



# Microscope Product Lines

For assembly and inspection in electronic applications



# Luxo: The market leader in magnification

## A solution for every application

Luxo's microscope product line is designed with today's high-tech manufacturing environments in mind. The breadth of the product line meets numerous application requirements from inspection to assembly to rework. Inspection operators will appreciate the magnification range and ergonomic features of the microscope systems, while assembly and rework technicians will enjoy the greater working distances and versatility of the digital imaging systems.

All Luxo microscope models feature high-quality achromatic lenses with anti-reflective coatings for superior visual clarity. Optional eyepieces and accessory objective lenses can be added to provide a wider range of magnification powers. A choice of light sources and mounting options enable the product set-up best-suited for each individual application. Digital imaging systems are configurable to allow capturing of images to catalog or share inspection results and observations, for archiving or communicating electronically. The end result is increased productivity with an easy-to-use product line.



First generation Luxo microscope, MicroLux. This microscope was first manufactured over 30 years ago and is still in use today.

# Product guide

## System 250 Binocular Microscopes

Lighter-duty binocular microscope system

System 250 Binocular Stereo-Zoom Microscopes are ideal microscopes for the economical user. With a 20mm optics system and single boom stand, these microscopes are best-suited for lighter-duty use in inspection applications. Models are available through Luxo's 72-hour Quick Ship Program.

### Technical details

**Magnification:** Standard 6.5X – 45X magnification range.

**Eyepieces:** Standard with 10X high-quality widefield achromatic lenses with anti-reflective coatings.

**Ergonomics:** Alter angles up to 45°. 360° head rotation in its focus mount.

**Zoom:** .65 - 4.5 zoom range controlled by dual graduated knobs located on both sides of the head.

**Construction:** Heavy-duty cast aluminum housing.

**Mounting:** Single boom stand with 17.5" vertical and 26" horizontal reach. 10" x 10" base.



### Binocular Microscope Optics Data (System 250)

Eyepieces	Objective	1.0X (included)	0.5X
10X	Total Magnification (Range)	6.5 - 45X	3.3 - 22.5X
	Field of View Diameter (mm)	31 - 4.5	61.5 - 8.9
	Working Distance (mm)	95	150

### Product table:

Part number	Microscope	Description
18712	System 250-FL	S-Z Binocular, Single Boom Stand, Fluorescent Ring Light
18714	System 250	S-Z Binocular, Single Boom Stand
18750	-	0.5X Lens

# Product guide

## System 273 Binocular Microscopes

Luxo's best-selling microscope product family

System 273 Binocular Stereo-Zoom Microscopes are perfect for assembly and rework applications due to their industry-leading 23mm optics system and nearly 8" working distance (when used with a 0.5X reducing lens). As with Luxo's family of magnifiers, the System 273 is truly a family of microscopes with a number of optional eyepieces, objective lenses, mounting options and lightsources that allow an operator to increase magnification, working distance and flexibility to suit their individual needs. Several best-selling models are available through Luxo's 72-hour Quick Ship Program.

Several System 273 systems and lightsources are available in ESD-Safe versions which are specifically designed for use in static-sensitive environments where electrostatic discharges can prove fatal for electronic components. Models include 10mm static grounding cables, metal boom stand bushings and metal pads on the microscope base. The body and stand are powder-coated with a metal-laced paint that measures  $10^5 \Omega/\text{sq.}$  (static dissipative). Since the surfaces are no longer insulative, triboelectric charging results in drastically lower voltages, especially since any charge (under 50 volts) is uniformly distributed throughout the entire surface of the microscope.

### Technical details

- Optics:** 23mm, 10X super widefield eyepieces and eyeshields. Nearly 8" working distance when used with a 0.5X reducing lens.
- Magnification:** Standard 7X – 45X magnification range.
- Lenses:** High-quality achromatic lenses with anti-reflective coatings.
- Zoom:** .7 - 4.5 zoom range controlled by dual graduated knobs on both sides of the head.
- Construction:** Heavy-duty cast aluminum housing.
- Mounting:** Dual boom roller-bearing stand with 17.5" vertical and 26" horizontal reach (10" x 10" base), Non-Illuminated Stand with 11" vertical post or 34" Articulating Arm with Vertical Extension.



### Product table:

For System 273 Optics Data, please refer to the chart on page 11.

Part number	Microscope	Description	ESD-Safe
23711RB	System 273RB-RLI	S-Z 23mm Binocular, RB Stand, Fiber Optic Illuminator with Ring Light	
23712RB	System 273RB-FL	S-Z 23mm Binocular, RB Stand, Fluorescent Ring Light	
23712RB-ESD	System 273FL-ESD	ESD-Safe, S-Z 23mm Binocular, RB Stand, FL Ring Light	X
23714AC	System 273AC	S-Z 23mm Binocular, Articulating Arm with Clamp	
23714RB	System 273	S-Z 23mm Binocular, RB Stand	
23714RB-ESD	System 273-ESD	ESD-Safe S-Z 23mm Binocular, RB Stand	X
23714VE	System 273VE	S-Z 23mm Binocular, Articulating Arm with Vertical Extension	
23726RB-ESD	System 273RB-LED-ESD	ESD Safe S-Z 23mm Binocular, RB Stand, LED-3000 Ring Light	X
23727RB	System 273RB-DMLED	S-Z 23mm Binocular, RB Stand, Dimmable LED Ring Light	
23728RB	System 273RB-DMLED-HO	S-Z 23mm Binocular, RB Stand, Dimmable LED-High Output Ring Light	
23780RB	System 273-LED3000	S-Z 23mm Binocular, RB Stand, LED-3000 Ring Light	
23780VE	System 273VE-LED3000	S-Z 23mm Binocular, Articulating Arm with Vertical Extension, LED-3000 Ring Light	
23783	System 273LS-LED3000	S-Z 23mm Binocular, Non-Illuminated Stand, LED-3000 Ring Light	
23784	System 273LS	S-Z 23mm Binocular, Non-Illuminated Lab Stand	
23736	-	0.7X Reducing Lens, 23mm	
23750*	-	0.5X Reducing Lens, 23mm	

\*23750 can be used with all models except 23783.

# Product guide

## ESD-Safe System 373 Trinocular Microscopes



For training and documentation purposes with optional digital accessories for image capture.

ESD-Safe System 373 Trinocular and System 373 TRU Trinocular Stereo-Zoom Microscopes are specifically designed for training or documentation purposes. With a 23mm optics system and nearly 8" working distance (when used with a 0.5X reducing lens) these microscopes have an expansive magnification range with optional eyepieces and objective lenses permitting magnification up to nearly 300X. TRU Trinocular models allow the user to simultaneously view images on screen and through the eyepieces.

ESD-Safe models are ideal for use in static-sensitive environments where electrostatic discharges can prove fatal for electronic components. Models include 10mm static grounding cables, metal boom stand bushings and metal pads on the microscope base. The body and stand are powder-coated with a metal-laced paint that measures  $10^5 \Omega/\text{sq.}$  (static dissipative). Since the surfaces are no longer insulative, triboelectric charging results in drastically lower voltages, especially since any charge (under 50 volts) is uniformly distributed throughout the entire surface of the microscope.

### Technical details

- Optics:** 23mm, 10X super widefield eyepieces and eyeshields. Nearly 8" working distance when used with a 0.5X reducing lens.
- Magnification:** Standard 7X – 45X magnification range.
- Lenses:** High-quality achromatic lenses with anti-reflective coatings.
- Ergonomics:** Alter angles up to 45°. 360° head rotation in its focus mount.
- Zoom:** .7 - 4.5 zoom range controlled by dual graduated knobs located on both sides of the head. TRU Trinocular models feature a click-stop detent at each marking on the zoom knobs which helps to hold the magnification.
- Construction and finish:** Heavy-duty cast aluminum housing. Body and stand are powder-coated with a metal-laced paint that measures  $10^5 \Omega/\text{sq.}$  (static dissipative).
- Mounting:** Dual boom roller-bearing stand with 17.5" vertical and 24" horizontal reach. 10" x 10" base.



### Product table:

For System 373 Optics Data, please refer to the chart on page 11.

Part number	Microscope	Description	ESD-Safe
23720RB-ESD	System 373RB-ESD	ESD-Safe S-Z 23mm Trinocular, RB Stand	X
23720RB-TRT-ESD	System 373RB-TRT-ESD	ESD-Safe S-Z 23mm TRU Trinocular, RB Stand	X
23725RB-USBSR-ESD	System 373RB-DMLED-HOUSBSR-ESD	ESD-Safe S-Z 23mm Trinocular, RB Stand, ESD-Safe Dimmable LED-High Output Ring Light, USB 2.0 Camera	X
23725RB-USBSRTRT-ESD	System 373RB-DMLED-HOUSBSTFESD	ESD-Safe S-Z 23mm TRU Trinocular, RB Stand, ESD-Safe Dimmable LED-High Output Ring Light, USB 2.0 Camera	X
23760	-	Eyepieces/15X Pair, 23mm	
23736	-	0.7X Reducing Lens, 23mm	
23750	-	0.5X Reducing Lens, 23mm	

# Product guide

## VIP Microscopes



Ergonomically-designed microscope with individual eyepiece adjustment.

The Variable Inclination Position Microscope (VIP) features an extended magnification range and ergonomically-designed eyepiece adjustment intended to eliminate neck or muscle fatigue. Variable inclination allows for individualized adjustability so each technician can maintain a correct posture during use – neck straight, eyes forward.

The magnification range and variable inclination eyepieces combined with dual boom ball-bearing stand, make it ideal for a diverse range of inspection applications and result in a microscope suited for the individual user.

### Technical details

- Optics:** 23mm, 10X super widefield eyepieces and eyeshields. Nearly 8" working distance when used with 0.5X reducing lens.
- Magnification:** Standard 8X – 50X magnification range. 4X – 25X magnification and 186mm working distance when used with a 0.5X reducing lens, included.
- Ergonomics:** Variable inclination eyepieces allow 0° - 30° individualized adjustability. 360° head rotation in its focus mount.
- Zoom control:** .8 - 5.0 zoom range controlled by dual graduated knobs located on both sides of the head. A click-stop detent at each whole marking on the zoom knobs helps to hold the magnification.
- Construction and finish:** Heavy-duty cast aluminum housing. Body and stand are powder-coated with an ESD-Safe metal-faced paint that measures  $10^5 \Omega/\text{sq.}$  (static dissipative).
- Mounting:** Dual boom roller-bearing stand with 17.5" vertical and 22" horizontal reach. 10" x 10" base.



### Binocular, Microscope Optics Data (VIP)

Eyepieces	Objective	Objective zoom setting 0.8X - 5.0X	
		1.0X	0.5X (included)
10X	Total Magnification (Range)	8X - 50X	4X - 25X
	Field of View Diameter (mm)	28.8 - 4.6	57.5 - 5.8
15X	Total Magnification (Range)	12X - 75X	6X - 37.5X
	Field of View Diameter (mm)	21.3 - 3.4	42.5 - 6.8
	Working Distance (mm)	91	186

### Product table:

Part number	Microscope	Description	ESD-Safe
23880RB-ESD	System 273RB-LEDVIPESD	ESD-Safe VIP Microscope, RB Stand, LED-3000 Ring Light	X
23760	-	Eyepieces/15X Pair 23mm/VIP	

# Microscope Mounting Options



The Dual Boom Ball-Bearing Stand features a 26' stainless steel horizontal boom extension (limited to 24" when used with a System 373 model) and a 17.5" vertical boom mounted to a 10" x 10" die-cast base. Ball-bearing design allows fluid horizontal extension of the boom stand. The focus mount angles to 45° to permit additional viewing and inspection perspectives. For use with all Luxo System 273, 373 and VIP microscopes.

23730RB Dual Boom Ball-Bearing Stand

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The Single Boom Stand features a 10" x 10" base weighing 22.5lbs. with built-in contoured grips to make moving it easier. Its vertical column is 17.5" and the horizontal arm extends a total of 26". The final 2.5" of horizontal extension is accomplished via control knobs at the end nearest the focus mount. The knobs move a metal bar on a rack-and-pinion track connected to the drop post/focus mount to provide this extension. A setscrew extends through the bottom of the block into a groove on the horizontal arm to keep the microscope from accidentally rolling over, even when the retaining knob remains loose. The focus mount angles to 45° to permit additional viewing and inspection perspectives. For use with all Luxo System 250 microscopes.

18730 Single Boom Stand

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The Articulating Arm with Vertical Extension is 34" in length, has a 12" vertical range of motion and a maximum clearance of 16" above the benchtop surface. Includes a heavy-duty clamp that opens 4" wide in order to accommodate workstations or bench edges. For use with all Luxo System 273 and 373 microscopes.

23793 Articulating Arm with Vertical Extension

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The Articulating Arm Stand has a heavy-duty mount that opens up to 4" wide to mount to workstations or bench edges. The horizontal reach is over 36" when fully extended (measured from the vertical post to the middle of the microscope body) and its maximum clearance is 14" above the worksurface. This is one stand that truly frees valuable bench space and still gets the microscope out where it's needed for assembly and rework. For use with all Luxo System 273 and 373 microscopes.

23732 Articulating Arm Stand

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The Non-Illuminated Stand is used for viewing small objects when an independent lightsource (not included) is used. The base of the stand is 11.25" wide by 11.5" deep. The overall height is 11" measured to the top of the vertical post. For use with all Luxo System 273 and 373 microscopes.

23734 Non-illuminated Stand

# Lighting and Digital Options

## LED-3000



LED-3000 Ring Light maximizes light output and distribution while preventing harmful glare and reflections. The brilliant 40 LED display, with 50,000 hour lamp life and 6000°K color temperature, makes this ring light ideal for the inspection of surface cracks and defects as well as for lead-free inspection. Self-contained on/off and dimming controls allow for dimming up to 15% output. LED-3000 consumes 9-watts of power and produces up to 3600 footcandles at 4.5" working distance. LED-3000 is ESD-Safe and suitable for static-sensitive environments. Static grounding cables ensure static dissipation.

Part number	Description	ESD-Safe
LED3000	LED-3000 Ring Light	X

## Fluorescent Ring Light



Fluorescent Ring Light provides full illumination with a powerful 17-watt, 5600°K lamp. A durable powder-coated metal housing protects the fluorescent lamp which has a rated lamp-life of 4,500 hours and produces 2,000 footcandles at 4.5" working distance.. Plug-in ballast with polarized plug is included.

Part number	Description
18742	Fluorescent Ring Light

## Dimmable LED-High Output Ring Light



Dimmable LED-High Output Ring Light maximizes light output at a greater working distance. Its 80 high-output LEDs draw only 18-watts of energy while producing up to 5800 footcandles at 4.5" working distance. The LEDs are distributed among 2 concentric rings of lights (each containing 40 LEDs) and are controlled via 8 quadrant switches. A 50,000 hour lumen maintenance (lamp life) and 6000°K color temperature make this an ideal lightsource for the inspection of surface cracks and defects, welds, lead-free solder joints, flux residues and hairline stress cracks as well as a suitable replacement for traditional 150W Fiber Optic Illuminators.

Part number	Description
18743	Dimmable LED High-Output Ring Light

## Dimmable LED Ring Light



Dimmable LED Ring Light maximizes light output and distribution while preventing harmful glare and reflections. Its modular construction, paired with a brilliant 40 LED display and 6000°K color temperature, make this ring light ideal for the inspection of surface cracks and defects as well as lead-free inspection. 9-watts of pure-white LED light produce up to 3600 footcandles at 4.5" working distance and ease the examination of welds, solder joints, flux residues and hairline stress cracks. Removeable/replaceable diffuser allows for easy cleaning. Dimmable to 15% output. Features a 50,000 hour lumen maintenance (lamp life).

Part number	Description
18746	Dimmable LED Ring Light



# Lighting and Digital Options

## Fiber Optic Illuminators



ESD-Safe LED Fiber Optic Illuminator features a 40W energy-efficient LED lightsource with a 5000°K color temperature and 80 CRI and produces up to 3250 footcandles at 12" working distance. Fiber Optic Illuminator features a 150W halogen lightsource which produces 6450 footcandles at 4.5" working distance. Both Illuminators include a dimmer switch which enables an operator to select the exact amount of light desired. They can both be placed on the worksurface in a conventional position, facing the operator, or, since they have 'rubber feet' on their backs, placed in a vertical position to occupy an even small footprint.

Part number	Description
LFOD150	Fiber Optic Illuminator
LFOLED40	LED Fiber Optic Illuminator

## USB 2.0 High Resolution Camera



USB 2.0 High Resolution Camera is a compact high resolution camera for industrial use. Over 15 frames/s in full frame mode, 30 frames/s in 1/2 partial scan mode and 61 frames/s in 1/4 partial scan mode. 1/2" Interline UXGA Progressive CCD color image sensors with 1600 x 1200 pixels at full size are standard. Software permits digital image capture and measurement. Equipped with C-Mount and high speed USB. With its USB 2.0 architecture, this camera is ideally suited for use with PC, Notebook and Embedded Systems in image processing. Includes camera, 6' USB cable and software.

Part number	Description
18791	USB 2.0 High Resolution Camera

## Fiber Optic Ring Light



Fiber Optic Ring Light, with its continuous ring, is the most popular light transmitter. The ring light housing encases high-quality glass fibers to provide 360° shadow-free uniform illumination that makes viewing of inspection and assembly applications a snap. Its 36" cable, made with interlocking stainless steel sheathing, enables the illuminator to be positioned outside the immediate work area to provide more space for inspection and assembly operations.

Part number	Description
LFORLCR	Fiber Optic Ring Light

## USB 2.0 STD Resolution Camera



USB 2.0 STD Resolution Camera is an ultra-compact, progressive-scan camera with 1/3" color CCD, digital zoom. Equipped with high-quality sensors, industrial design, C-Mount and high speed USB 2.0 output. Up to 22 frames/s in full frame mode, over 11 frames/s in 1/2 partial scan mode and 6 frames/s in 1/4 partial scan mode. 1/3" Interline SXVGA Progressive CCD color image sensors with 1280 x 960 pixels at full size are standard. Software permits digital image capture and measurement. With its USB 2.0 architecture, this camera is ideally suited for use with PC, Notebook and Embedded Systems in image processing and factory automation. Includes camera, 6' USB cable and software.

Part number	Description
18792	USB 2.0 STD Resolution Camera

# Product guide

## MIDAS®

Handheld digital inspection system with trigger image capture.



MIDAS® is a horizontally-positionable digital handheld inspection system which provides a versatile way of capturing and documenting images using a polarizing filter and 5MP Camera. Ideal for inspection, document authenticity, criminology, museum and artwork restoration, currency verification and gemstone and mineral examination.



### Technical details

- Image sensor: 1/4" color CMOS.
- Magnification: 10X – 200X.
- Lightsource: 6 white-light LEDs consuming 110mA (AVG).
- Pixels: 2592 x 1944 (HxV)
- Signal input: USB 2.0
- Control: Auto gain control and white balance.
- Trigger: Handheld trigger image capture.
- Filter: Polarizing filter prevents glare and reflections by reducing the wavelengths of light through the optics of the camera.
- Operating system: Windows™ XP SP2, Vista, Windows™ 7 and Windows™ 8.
- Mounting: Gooseneck arm (12.2"V x 8.3"H x 13.8"L) with 5.1" x 5.5" base or boom stand (2.9"H x 6.2"V) with 7.9" square base.



### MIDAS® Optics Data

Magnification	10X	20X	50X	200X
Working distance	150mm	95mm	13mm	2mm

### Product table:

Part number	Description
MIDAS-GS	MIDAS® Camera with Polarizing Filter and Gooseneck Stand
MIDAS-ST	MIDAS® Camera with Polarizing Filter and Boom Stand

# Microscope Optics Data

## Binocular and Trinocular Microscope Optics Data (Systems 273 and 373)

Eyepieces	Objective	Objective zoom setting 0.7X - 4.5X			
		1.0X (included)	0.5X	0.7X	2.0X
10X	Total Magnification (Range)	7X - 45X	3.5X - 22.5X	4.9X - 31.5X	14X - 90X
	Field of View Diameter (mm)	32.8 - 5.1	65.7 - 10.2	46.9 - 7.3	16.4 - 2.6
15X	Total Magnification (Range)	10.5X - 67.5X	5.3X - 33.8X	7.4X - 47.2X	21X - 135X
	Field of View Diameter (mm)	24.3 - 3.8	48.6 - 7.6	34.7 - 5.4	12.1 - 1.9
Working Distance (mm)		118	195	145	35

## Trinocular Microscope Optics Data (System 373)

1/3" CCD Camera with 22" Monitor and 0.5X Video Adapter

Accessory Lens	Magnification with zoom setting @ 0.7	FOV (mm) with zoom @ 0.7	Magnification with zoom setting @ 4.5	FOV (mm) with zoom @ 4.5	Working Distance (mm)
None	23.1X	24.2	148.4X	3.8	118
0.5	11.5X	48.3	74.2X	7.5	195
0.7	16.2X	34.5	103.9X	5.4	145
2	46.2X	12.1	296.9X	1.9	35

## Binocular Microscope Optics Data (VIP)

Eyepieces	Objective	Objective zoom setting 0.8X - 5.0X	
		1.0X	0.5X (included)
10X	Total Magnification (Range)	8X - 50X	4X - 25X
	Field of View Diameter (mm)	28.8 - 4.6	57.5 - 5.8
15X	Total Magnification (Range)	12X - 75X	6X - 37.5X
	Field of View Diameter (mm)	21.3 - 3.4	42.5 - 6.8
Working Distance (mm)		91	186

## Binocular Microscope Optics Data (System 250)

Eyepieces	Objective	1.0X (included)	0.5X
10X	Total Magnification (Range)	6.5 - 45X	3.3 - 22.5X
	Field of View Diameter (mm)	31 - 4.5	61.5 - 8.9
Working Distance (mm)		95	150

## MIDAS® Optics Data

Magnification	10X	20X	50X	200X
Working distance	150mm	95mm	13mm	2mm



## Luxo Corporation

For more than 75 years Luxo has designed arm-based innovative, ergonomic lighting and magnification products. Luxo products improve work efficiency, taking particular care of individual needs.

Luxo products and solutions are developed and tested by our engineers at our own research and testing facilities, and manufactured and certified in accordance with all relevant quality and environmental standards. They are based on the latest technology and expertise – and generations of experience.

### Luxo

Five Westchester Plaza  
Elmsford, New York 10523  
Tel: 800-222-5896  
Fx: 800-648-2978  
Email: [office@luxous.com](mailto:office@luxous.com)  
[www.luxous.com](http://www.luxous.com)



Please refer to our website for information about our 5-year warranty.