

# LUXO MICROSCOPE PRODUCT LINE



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

*All 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 microscopes 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 different 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.*

All microscope bodies have heavy-duty aluminum housings, come with 10X widefield eyepieces, eyeshields, ring-light adapters. 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 .65X - 4.5X giving magnification of 6.5X - 45X. The zoom ratio is 7:1 and the zoom is adjusted via dual graduated control knobs. The Stereoscope 1X-2X model is a binocular microscope with two fixed objectives, 1X and 2X, which magnify 10X and 20X respectively.



18700



18705



18710

### Optional Eyepieces and Accessory Lenses

Choose from an assortment of widefield eyepieces to meet specific magnification needs. In addition to 10X eyepieces, standard with any microscope body or microscope system—System 150, 250 or 350 models—optional widefield eyepieces are also available in pairs of: 15X, 20X and 25X. For measuring, there's a 10X eyepiece with a reticle scaled at 10mm with 100 divisions. For a complete listing of all eyepiece and objective lens combinations, including total magnification power, field of view and working distances refer to Microscope Optics table on back page.

P/N	Description
18758	10x Eyepieces -pair-(standard with each microscope)
18760	15x Eyepieces -pair-(optional)
18762	20x Eyepieces -pair-(optional)
18764	25x Eyepieces -pair-(optional)
18765	10x Eyepiece with reticle (scaled at 10mm with 100 divisions)



Widefield Eyepieces

### Accessory Objective Lenses

Choose from the accessory objective lenses listed below to adjust the magnification power, field of view and working distances of your microscope to suit your requirements.

P/N	Description
18749	0.4X Lens
18750	0.5 Lens
18736	0.75X Lens
18752	1.5X Lens
18754	2.0X Lens
18766	Cover Shield (1X Lens)



Accessory Lens

Note: Microscope eyepieces and accessory lenses are the same for all three microscope bodies.

Note: Optics Data on Microscopes and Lenses shown on page 8.

# MOUNTING OPTIONS



**18730**  
Boom Stand with Base

## 18730 Boom Stand with Base

The Boom Stand features a 10" x 10" base weighing 22.5 pounds 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" (limited to 24" when used with a System 350 model). The final 2-1/2 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.



**18731**  
Boom Stand with Clamp

18731, this model has all the same features of the 18730 Boom Stand except it comes with a heavy-duty clamp mount instead of a base. Clamp opens up to 2.5" wide to attach to workstations or bench edges.



**18732**  
Articulating Arm Stand with Clamp

18732, the Articulating Arm Stand has a heavy-duty clamp mount that opens up to 2.5" 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 work surface. This is one stand that truly frees valuable bench space and still gets the microscope out where it's needed for assembly and rework.



**18733**  
Illuminated Table Stand

18733, an illuminated stand used for viewing small objects. Comes with two independently controlled light sources. A dimmable 20-watt MR-11 halogen light is focused on the subject and a 7-watt compact fluorescent lamp provides back lighting from underneath through a translucent medium. Base of stand is 6 1/2" wide by 9 1/2" deep, the vertical post is 12" high (measured from surface to top of vertical post).



**18734**  
Table Stand

18734, a stand for viewing small objects when an independent light source (not included) is used. Base of stand is 6 1/2" wide by 9 1/2" deep. Overall height is 11" measured to the top of the vertical post.

## MicroLux Products



**18555LG**  
MicroLux

1X-2X Stereoscope mounted on a spring-balanced K-arm with either a clamp, surface mount bracket or weighted base comprise the MicroLux products. They are available with or without dual 5-watt built-in halogen lights on gooseneck arms. When ordered without the lights the illumination source needed must be ordered as a separate item. MicroLux products are very flexible and swing into position easily. The arm is spring-balanced and is easy to reposition.

Note: arm does not lock in place.

Order guide for MicroLux models (all models include Stereoscope 1X-2X)

Mounting option	With 2 5-watt halogen lights	Without built-in lights
26" K-2 arm w/edge clamp	18550LG	18560LG
26" K-2 arm w/surface mount bracket	18551LG	18561LG
26" K-2 arm w/weighted base	18555LG	18565LG

# LIGHTING OPTIONS FOR MICROSCOPES AND CIS PRODUCTS

Lighting is an important element to seeing with good visual acuity. Whether viewing through the eyepieces of a microscope or looking at a monitor, lighting either enhances or detracts from an operator's viewing clarity and comfort. Luxo employs high quality components to provide the proper illumination levels required for precision work operations. Their design and durability, combined with light quality, provide illumination solutions for microscopy and video applications.



**18742**  
Fluorescent Ring Light

18742, Luxo's FL-Ring Light provides full illumination with a powerful 17-watt, 5600° Kelvin lamp. It features a durable powder-coated, metal housing that protects the fluorescent lamp, which has a rated lamp-life of 4,500 hours. Comes with a plug-in ballast (polarized plug).



**LFOD150**  
150-Watt Illuminator

LFOD150, the Fiber Optic Illuminator features a dimmable 150-watt halogen light source and has a choice of light transmitters (see below). 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 work surface 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.



**LFORL-CR**  
Fiber Optic Ring Light

LFORL-CR, the Fiber Optic Ring Light, with its continuous ring, is the most popular light transmitter—shown below with LFOD150. 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

**Gooseneck transmitters:** LFODG, Dual Gooseneck transmitter, has two 18" wands enclosed in stainless steel obedient sheathing that "stay put". The wands can be focused on a single point to provide intense, shadow-free illumination. A single 18" wand, LFOSG, Single Gooseneck, is ideal for inspecting small, crevice-like openings or the inside of a tube or cylinder. Both models feature an adjustable lens at the end of each wand enabling the operator to change the focus of the light from a narrow, intense beam to a wider, more diffused pattern.



**LFOD150**  
with **LFORL-CR**



**LFOD150**  
with **LFODG**

# VIDEO COMPONENTS FOR MICROSCOPES AND CIS PRODUCTS



**18799**  
1/2" Color  
CCD Camera

18799 (kit), 1/2" Color CCD Camera. A low-profile camera featuring manual controls for color balance and gain (DSP). It comes as a kit or as part of complete system models (see order guide). The kit includes the CCD camera, a 12-volt power supply and power cord with an integrated S-video cable/connector for attaching to a monitor or frame grabber.



**18769**  
Video Adapter  
w/0.5 lens

18769, Video Adapter with 0.5X Lens. This component connects the CCD camera to the photo tube on a Trinocular S-Z microscope. It is included in any System 350 model having a CCD camera with either a monitor or frame grabber.



**18432**  
14" Color  
Monitor

18432, RGB Color Monitor- 14" (diagonal). Included in System 350 models having a monitor. Its horizontal resolution is 400 TV lines. Wide range power source: 90-260 VAC (auto switching); PAL/NTSC (auto switching). Video input: Composite-BNC, Y/C-4-pin DIN. External controls: Contrast/Brightness/Color/Sharpness/Tint/Volume.

## *Frame Grabbers*



**18601**  
Frame Grabber

Two frame grabber models are available. The 18601 is a 3D Frame Grabber with 8MB SGRAM and the 18602 is a Bus-Mastering PCI Frame Grabber. The 18601 has an on-board 3D graphics chip with 8 Megabytes of high-speed graphics memory. The 18601 is an ideal choice to transform any Windows™-based PC into a high-end graphics workstation, capable of capturing and editing frames of full-motion video in one of several popular formats such as JPEG, BMP, TIF and TGA. The 18602 Bus-Mastering PCI frame grabber, taking advantage of its high-speed PCI-based bus-mastering capabilities (up to 132 MB/sec), delivers consecutive frames of video in real time into system memory while the CPU is free to operate on other applications. This product is ideal in newer Windows™-based PC's with advanced video graphics controllers since it lacks an on-board 3D graphic chip and high-speed graphics memory.

The frame grabbers come with software that include video capture application allowing the capture of a frame of video and saving it in popular formats such as JPEG, BMP, TIF and TGA. The images can then be edited in any Windows™-compatible graphics application and shared in electronic or printed form.

Full specifications on frame grabbers are available at our website: [www.luxous.com](http://www.luxous.com) under the Microscopy tab or in a pdf file by contacting Customer Service (see phone/fax/email information on back of brochure).

Luxo Microscope products can be ordered as a "system" in addition to being available as individual part numbers. This simplifies the ordering process—specify a single item number instead of a "laundry list" of numbers. A "system" number represents, as a minimum, a microscope and mounting option combined. However, it can include everything needed: microscope, mounting option, lighting option, CCD camera kit, video adapter and monitor or frame grabber.\* Several "system" part numbers are available for each of the S-Z microscope models combining them with selected mounting options and lighting options. In addition, the S-Z Trinocular systems can also include a CCD camera/video adapter/monitor combination or, in place of the monitor, either of the frame grabbers.

Following are a few of the more frequently requested systems.

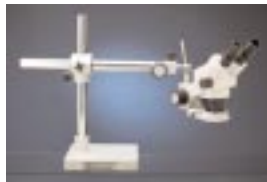


**18711**  
System  
250 RLI

18711, System 250 RLI: includes Binocular S-Z microscope, Boom Stand, Fiber Optic Illuminator with Ring Light.

Similar model available:

18713, System 250 DGI; same as 18711 except uses a Dual Gooseneck transmitter in place of the Ring Light with the Fiber Optic Illuminator.



**18712**  
System  
250 FL

18712, System 250 FL: includes Binocular S-Z microscope, Boom Stand and FL-Ring Light.



**18718**  
System 350 FLX

18718, System 350 FLX: includes Trinocular S-Z microscope, Boom Stand, FL-Ring Light, 1/2" CCD Camera Kit, Video Adapter with 0.5X lens and 14" Color Monitor.

Similar models available:

18717, System 350 DGIX: same as 18718 except for the lighting components—this system uses a Fiber Optic Illuminator with Dual Gooseneck.

18719, System 350 RLIX: same as 18718 except for the lighting components—this system uses a Fiber Optic Illuminator with Ring Light.

### Optics Data: Trinocular microscope, 1/2" CCD Camera with 14" Monitor

Accessory Lens	Magnification with zoom setting @ 0.65X	FOV with zoom @ 0.65X (mm)	Magnification with zoom setting @ 4.5X	FOV with zoom @ 4.5X (mm)	Focal Length (mm)
None	16X	17.0	120X	2.3	90
0.4	7X	41.0	45X	6.3	200
0.5	19X	31.0	55X	5.0	160
0.75	13X	22.0	95X	3.0	105
1.5	25X	11.0	185X	1.5	40
2.0	35X	8.0	255X	1.0	25

\*For a complete listing of p/n's for systems, as well as individual components, contact Customer Service (phone/fax/email information on back of brochure) and ask for Microscope Systems Listing—it shows components included in each system.

## ...an easier way to view your work.

The Luxo Camera Inspection System (CIS) series of products are ideal for applications where the very high magnification of microscope systems isn't necessary. A high resolution Color CCD camera is coupled with a zoom lens assembly to offer a wide range of magnification power at various focal lengths. By outputting the video images directly to the monitor, or alternately, your PC monitor (via our frame grabber kits), images can be viewed on a much larger format than is possible with microscope eyepieces. The results are lesser eyestrain and greater productivity. Of course, these images can be shared with a local audience or by collaborating with others around the world by sending them digital photos files captured via the frame grabber software.



The Camera Inspection System is a product that's easy to set up and use. It consists of a Zoom Lens component (0.7X - 4.5X) on a sturdy Table Stand (15"W x 10.25"D with a vertical post that's 13.75"H). Choices of lighting and output complement the main components. The Zoom Lens component together with the video camera and 14" monitor displays images at a magnification range 17X to 108X. Using the optional accessory lenses broadens the range from 5X to 215X.

Accessory lenses come in the following configurations: 0.3x, 0.5x, 1.5x and 2.0x. The 0.3x and 0.5x lenses are used to obtain a larger field of view and working distance, while the 1.5X and 2.0X lenses are used when increased magnification is needed.

For an overview of the video components, including frame grabbers, see page 5 "Video Components for Microscopes and CIS Products".

The figures in the following table indicate Magnification Power, Field of View and Focal Length (working distance) combinations that are possible with the various accessory lenses. All figures are based on measurements made on a 14" RGB monitor.

Accessory Lens	Magnification @ 0.7X setting	FOV (mm)*	FL (mm)*	Magnification @ 4.5X setting	FOV (mm)*	FL (mm)*
0.3X	5X	57	265	32X	9	265
0.5X	8X	35	160	48X	5.5	160
None	17X	17	90	108X	2.75	90
1.5X	26X	11	42	162X	1.7	42
2.0X	33X	8.5	28	215X	1.3	28

Legend: FOV = field of view FL = focal length or working distance

\*To convert mm to inches divide by 25.4

### Ordering Guide

Order No.	Nomenclature	Output Mode	Lighting Option
18771	CIS-S-FL Camera Inspection System	14" High Resolution Color RGB Monitor	Fluorescent Ring Light
18772	CIS-S-FG1-FL Camera Inspection System	Frame Grabber with 3D Graphics Chip and 8MB SGRAM	Fluorescent Ring Light
18773	CIS-S-FG2-FL Camera Inspection System	Bus-Mastering Frame Grabber	Fluorescent Ring Light
18774	CIS-S-DG Camera Inspection System	14" High Resolution Color RGB Monitor	Fiber Optic Ring Light with 150W Illuminator with Dimmer
18775	CIS-S-RL Camera Inspection System	14" High Resolution Color RGB Monitor	Dual Gooseneck Fiber Optic Light Guide with 150W Illuminator with Dimmer

### Stereo-Zoom Microscope Optics Data

		Objective zoom setting 0.65 - 4.5X					
Eyepieces	Accessory Objective Lens	None	0.4X	0.5X	0.75X	1.5X	2.0X
	WF10X	Total Magnification (Range)	6.5 - 45X	2.6 - 18X	3.3 - 22.5X	4.9 - 33.8X	10 - 67.5X
Field of View Diameter (mm)		31 - 4.5	78 - 11	61.5 - 8.9	41 - 5.9	20.5 - 3	15.4 - 2.2
WF15X	Total Magnification (Range)	10 - 67.5X	3.9 - 27X	5 - 33.8X	7.3 - 50.6X	14.6 - 101X	19.5 - 135X
	Field of View Diameter (mm)	24.6 - 3.6	62.5 - 8.7	49.2 - 7.2	32.8 - 4.7	16.4 - 2.4	12.3 - 1.8
WF20X	Total Magnification (Range)	13 - 90X	5.2 - 36X	6.5 - 45X	10 - 67.5X	19.5 - 135X	28 - 180X
	Field of View Diameter (mm)	20 - 2.9	51 - 7	40 - 5.8	26.7 - 3.9	13.3 - 1.9	10 - 1.4
WF25X	Total Magnification (Range)	16.3 - 112.5X	6.5 - 45X	8.1 - 56X	12.2 - 84.4X	24.4 - 168.8X	32.6 - 225X
	Field of View Diameter (mm)	18.5 - 2.7	42.5 - 6	37 - 5.4	24.6 - 3.6	12.3 - 1.8	9.3 - 1.3
	Working Distance (mm)	95	220	150	120	45	25

### Stereoscope 1X - 2X Optics Data

		None		0.4X		0.5X		0.75X		1.5X		2.0X	
Eyepieces	Accessory Objective Lens	1X	2X	1X	2X	1X	2X	1X	2X	1X	2X	1X	2X
	WF10X	Total Magnification	10X	20X	4X	8X	5X	10X	7.5X	15X	15X	30X	20X
Field of View Diameter (mm)		20	10	72	36	48.8	24.4	26.6	13.3	12.8	6.4	8.7	4.8
WF15X	Total Magnification	15X	30X	6X	12X	7.5X	15X	11.25X	22.5X	22.5X	45X	30X	60X
	Field of View Diameter (mm)	17	8.5	58	29	39.6	19.8	21.5	10.7	9.9	4.9	7.3	3.6
WF20X	Total Magnification	20X	40X	8X	16X	10X	20X	15X	30X	30X	60X	40X	80X
	Field of View Diameter (mm)	14	7	47	23.5	32.5	16.2	17.4	8.7	8.1	4.1	6	3
WF25X	Total Magnification	25X	50X	10X	20X	12.5X	25X	18.75X	37.5X	37.5X	75X	50X	100X
	Field of View Diameter (mm)	10.4	5.2	40	20	26	13	14	7	6.6	3.3	4.8	2.4
	Working Distance (mm)	100		360		220		120		45		30	