

The right light

**LUXO**



# Luxo Microscope Product Lines

THE MARKET LEADER IN MAGNIFICATION FOR OVER 75 YEARS



## SYSTEM 250 BINOCULAR MICROSCOPES

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 lighting 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.



18711RB



18712

**18711, System 250-RLI:** Includes a Binocular S-Z Microscope, Single Boom Stand and Fiber Optic Illuminator with Ring Light.

**18712, System 250-FL:** Includes a Binocular S-Z Microscope, Single Boom Stand and Fluorescent Ring Light.

**18714, System 250:** Includes a Binocular S-Z Microscope and Single Boom Stand. Lighting sold separately.

**18726, System 250-LED:** Includes a Binocular S-Z Microscope, Single Boom Stand and LED Ring Light.

**18750, 0.5X Reducing Lens:** For use with System 250 Microscopes.



Luxo's new MIDAS® (Microscope Inspection Digital Application System) is a horizontally positionable digital handheld inspection system which provides a versatile way of capturing and documenting images using a polarizing filter and 1.3 MP USB Camera. Ideal for inspection, document authenticity, criminology, museum and artwork restoration, currency verification and gemstone and mineral examination. ESD-Safe.



MIDAS



MIDAS-GS



MIDAS-ST



MIDAS

- Magnification: 10X to 200X.
- 6 white-light LEDs.
- Polarizing filter prevents glare and reflection by reducing the wavelengths of light through the optics of the camera.
- ¼" color CMOS image sensor.
- 1280 × 1024 effective pixels (HxV).
- USB 2.0 signal output.
- Auto gain control.
- Automatic white balance.
- Power source: 5VDC through USB 2.0 port.
- Windows™ XP SP2, Vista and Windows™ 7 operating system.
- 110mA (AVG) power consumption.
- 1.3 MP camera.
- Working distance: 10X (150 mm), 20X (95 mm), 50X (13 mm).
- Handheld trigger image capture.
- Gooseneck arm: 12.2" vertical 8.3" horizontal; 13.8" length.
- Gooseneck base size and weight: 5.1" × 5.5"; 1 lb.
- Boom Stand arm: 9.8" vertical, 11.6" horizontal.
- Boom Stand base size and weight: 7.9" × 7.9"; 2 lb.

**MIDAS**, MIDAS® USB Camera Inspection System with Polarizing Filter  
**MIDAS-GS**, MIDAS® Camera with Polarizing Filter and Gooseneck Stand  
**MIDAS-ST**, MIDAS® Camera with Polarizing Filter and Boom Stand

**18780**, MIDAS® Gooseneck Stand

**18781**, MIDAS® Boom Stand

## SYSTEM 273 BINOCULAR MICROSCOPES

System 273 Binocular Microscopes feature a 23mm optics system, nearly 8" working distance (when used with a 0.5X reducing lens), larger field of view, and higher magnification than comparable System 250 models.



23727RB



23712RB

**23711RB, System 273RB-RLI:** Includes a Binocular S-Z Microscope, Dual Boom Ball-Bearing Stand and Fiber Optic Illuminator with Ring Light.

**23712RB, System 273RB-FL:** Includes a Binocular S-Z Microscope, Dual Boom Ball-Bearing Stand and Fluorescent Ring Light.

**23714RB, System 273RB:** Includes a Binocular S-Z Microscope and Dual Boom Ball-Bearing Stand. Lighting sold separately.

**23727RB, System 273RB-DMLED:** Includes a Binocular S-Z Microscope, Dual Boom Ball-Bearing Stand and Dimmable LED Ring Light.

**23728RB, System 273RB-DMLED-HO:** Includes a Binocular S-Z Microscope, Dual Boom Ball-Bearing Stand and Dimmable LED-High Output Ring Light.

**23780RB, System 273RB-LED3000:** Includes a Binocular S-Z Microscope, Dual Boom Ball-Bearing Stand and LED-3000 Ring Light.



23711RB



23714RB

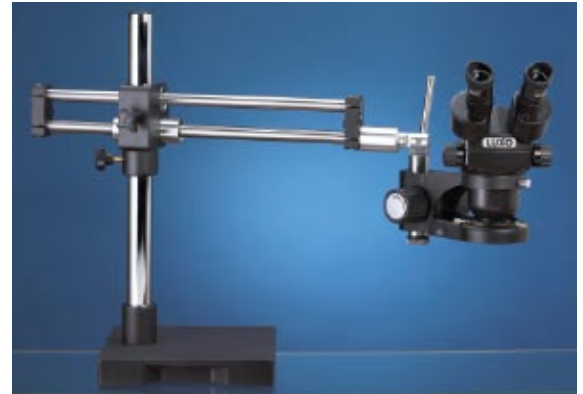
# SYSTEM 273 and 373 ESD-SAFE MICROSCOPES



System 273 and 373 ESD-Safe Microscopes are designed for inspection and assembly applications in static-sensitive environments. The body and stand are powder-coated with a metal-laced paint that measures  $10^5 \Omega/\text{sq.}$  (static dissipative).



23712RB-ESD



23726RB-ESD

**23712RB-ESD, System 273RB-FL-ESD:** Includes a Binocular ESD-Safe S-Z Microscope, Dual Boom Ball-Bearing Stand and Fluorescent Ring Light.

**23714RB-ESD, System 273RB-ESD:** Includes a Binocular ESD-Safe S-Z Microscope and Dual Boom Ball-Bearing Stand. Lighting sold separately.

**23726RB-ESD, System 273RB-LED-ESD:** Includes a Binocular ESD-Safe S-Z Microscope, Dual Boom Ball-Bearing Stand and LED Ring Light.

**23720RB-ESD, System 373RB-ESD:** Includes a Trinocular ESD-Safe S-Z Microscope and Dual Boom Ball-Bearing Stand. Lighting sold separately.

**23725RB-USBSR-ESD, System 373RB-DMLED-HOUSBSR-ESD:** Includes a Trinocular ESD-Safe S-Z Microscope, Dual Boom Ball-Bearing Stand, Dimmable LED-High Output Ring Light and USB 2.0 STD Camera.



23714RB-ESD



23725RB-USBSR-ESD

## SYSTEM 373 TRINOCULAR MICROSCOPES

System 373 Trinocular Microscopes feature a 23mm optics system, greater working distance, larger field of view, and higher magnification than comparable models.



23715RB



23725RB-USBSR

**23715RB, System 373RB-RLI:** Includes a Trinocular S-Z Microscope, Dual Boom Ball-Bearing Stand and Fiber Optic Illuminator with Ring Light.

**23719RB-USBSR, System 373RB-RLIXUSBSR:** Includes a Trinocular S-Z Microscope, Dual Boom Ball-Bearing Stand, Fiber Optic Illuminator with Ring Light, Video Adapter with 0.5X Lens and USB 2.0 STD Camera.

**23720RB, System 373RB:** Includes a Trinocular S-Z Microscope and Dual Boom Ball-Bearing Stand. Lighting sold separately.

**23725RB-USBSR: System 373RB-DMLED-HOUSBSR:** Includes a Trinocular S-Z Microscope, Dual Boom Ball-Bearing Stand, Dimmable LED-High Output Ring Light, Video Adapter with 0.5X Lens and USB 2.0 STD Camera.

## SYSTEM 373 TRU TRINOCULAR MICROSCOPES

Luxo TRU Trinocular Microscopes feature a 23mm optics system, nearly 8" working distance (when used with a 0.5X reducing lens), larger field of view, and higher magnification than comparable models while allowing the user to simultaneously view images on screen and through the eyepieces.



23725RB-USBSRTRT-ESD



23719RB-USBSRTRT

**23719RB-USBSRTRT, System 373RB-RLIXUSBSRTRT:** Includes a TRU Trinocular S-Z Microscope, Dual Boom Ball-Bearing Stand, Fiber Optic Illuminator with Ring Light and USB 2.0 STD Camera.



**23725RB-USBSR-ESD, System 373RB-DMLED-HOUSBST-ESD:** Includes a TRU Trinocular ESD-Safe S-Z Microscope, Dual Boom Ball-Bearing Stand, Dimmable LED-High Output Ring Light and USB 2.0 STD Camera.

**23725RB-USBSRTRT, System 373RB-DMLED-HOUSBSTRT:** Includes a TRU Trinocular S-Z Microscope, Dual Boom Ball-Bearing Stand, Dimmable LED-High Output Ring Light, Video Adapter with 0.5X Lens and USB 2.0 STD Camera.



**23725RB-USBSRTRT-ESD, System 373RB-DMLED-HOUSBST-ESD:** Includes a TRU Trinocular ESD-Safe S-Z Microscope, Dual Boom Ball-Bearing Stand, Dimmable LED-High Output Ring Light and USB 2.0 STD Camera.

## MICROSCOPE BODIES, EYEPIECES AND ACCESSORY LENSES

### Optional Eyepieces and Objective Lenses

Choose from an assortment of super widefield eyepieces to meet specific magnification needs. In addition to 10X eyepieces, standard with any microscope body or microscope system, optional widefield eyepieces are also available in pairs of 20X for use with System 273 and 373 microscopes. For a complete listing of all eyepiece and objective lens combinations, including total magnification power, field of view and working distances, refer to the Optics Data on the back page of this catalog.

P/N	Description
18750	0.5X Reducing Lens (System 250/350 models only)
23750	0.5X Reducing Lens 23mm
23736	0.7X Reducing Lens 23mm
23760	Eyepieces/15X Pair 23mm



Widefield Eyepieces



Accessory Lens

### Video Adapters



23769

Components used to connect CCD or USB cameras to the photo tube in a Trinocular S-Z Microscope.

**23769**, Video Adapter with 0.5X lens. Included with all complete System 373 models.

### System 273 and 373 Microscope Bodies



23700

All Luxo microscope bodies have heavy-duty aluminum housings and come with 10X, 23mm super widefield eyepieces and eyeshields. The microscopes rotate 360° in the focus mount. Stereo-Zoom (S-Z) models are available in Binocular and Trinocular versions with the zoom range being .7 – 4.5 giving magnification of 7X – 45X. The zoom ratio is 7:1 and the zoom is adjusted via dual graduated control knobs. 23mm models offer 25% greater magnification and 20% greater working distance than comparable microscopes.

## SYSTEM 273 AND 373 MOUNTING OPTIONS



This **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 17½" vertical boom mounted to a 10" × 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.



This **Single Boom Stand** features a 10" × 10" base weighing 22½ pounds with built-in contoured grips to make moving it easier. Its vertical column is 17½" and the horizontal arm extends a total of 26". The final 2½" inches 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.



This **Dual Boom Stand with Clamp** model has the same features as the Dual Boom Ball-Bearing Stand except it comes with a heavy-duty clamp mount instead of a base. Features 26" stainless steel horizontal and 19½" vertical boom extensions. Clamp opens to 4" wide to attach to workstations or bench edges.



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 vertical post to the middle of 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.



This **Non-Illuminated Stand** is used for viewing small objects when an independent light source (not included) is used. Base of stand is 6½" wide by 9½" deep. Overall height is 11" measured to the top of the vertical post. Base of stand is 11¼" wide by 11½" deep. Overall height is 11" high measured to the top of the vertical post.

## LIGHTING/DIGITAL OPTIONS FOR ALL LUXO MICROSCOPES



**LED3000**, 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. The LED-3000 consumes 9-watts of power and produces up to 3600 footcandles at 4.5" working distance. A removable/replaceable diffuser cover allows for easy cleaning and LED array protection from damage and contamination.



**18742**, 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. Plug-in ballast (polarized plug) included.



**18743**, 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.



**18744**, LED Ring Light maximizes light output and distribution while preventing harmful glare and reflections. Its modular construction and brilliant 7-watt, 30 LED display makes this ring light ideal for the inspection of surface cracks and defects. Pure-white LED lights have a 50,000 hour lumen maintenance (lamp life) and produce up to 960 footcandles at 4.5" working distance. 6500°K color temperature is perfect for lead free inspection and a removable/replaceable diffuser allows for easy cleaning.



**18746**, Dimmable LED Ring Light maximizes light output and distribution while preventing harmful glare and reflections. Its modular construction, paired with brilliant 40 LED display and 6000°K color temperature, makes 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. Removable/replaceable diffuser allows for easy cleaning. Dimmable to 15% output. A 50,000 hour lumen maintenance (lamp life) makes this LED ring light suitable as a replacement for traditional 150W Fiber Optic Illuminators.

## LIGHTING/DIGITAL OPTIONS FOR ALL LUXO MICROSCOPES



**LFOD150**, Fiber Optic Illuminator features a dimmable 150-watt halogen light source which produces up to 6450 footcandles at 4.5" working distance. A dimmer switch enables an operator to select the exact amount of light desired. Even for sensitive jobs, such as wire bonding or soldering of fine-pitch components, it delivers plenty of light. The LFOD150 can be placed on the worksurface in its conventional position, facing the operator; or, since there are "rubber feet" on its back, placed in a vertical position to occupy an even smaller footprint. A choice of light transmitters can be found below.



**LFORL-CR**, 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" length 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.



**LFODG**, Dual Gooseneck transmitter; has two 18" wands enclosed in stainless steel obedient sheathing that "stays put". The wands can be focused on a single point to provide intense, shadow-free illumination. An adjustable lens at the end of each wand enables the operator to change the focus of the light from a narrow, intense beam to a wider, more diffused pattern.



**18791**, 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. Equipped with CS-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.

**18792**, USB 2.0 STD Resolution Camera is an ultra compact camera with USB 2.0 interface for industrial use. Equipped with high-quality sensors, industrial design, C-Mount and high speed USB 2.0 output. Up to 29 frames/s in full frame mode, over 70 frames/s in 1/2 partial scan mode and 120 frames/s in 1/4" partial scan mode. High quality 1/3" Interline CCD color image sensors with 1024 x 768 pixels at full size are standard. 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.

**37611**, Measurement and annotation software for use with USB cameras.

## SYSTEM 250, 273 AND 373 MICROSCOPE OPTICS DATA

### Binocular Microscope Optics Data (System 250)

Eyepieces	Objective	1.0X (Included)	0.5X	0.75X
10X	Total Magnification (Range)	6.5 - 45X	3.3 - 22.5X	4.9 - 33.8X
	Field ofView Diameter (mm)	31 - 4.5	61.5 - 8.9	41 - 5.9
	Working Distance (mm)	95	150	120

### 23mm, Microscope Optics Data (Systems 273 and 373)

		Objective zoom setting 0.7X – 4.5X			
Eyepieces	Objective	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 ofView 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 ofView Diameter (mm)	24.3 - 3.8	48.6 - 7.6	34.7 - 5.4	12.1 - 1.9
20X	Total Magnification (Range)	14X - 90X	7X - 45X	9.8X - 63X	28X - 180X
	Field ofView Diameter (mm)	20 - 3.1	40 - 6.2	28.6 - 4.4	10 - 1.6
	Working Distance (mm)	118	195	145	35

### 23mm, Trinocular Microscope Optics Data (System 373)

<sup>1</sup>/<sub>2</sub>" CCD Camera 15" LCD Monitor

	Accessory Lens	Magnification with zoom setting @ 0.7	FOV with zoom @ 0.7 (mm)	Magnification with zoom setting @ 4.5	FOV with zoom @ 4.5 (mm)	Working Distance (mm)
0.3X Video Adapter	None	10X	38.1	64.3X	5.9	118
	0.5	5X	76.2	32.1X	11.9	195
	0.7	7X	54.4	45X	8.5	145
	2.0	20X	19.0	128.6X	3.0	35
0.5X Video Adapter	None	16.7X	22.9	107.2X	3.6	118
	0.5	8.3X	45.7	53.6X	7.1	195
	0.7	11.7X	32.7	75X	5.1	145
	2.0	33.3X	11.4	214.3X	1.8	35

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