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Leica E Series

Technical information

Leica
MICROSYSTEMS

Leica E Series – Features, specifications

Stereomicroscope	Leica ES2	Leica EZ4 10×	Leica EZ4 16×
Type of microscope	10° Greenough	10° Greenough	10° Greenough
Optical system	parfocal	parfocal	parfocal
Magnification changer	2-level, 3:1	zoom 4.4:1	zoom 4.4:1
Eyepieces for spectacle wearers	10×/20 fixed	10×/20 fixed	16×/15 fixed
Diopter correction	–	–	–
Viewing angle	60°	60°	60°
Working distance	100mm	100mm	100mm
Magnification range	10×/30×	8× to 35×	12.8× to 56×
Maximum resolution	159 Lp/mm	170 Lp/mm	170 Lp/mm
Maximum numerical aperture	0.053 nA	0.057 nA	0.057 nA
Object field diameter	20mm / 6.7mm	5.7 to 25mm	4.3 to 18.8mm
Eyecups	replaceable	replaceable	replaceable
Interpupillary distance	50 to 75mm	50 to 75mm	50 to 75mm
Beam path	100% visual	100% visual	100% visual
Focusing drive	Individually adjustable ease of movement, 75mm travel	Individually adjustable ease of movement, 75mm travel	Individually adjustable ease of movement, 75mm travel
Grip	integrated	integrated	integrated
Illumination system			
LED incident light and transmitted light	integrated, independent or combined	integrated, independent or combined, dimmable	integrated, independent or combined, dimmable
Control	On/off switch	membrane switch	membrane switch
Incident light method	angled incident light with three upper LEDs	choice of 3 methods: maximum intensity with 5 LEDs, angled incident light with LEDs, side light with 3 LEDs (patent pending)	choice of 3 methods: maximum intensity with 5 LEDs, angled incident light with LEDs, side light with 3 LEDs (patent pending)
Dimmer	–	yes, for incident and transmitted light	yes, for incident and transmitted light
Auto OFF	–	after 60 minutes	after 60 minutes
LED service life	approx. 25 000 hours	approx. 25 000 hours	approx. 25 000 hours
Light quality	homogeneous daylight, free of UV and IR	homogeneous daylight, free of UV and IR	homogeneous daylight, free of UV and IR
Maintenance	maintenance-free	maintenance-free	maintenance-free
Power supply	universal from 100V to 240V, voltage-sensitive, integrated	universal from 100V to 240V, voltage-sensitive, integrated	universal from 100V to 240V, voltage-sensitive, integrated
Digital camera			
Camera	–	–	–
Output	–	–	–
Analog video port	–	–	–
Integrated slot	–	–	–
Recording	–	–	–
Software	–	–	–
Accessories			
Measurement graticule/ stage micrometer	–	–	–
Other			
Dimensions and weights	3.82kg, 180 × 255 × 365	3.8kg, 180 × 255 × 365	3.8kg, 180 × 255 × 365
Ambient conditions, operation	+10°C to +40°C / rel. hum. to 35°C: 75% / atmospheric pressure 700 to 1060 hPa / storage: 20°C to 55°C		
Storage and transport	–20°C to + 52°C / rel. hum. 10 – 95% (non-condensing) / atmospheric pressure 500 to 1200 hPa		
Standards	CE Certified Europe / CSA Canadian Standards Association (USA, Canada)		

Stereomicroscope	Leica EZ4, open	Leica EZ4 D 10x
Type of microscope	10° Greenough	10° Greenough
Optical system	parfocal	parfocal
Magnification changer	zoom 4.4:1	zoom 4.4:1
Eyepieces for spectacle wearers	replaceable, fixed or adjustable: 10×/20, 16×/16, 20×/12 not suitable for spectacle wearers	10×/20 fixed
Diopter correction	from +5 to –5 (adjustable eyepieces)	–
Viewing angle	60°	60°
Working distance	100mm	100mm
Magnification range	depending on eyepieces used: 8× to 70×	8× to 35×
Maximum resolution	170 Lp/mm	170 Lp/mm
Maximum numerical aperture	0.057 nA	0.057 nA
Object field diameter	depending on eyepieces used: 3.4 to 25mm	5.7 to 25mm
Eyecups	replaceable	replaceable
Interpupillary distance	50 to 75mm	50 to 75mm
Beam path	100% visual	50% visual and 50% video/photo
Focusing drive	individually adjustable ease of movement, 75mm travel	individually adjustable ease of movement, 75mm travel
Grip	integrated	integrated
Illumination system		
LED incident light and transmitted light	integrated, independent or combined, dimnable	integrated, independent or combined, dimnable
Control	membrane switch	membrane switch
Incident light method	choice of 3 methods: maximum intensity with 5 LEDs, angled incident light with LEDs, side light with 3 LEDs (patent pending)	choice of 3 methods: maximum intensity with 5 LEDs, angled incident light with LEDs, side light with 3 LEDs (patent pending)
Dimmer	yes, for incident and transmitted light	yes, for incident and transmitted light
Auto OFF	after 60 minutes	after 60 minutes
LED service life	approx. 25 000 hours	approx. 25 000 hours
Light quality	homogeneous daylight, free of UV and IR	homogeneous daylight, free of UV and IR
Maintenance	maintenance-free	maintenance-free
Power supply	universal from 100V to 240V, voltage-sensitive, integrated	universal from 100V to 240V, voltage-sensitive, integrated
Digital camera		
Camera	optional: Leica DC150 with adapter	integrated, 3.0 megapixel CMOS
Output	–	USB 2.0
Analog video port	–	RCA, video, composite for projector, monitor, video recorder for SD (Secure Digital) cards
Integrated slot	–	integrated button for image recording
Recording	–	software for PC and MAC
Software	–	
Accessories		
Measurement graticule/ stage micrometer	for length measurements, for use with adjustable eyepieces	–
Other		
Dimensions and weights	3.64kg, 180 × 255 × 365	4.17kg, 180 × 255 × 365
Ambient conditions, operation	10°C to 40°C / rel. hum. to 35°C: 75% / atmospheric pressure 700 to 1060 hPa / storage: 20°C to 55°C	
Storage and transport	–20°C to + 52°C / rel. hum. 10 – 95% (non-condensing) / atmospheric pressure 500 to 1200 hPa	
Standards	CE Certified Europe / CSA Canadian Standards Association (USA, Canada)	

Leica E Series – Optical data

ES2 (10 447 202)				EZ4 (10 447 197) and EZ4 D with 10× eyepieces (10 447 200)			
Eyepieces	Position at magnification-changer	Magnification total	Object field Ø in mm	Eyepieces	Position at magnification-changer	Magnification total	Object field Ø in mm
10×/20	10	10×	20	10×/20	8	8×	25
	30	30×	6.7		10	10×	20
			12.5		12.5×	16	
			16		16×	12.5	
			20		20×	10	
			25		25×	8	
			30		30×	6.7	
			35		35×	5.7	

EZ4 with 16× eyepieces (10 447 198)				EZ4 without eyepieces (10 447 199) + eyepieces 10×/20			
Eyepieces	Position at magnification-changer	Magnification total	Object field Ø in mm	Eyepieces	Position at magnification-changer	Magnification total	Object field Ø in mm
16×/15	13	12.8×	18.8	10×/20	0.8	8×	25
	16	16×	15		1	10×	20
	20	20×	12		1.25	12.5×	16
	25	25.6×	9.4		1.6	16×	12.5
	32	32×	7.5		2	20×	10
	40	40×	6		2.5	25×	8
	50	48×	5		3	30×	6.7
	56	56×	4.3		3.5	35×	5.7

EZ4 without eyepieces (10 447 199) + eyepieces 16×/16				EZ4 without eyepieces (10 447 199) + eyepieces 20×/12			
Eyepieces	Position at magnification-changer	Magnification total	Object field Ø in mm	Eyepieces	Position at magnification-changer	Magnification total	Object field Ø in mm
16×/16	0.8	12.8×	20	20×/12	0.8	16×	15
	1	16×	16		1	20×	12
	1.25	20×	12.8		1.25	25×	9.6
	1.6	25.6×	10		1.6	32×	7.5
	2	32×	8		2	40×	6
	2.5	40×	6.4		2.5	50×	4.8
	3	48×	5.3		3	60×	4
	3.5	56×	4.6		3.5	70×	3.4

Leica E Series Assembly – diagram



Leica ES2 (10×)
10 447 202



Leica EZ4 (10×)
10 447 197



Leica EZ4 (16×)
10 447 198



Leica EZ4
10 447 199



Leica EZ4 D (10×)
10 447 200

Leica DC150 camera



Low eyepoint eyepieces:

Eyepieces, fixed:
10×/20 (10 447 281)
16×/16 (10 447 132)
20×/12 (10 447 134)

Eyepieces, adjustable:
10×/20 (10 447 282)
16×/16 (10 447 133)
20×/12 (10 447 135)

High eyepoint eyepieces:

Eyepieces, fixed:
10×/20B (10 447 278)
16×/15B (10 447 138)

Eyepieces, adjustable:
10×/20B (10 447 280)
16×/15B (10 447 139)

Leica E Series – Standard delivery

E Series stereomicroscopes

- 10 447 202 Leica ES2 with 10× eyepieces, 2 step stereomicroscope (3:1) 10× and 30× magnification, 60° eyetube angle, 100 mm working distance, high eyepoint eyepieces, integrated LED illumination for incident and transmitted light, power supply 100 – 240V
- 10 447 197 Leica EZ4 with 10× eyepieces, 4.4:1 zoom ratio, magnification from 8–35×, 60° eyetube angle, 100mm working distance, high eyepoint eyepieces, integrated LED illumination for incident and transmitted light, power supply 100 – 240V
- 10 447 198 Leica EZ4 with 16× eyepieces, 4.4:1 zoom ratio, magnification from 12.8–56×, 60° eyetube angle, 100mm working distance, high eyepoint eyepieces, integrated LED illumination for incident and transmitted light, power supply 100 – 240V
- 10 447 199 Leica EZ4 without eyepieces 4.4:1 zoom ratio, 60° eyetube angle, 100mm working distance, integrated LED illumination for incident and transmitted light, power supply 100 – 240V
- 10 447 200 Leica EZ4 D with 10× eyepieces, 4.4:1 zoom ratio, magnification from 8–35×, 60° eyetube angle, 100mm working distance, high eyepoint eyepieces, integrated CMOS camera 3.0 Megapixel, USB2, PAL/NTSC, integrated LED illumination for incident and transmitted light, power supply 100 – 240V

Eyepieces for EZ4 with open tubes

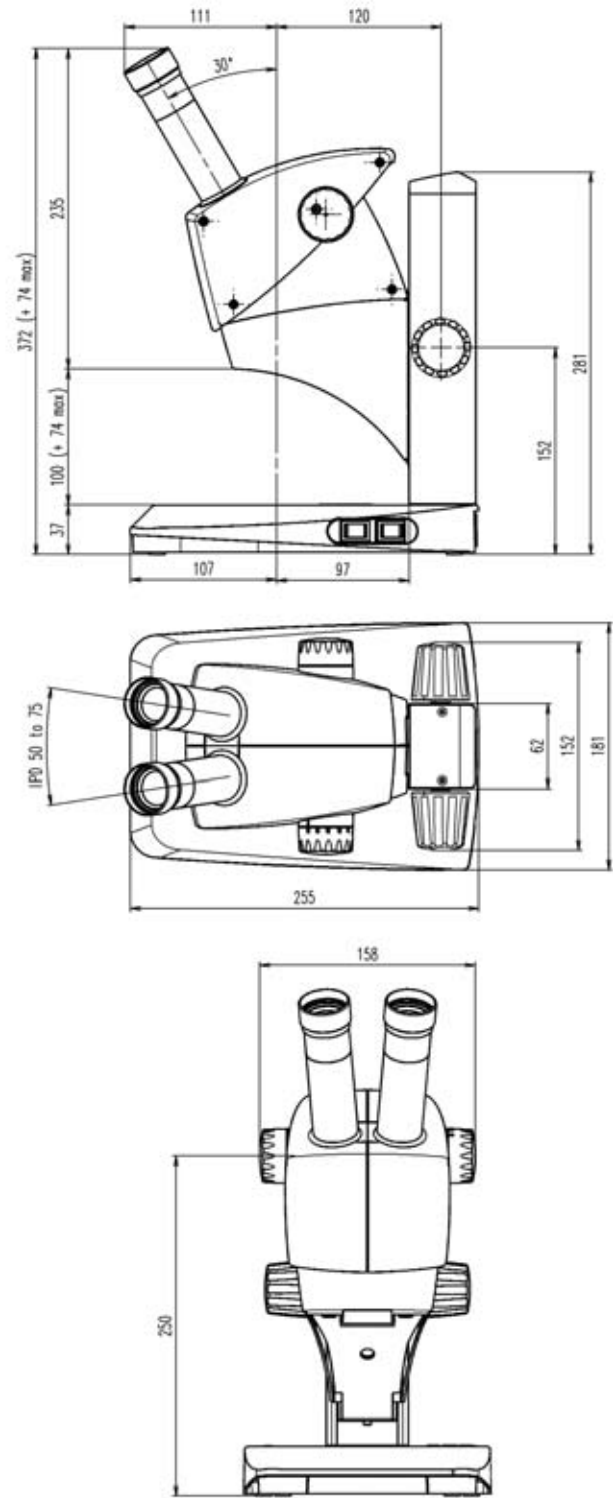
- 10 447 281 Eyepiece 10×/20, fixed, E Series
- 10 447 282 Eyepiece 10×/20, adjustable, E Series
- 10 447 132 Eyepiece 16×/16, fixed, S and E Series
- 10 447 133 Eyepiece 16×/16, adjustable, S and E Series
- 10 447 134 Eyepiece 20×/12, fixed, S and E Series
- 10 447 135 Eyepiece 20×/12, adjustable, S and E Series
-
- 10 447 278 Eyepiece 10×/20B, for spectacle wearers
- 10 447 280 Eyepiece 10×/20B, adjustable, for spectacle wearers
- 10 447 138 Eyepiece 16×/15B, for spectacle wearers
- 10 447 139 Eyepiece 16×/15B, adjustable, for spectacle wearers

Accessories for measurements with adjustable eyepieces

- 10 446 447 Graticule 10mm / 0.1mm, S Series
- 10 446 448 Graticule 5mm / 0.1mm, S Series
- 10 446 449 Graticule 5mm / 0.05mm
- 10 446 450 Crosshair graticule
-
- 10 447 000 Graticule, 100 graduations / 0.002"
- 10 447 001 Graticule, 100 graduations / 0.001"
- 10 447 002 Graticule, 150 graduations / 0.0005"
-
- 10 310 345 Stage micrometer 50mm, 0.1 / 0.01mm graduation
- 10 447 037 Stage micrometer 1", 0.001" graduation
-
- 10 447 477 Soft carrying case
- 10 447 496 Leica ETB (Educational Tool Box): Educational CD-Rom, Cleaning-Set, Poster of an E-Series-Stereomicroscope

Leica ES2 dimensions

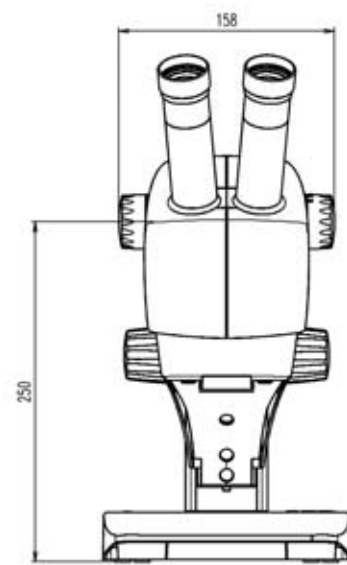
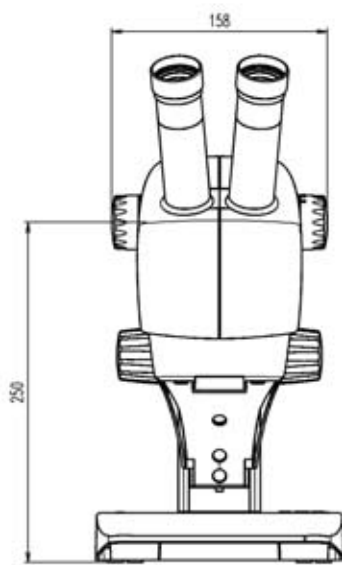
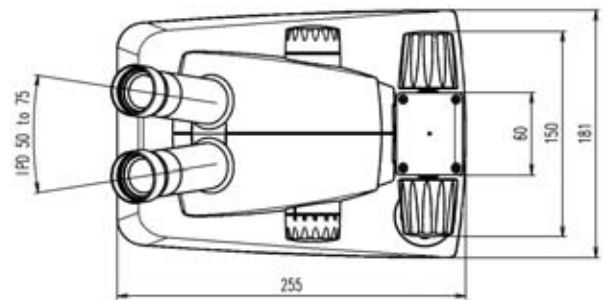
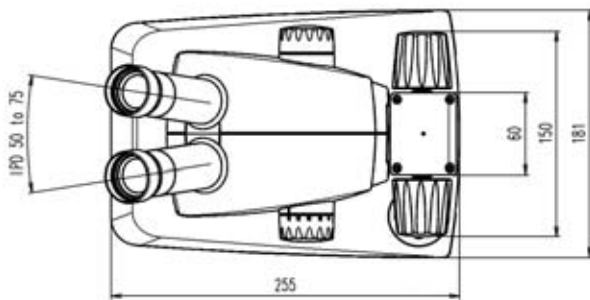
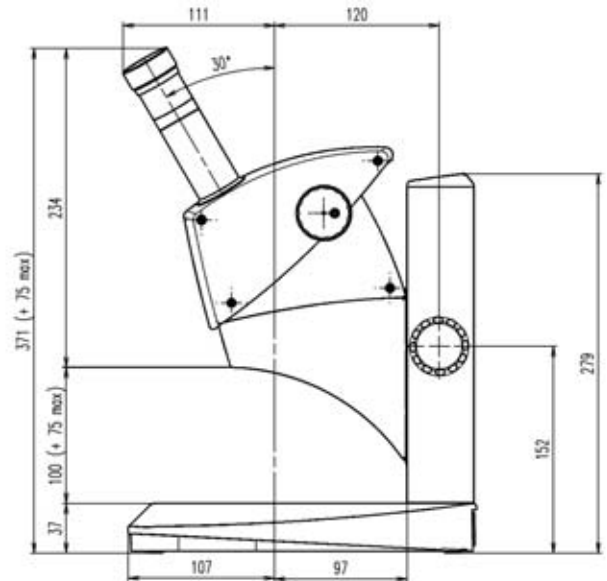
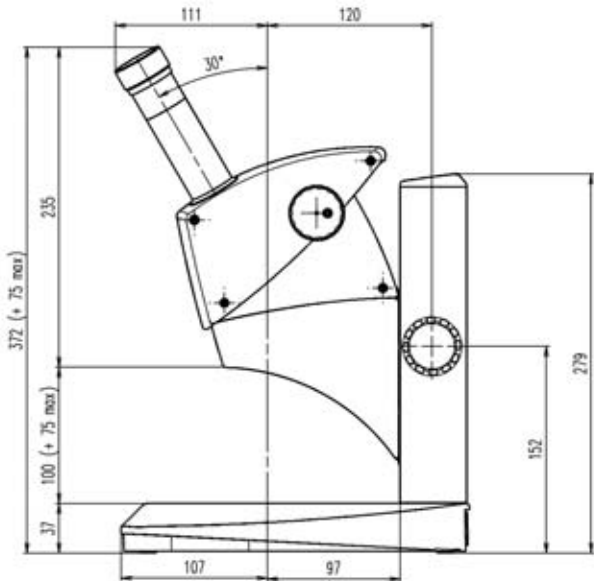
Measurements in mm



10 447 202 Leica ES2

Leica EZ4 dimensions

Measurements in mm

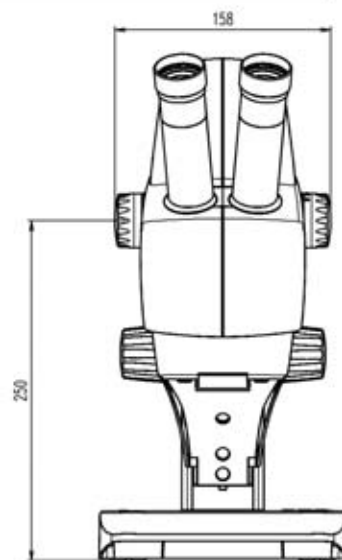
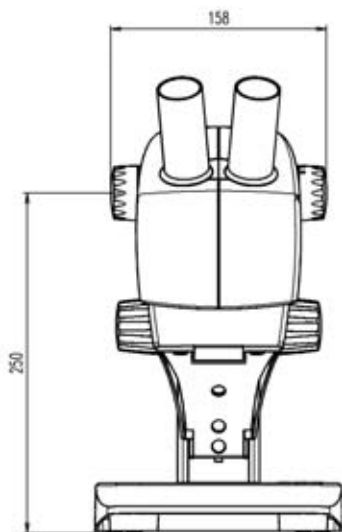
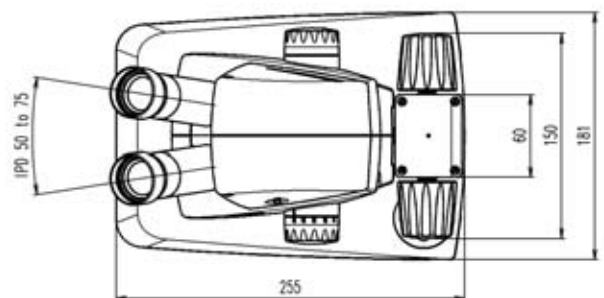
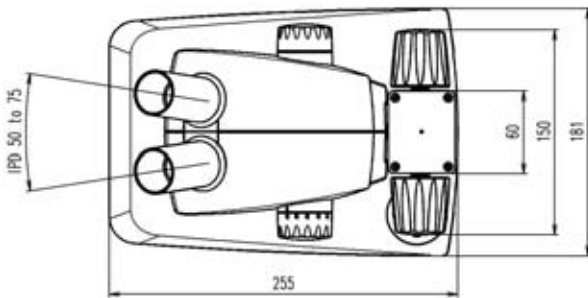
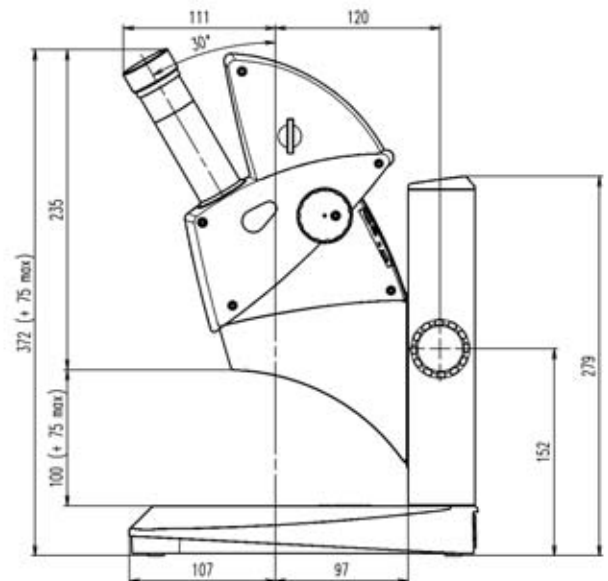
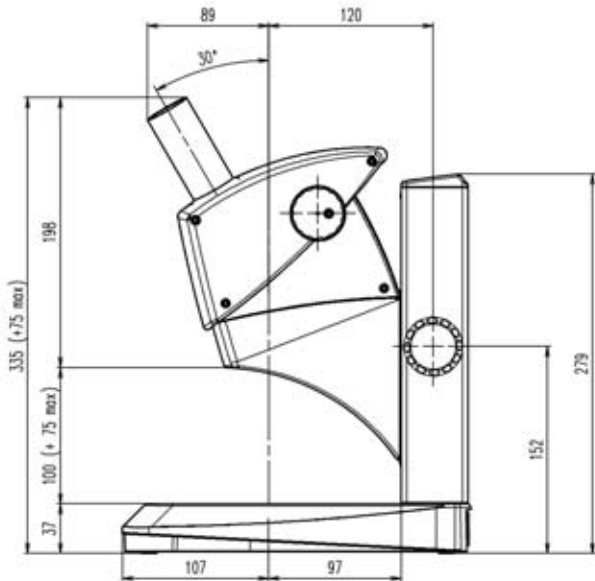


10 447 197 Leica EZ4 with 10x eyepieces

10 447 198 Leica EZ4 with 16x eyepieces

Leica EZ4 D dimensions

Measurements in mm



10 447 199 Leica EZ4 without eyepieces

10 447 200 Leica EZ4 D (with 10x eyepieces and integrated digital camera)

Information material

Stereomicroscopes, zoom systems and accessories

All brochures available in German, English, French, Spanish, Italian.

For M and S series stereomicroscopes, manuals are available in German, English, French, Spanish, Italian, Danish, Swedish, Dutch, Finnish, Greek, Portuguese, Estonian, Latvian, Lithuanian, Polish, Czech, Slovenian, Hungarian, Slovak

Please visit our website: www.leica-microsystems.com

There you will find the latest information and updates as well as numerous examples of practical application for our stereomicroscopes in industry and life science. You can also view, print and save any brochures and the latest manuals.

Stereomicroscope Leica MS5, MZ6	M1-141-0
Stereomicroscope Leica MZ7 _s	M1-175-0
Stereomicroscope Leica MZ9 _s	M1-195-0
Stereomicroscope Leica MZ12 _s	M1-125-0
Stereomicroscopes Leica MZ16 A and MZ16 B	M1-116-0
Fluorescence stereomicroscope Leica MZ16 F	M1-116-8
Motorized fluorescence stereomicroscope Leica MZ16 FA	M1-116-5
Leica FluoCombi III™ for Leica fluorescence stereomicroscopes	M1-166-2
Leica StereoZoom® Greenough stereomicroscopes	M1-188-0
Leica S8 APO StereoZoom®, natural science	M1-188-3
Leica S8 APO StereoZoom®, technology	M1-188-4
Zoom systems Leica Z6 APO and Z16 APO	M1-416-0
Motorized zoom systems Leica Z6 APO A & Z16 APO A	M1-417-0
Leica MacroFluo™ fluorescence microscope	M1-416-2
Swing-arm stands	M1-217-1
Leica stereomicroscopy bases with Rottermann Contrast™ technology	M1-218-0
Leica MATS heating stages	M1-227-0
Leica L2 cold-light source	M1-288-0
Leica L5 FL cold-light fluorescence system	M1-205-1
Leica ErgoModules®	M1-215-2
Leica IC A video module for Leica M stereomicroscopes	M1-393-1
Leica ICC A video module for Leica M stereomicroscopes	M1-393-2
Leica MPS30 photoautomat	M1-330-0
Leica MPS60 photoautomat	M1-360-0
Leica colposcope	M1-280-0

Digital cameras & image processing/analysis software

Leica ICD integrated digital camera	M1-393-4
3D display system: Leica IC 3D, StereoExplorer, ASD-3D-display	M1-525-5
Leica DFC280 FireWire color camera system	M1-398-2
Leica DFC300 FX FireWire color camera system	M1-398-1
Leica DFC340 FX FireWire monochrome	M1-399-3
Leica DFC350 FX FireWire monochrome camera system	M1-397-8
Leica DFC420 FireWire color camera system	M1-399-5
Leica DFC490 High-performance FireWire camera system	M1-399-4
Leica DFC500 High-performance FireWire camera system	M1-399-2
Leica DC150 Digital camera system	M1-398-4
Leica IM1000 Image Manager image management system	M1-502-0
Leica QWin for quantitative microscopy	M1-511-0
Leica Q550MW LAS Image Overlay	M1-525-1
LAS Multifocus	M1-525-2
LAS Reticule	M1-525-3
LAS Multitime	M1-525-4
LAS Multistep	M1-525-5
LAS Interactive Measurement	M1-525-6
LAS Extended Annotation	M1-525-7

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