 3 megapixels
- USB 2.0, driver software included
- Windows 2000/XP/Vista/7

VOPC93 *VOPC91*

LED Daylight Ring Lamp

LDR72
- 72 LEDs, adjustable brightness and direction of lighting
- Inner diameter: 27–60 mm
- Adapter ring: approx. 42.5 mm external thread
- Power supply: 100–240 V, 50/60 Hz

LDR72

Accessories for laboratory microscopes

	MML1200 MML1300 MML1400	MML1500	MBL2000 series	MBL3000 series
Polarisation feature	X	X	X	X
Mirror	X	X	X	
XY cross table	X	X	X	
Köhler light field aperture	X	X	X	
Wide-field micrometre eyepieces 15x/100 graduations marks, 10x/120 graduations marks	X	X	X	X
Stage micrometer, 0.01 mm graduation	X	X	X	X
Plane eyepieces 5x, 12.5x, 16x, 20x	X	X	X	X
Wide-field eyepieces 10x, 15x	X	X	X	
Wide-field indicator eyepiece 10x	X	X	X	X
Trinocular optical head			X	X
Achromatic objectives: 4x/NA 0.10, 10x/NA 0.25, 20x/NA 0.40, 40x/NA 0.65, 60x/NA 0.85, 63x/NA 0.85, 100x/NA 1.25 oil		X	X	X
Planachromatic objectives: 4x/NA 0.10, 10x/NA 0.25, 20x/NA 0.40, 40x/NA 0.65, 100x/NA 1.25 oil		X	X	X
Phase contrast feature with planachromatic PH objectives: for 10x/0.25, 40x/0.65, 100x/1.20 oil		X	X	
Phase contrast feature for 20x/0.40 and 40x/0.65		X	X	
Phase contrast feature with infinite planachromatic PH objectives and centring telescopes: 10x/0.25, 20x/0.40, 40x/0.65, 100x/1.25 oil				X
Phase contrast feature for 40x/0.65 planachromatic				X
Dark-field condenser		X	X	X
Dark-field condenser for blood		X	X	

Accessories for stereo microscopes

	MSL4000 series	MSZ5000 series
Swivelling arm	X	
Plane eyepieces 10x, 20x		X
Wide-field eyepieces: 15x, 20x	X	
Dark-field	X	X
Ancillary lens: 0.5x, 2x		X
Micrometre eyepiece with 100 graduation marks: 10x, 20x		X
Swivelling stand		X
LED daylight lamp, adjustable with 110–230 V power supply		X
Daylight ring lamp with 72 LEDs, adjustable, 100-240 V 50/60 Hz		X
UV ring lamp, 220–230 V		X

Digital camera

Canon Powershot S95*
We would be happy to recommend a model that is up-to-date and has been tested by us.

* Example of current model

S95

Universal adapter for digital cameras

UH80
Universal support with tripod socket for inexpensive adapting of many digital cameras for use with a microscope.

UH80

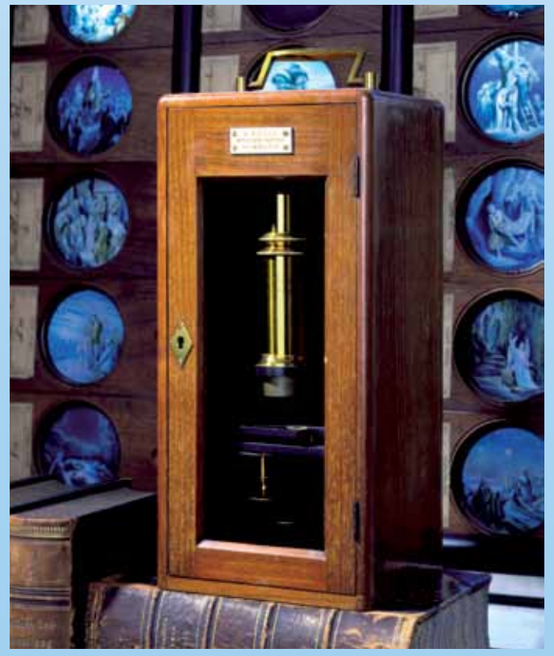
The History of A. Krüss Optronic

Trichina microscope from 1862

200 years of history is a long time for any company. The family enterprise of A.KRÜSS has spent this long keeping up with, and ahead of, some breathtaking developments in science, technology, optics and precision engineering.

An amazing number of high-precision optical and other quite different products have been shipped worldwide from the company's Hamburg laboratories.
Although some have long since been forgotten, many are known throughout the world. But let us return to the origins, to 1796 and the Hamburg workshop of Edmund Gabory, "Mechanicus Opticus".

Gabory was trained in London by none other than Jesse Ramsden, the world famous optician, at a time when precision engineering was flourishing. On finishing his training in 1790, Edmund set up a workshop of his own in London's Holborn. In 1796 he moved with his family to Hamburg, the international port and trading city.
This is where the talented optical engineer established his career and saw his business prosper.
In 1813 Gabory died, and the company was taken over by his widow Mary and their son Edmund Nicolas.
In 1823 Gabory's daughter Mary Ann married Andres Krüss.



Laboratory Microscope from 1885

The combination of scientific skill and Hanseatic business acumen, tradition and perspective proved to be a successful formula. Together with his wife and her brother, Andres Krüss led the company to further success, adding nautical instruments and charts to their product range. Brisk trade with the neighbouring Scandinavian and other foreign countries developed.
In 1844 Andres Krüss established a company of his own named „Optisches Institut von A. Krüss".
Four years later he fell victim to one of the cholera epidemics. After his death, the company was first run by his widow who then handed it over to her sons Edmund and William in 1851.

In 1859 Edmund set up the company's own lens-grinding facility. In addition to camera lenses, they later manufactured projectors for dissolving views.
In order to demonstrate the quality of his photographic lenses, he opened his own photographic studio. He was awarded first prize for his lenses at the World Exhibition in London in 1862. In 1865, Krüss patented his famous Magic Lantern, forerunner of the cinema projector.

Still in existence, the original company of Edmund Gabory was merged with „Optisches Institut von A. Krüss" in 1886. After completing his training with distinction at Steinheil and his university studies in Munich, Edmund's son returned to take over the management of the company in 1888. In a period of many new inventions and scientific developments,
Dr. Hugo Krüss established himself as a pioneer in theoretical and applied photometry. His Manual of Electromechanical Photometry became a standard work. In his capacity as chairman of the German Society for Precision Engineering and Optics, Dr. Krüss was appointed by the German government as an expert for customs and excise in 1892; while in office, he convinced the government to establish a tariff heading specifically for 'scientific instruments'. In 1917, the Hamburg Senate awarded Dr. Krüss a professorship in recognition of his achieve-ments in the scientific world and his engagement in public affairs.

In 1904 Hugo's son, Dr. Paul Krüss, had joined the family company at the age of only 24. The so-called 'master craftsman with a doctorate' managed the company from 1920 during the troubled times of crisis and World War, as well as during the later restructuring of the German economy. Using his international connections in the world of science, he developed a range of scientific instruments including laboratory equipment for schools.

Andres Krüss, Paul's son, was an engineer and became a partner in 1946 in the 6th generation.
Due to his hard work during the 'German Economic Miracle', Andres secured new customers and new markets. Dr. Paul Krüss died in 1976 at the age of 96. No one else had ever run the company so long.

Today the company is run in a seventh generation by Martina Krüss-Leibrock, who took over A.KRÜSS Optronic GmbH in 1980. Martina is the daughter of Andres, who died in 1992. In 2005, Martina's daughter Karin Leibrock joined the management of the company as 8th generation, and today the company remains famous for high-precision, state-of-the-art measuring instruments.
The traditional craftsman's art of precision engineering has been perfectly combined with innovative electronic technology.

Astronomical direct vision spectroscope in front of the portrait of professor Hugo Krüss.

Martina Krüss-Leibrock and Karin Leibrock

EN

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