

# 2

## METALLURGICAL MICROSCOPES





Illumination unit



Stage and objectives

## LAB LINE MET

### The metallurgical reflected light microscope for material testing and surface testing, as well as quality assurance in industry

#### Features

- The KERN OKM is an excellent metallurgical reflected light microscope, e.g. for surface quality testing of raw materials and finished products in industry
- The strong, continuously dimmable 5 W-LED illumination unit ensures excellent, high-contrast images
- A large mechanical stage for reflected illumination applications is configured as standard. The coarse and fine focusing knob on both sides guarantees optimal adjustment and focusing of your sample
- A simple polarising unit (analyser and polariser) is included with delivery

- A large selection of different eyepieces and objectives is also available
- A protective dust cover, eye cups, as well as multi-lingual user instructions are included in the scope of delivery
- A C-mount adapter is required to connect a camera to the trinocular version. You can select this adapter from the following model outfit list.
- Please find detailed information in the following model outfit list

#### Scope of application

- Metallurgy, material testing, quality assurance

#### Applications/Samples

- Opaque and thick samples, workpieces (surfaces, fold lines, coatings)

#### Technical data

- Infinity optical system
- Siedentopf 30° inclined/360° rotatable
- 4-fold lens revolving unit
- Diopter adjustment, one-sided
- Overall dimensions W×D×H 440×200×460 mm
- Net weight approx. 8 kg

STANDARD



Model	Tube	Eyepiece	Objective quality	Objectives	Illumination
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<b>KERN</b>					
<b>OKM 173</b>	Trinocular	HWF 10x/Ø 20 mm	Infinity Plan	5x / 10x / 20x / 50x	5 W LED (incident)

Model outfit	Model KERN		Order number
		OKM 173	
<b>Eyepieces (23,2 mm)</b>	HWF 10x/Ø 18 mm	✓	OBB-A1403
	HWF 10x/Ø 18 mm (reticule 0,1 mm) (non-adjustable)	✓	OBB-A1349
	WF 5x/Ø 20 mm	○	OBB-A1355
	WF 12,5x/Ø 14 mm	○	OBB-A1353
	WF 16x/Ø 13 mm	○	OBB-A1354
<b>Infinity Plan achromatic objectives</b>	5x/0,1 W.D. 12,1 mm	○	OBB-A1268
	10x/0,25 W.D. 4,64 mm	○	OBB-A1244
	20x/0,4 (spring-loaded) W.D. 2,14 mm	○	OBB-A1251
	40x/0,66 (spring-loaded) W.D. 0,45 mm	○	OBB-A1258
<b>Infinity Plan achromatic objectives for long working distance</b>	5x/0,15 W.D. 24,23 mm	✓	OBB-A1525
	10x/0,25 W.D. 18,48 mm	✓	OBB-A1526
	20x/0,4 W.D. 8,35 mm	✓	OBB-A1527
	40x/0,65 W.D. 3,9 mm	○	OBB-A1259
	50x/0,75 (spring-loaded) W.D. 1,95 mm	✓	OBB-A1528
	80x/0,8 (spring-loaded) W.D. 0,85 mm	○	OBB-A1271
<b>Trinocular tube</b>	· Siedentopf 30° inclined/360° rotatable · Interpupillary distance 50 mm – 75 mm · Light distribution 20:80 · Diopter adjustment one-sided	✓	OBB-A1580
<b>Mechanical stage</b>	· Stage size B×T 200×140 mm · Travel 76×52 mm · Coaxial coarse and fine focusing knobs	✓	OBB-A1327
<b>Reflected illumination unit</b>	5-filter unit (Blue, Green, Yellow, Grey, Empty)	✓	
<b>Polarising unit</b>	Incl. analyser and polariser	✓	
<b>C-Mount</b>	1x	○	OBB-A1514
	0,5x (focus adjustable)	○	OBB-A1515

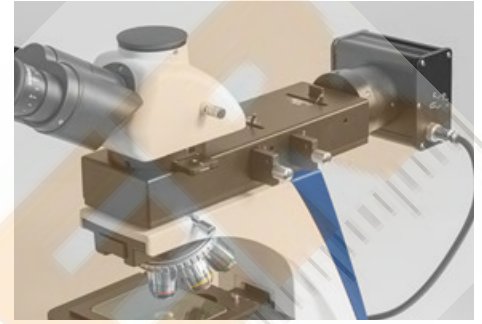
✓ = included with the delivery

○ = Option

Further accessories and spare parts  
see *internet*



Stage and objectives



Illumination unit

## PROFESSIONAL LINE MET

### The fully-equipped reflected and transmitted light microscope for numerous applications in metallurgy

#### Features

- This device is a professional, versatile, metallurgical microscope, which is used in testing metals and analysing surfaces
- The KERN OKO 178 is a combi variant of LED incident illumination and LED transmitted illumination. A height-adjustable 1.25 Abbe condenser which can be centred as well as a field diaphragm for complete professional Köhler illumination are part of the standard version
- An open, mechanical angle table is integrated as standard
- A simple polarising unit (analyser and polariser) is included with delivery

- A large selection of accessories, such as, for example, eyepieces and further objectives are available for longer working distances
- A protective dust cover, eye cups, as well as multi-lingual user instructions are included in the scope of delivery
- A C-mount adapter is required to connect a camera to the trinocular version. You can select this adapter from the following model outfit list.
- Please find detailed information in the following model outfit list

#### Scope of application

- Metallurgy, material testing, quality control

#### Applications/Samples

- Opaque and thick samples, workpieces (surfaces, fold lines, coatings)

#### Technical data

- Infinity optical system
- Siedentopf 30° inclined/360° rotatable
- Quintuple nosepiece
- Diopter adjustment, both-sided
- Overall dimensions W×D×H 550×200×460 mm
- Net weight approx. 12 kg

#### STANDARD



Model

Tube

Eyepiece

Objective quality

Objectives

Illumination

KERN

OKO 178 Trinocular WF 10x/Ø 22 mm Infinity semi apochromatic 5x / 10x / 20x / 50x 5 W LED (transmitted + incident)

Model outfit		Model KERN	Order number
		OKO 178	
<b>Eyepieces (30 mm)</b>	HWF 10x/Ø 22 mm (adjustable)	✓	OBB-A1491
	HWF 10x/Ø 22 mm (reticule 0,1 mm) (adjustable)	✓	OBB-A1523
<b>Infinity Plan Semi Apochromatic objectives for long working distance</b>	5x/0,15 W.D. 15 mm	✓	OBB-A1619
	10x/0,3 W.D. 20 mm	✓	OBB-A1620
	20x/0,4 W.D. 15 mm	✓	OBB-A1621
	50x/0,75 W.D. 4,25 mm	✓	OBB-A1641
	100x/0,85 (dry) (spring-loaded) W.D. 3 mm	○	OBB-A1623
<b>Infinity Plan objectives for long working distance</b>	80x/0,8 (spring-loaded) W.D. 0,85 mm	○	OBB-A1530
<b>Trinocular tube</b>	· Siedentopf 30° inclined/360° rotatable · Interpupillary distance 48 mm – 76 mm · Light distribution 0:100	✓	OBB-A1599
<b>Mechanical stage</b>	· Stage size B×T 182×140 mm · Travel 77×52 mm · Coaxial coarse and fine focusing knobs	✓	
<b>Condenser</b>	Abbe N.A. 1,25 can be centred (aperture diaphragm)	✓	OBB-A1380
<b>Reflected illumination unit</b>	Incl. blue filter slider	✓	
<b>Polarising unit</b>	Incl. analyser and polariser for reflected and transmitted light	✓	
<b>Colour filters for transmitted illumination</b>	Blue	✓	OBB-A1170
	Green	○	OBB-A1188
	Yellow	○	OBB-A1165
	Grey	○	OBB-A1183
<b>C-Mount</b>	1x	○	OBB-A1514
	0,75x	○	OBB-A1590
	0,5x (focus adjustable)	○	OBB-A1515

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Further accessories and spare parts  
see *internet*



## Metallurgical Inverted Microscope KERN OLM-1

Model outfit	Model KERN		Order number
	OLM 170	OLM 171	
<b>Eyepieces (23,2 mm)</b>	HWF 10x/Ø 20 mm	✓	OBB-A1404
	WF 10x/Ø 20 mm (reticule 0,1 mm) (adjustable)	✓	OBB-A1352
<b>Eyepieces (30 mm)</b>	HWF 10x/Ø 22 mm (adjustable)		✓ OBB-A1491
	HWF 10x/Ø 22 mm (reticule 0,1 mm) (adjustable)		✓ OBB-A1523
<b>Infinity Plan achromatic objectives for long working distance</b>	5x/0,15 W.D. 24,23 mm	✓	○ OBB-A1525
	10x/0,25 W.D. 18,48 mm	✓	○ OBB-A1526
	20x/0,4 W.D. 8,35 mm	✓	○ OBB-A1527
	50x/0,75 (spring-loaded) W.D. 1,95 mm	✓	○ OBB-A1528
	80x/0,8 (spring-loaded) W.D. 0,85 mm	○	○ OBB-A1530
<b>Infinity Plan Semi Apochromatic objectives for long working distance</b>	5x/0,15 W.D. 15 mm		✓ OBB-A1619
	10x/0,3 W.D. 20 mm		✓ OBB-A1620
	20x/0,4 W.D. 15 mm	○	✓ OBB-A1621
	50x/0,55 W.D. 10 mm		✓ OBB-A1622
	100x/0,85 (dry) (spring-loaded) W.D. 3 mm		○ OBB-A1623
<b>Trinocular tube</b>	· Butterfly 30° inclined · Interpupillary distance 48 mm – 76 mm · Light distribution 20:80 · Diopter adjustment: One-sided	✓	
	· Siedentopf 30° inclined · Interpupillary distance 48 mm – 76 mm · Light distribution 100:0 · Diopter adjustment: Both-sided		✓
<b>Mechanical stage</b>	· Stage size B×T 155×180 mm · Travel 75×40 mm · Coaxial coarse and fine focusing knobs	✓	
	· Stage size B×T 210×180 mm · Travel 50×50 mm · Coaxial coarse and fine focusing knobs		✓
<b>Reflected illumination unit</b>	Incl. blue filter slider	✓	✓
<b>Polarising unit</b>	Incl. analyser and polariser	✓	✓
<b>Colour filters</b>	Blue		✓ OBB-A1510
	Green		○ OBB-A1511
	Yellow		○ OBB-A1512
	Grey	✓	○ OBB-A1513
<b>C-Mount</b>	0,5x (built-in)	✓	
	1x		○ OBB-A1514
	0,5x (focus adjustable)		○ OBB-A1515

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