LAXCO™
INDUSTRIAL SOLUTIONS

LAXCO INDUSTRIAL SYSTEMS

Version 3.0

Manufacturing & Assembly Solutions
Quality Control Inspection Solutions

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Pioneering optical system excellence, and headquartered just outside Seattle, Laxco has been at the forefront of precision optics and microscopy for over 20 years redefining what's possible across science, industry, and education. From classrooms to clinics, from research labs to manufacturing lines, our systems empower critical missions with unmatched innovation, reliability, and true American craftsmanship.

Laxco sets itself apart with innovation with purpose with engineered solutions that tackle real-world challenges others miss. Every product reflects user-focused design and forward-thinking functionality; 100% U.S.A. controlled manufacturing featuring all high-end microscopes, cameras, and critical components are built, assembled, and quality-verified at our Mill Creek, WA facility; and unmatched flexibility providing needed modifications or custom solutions, with our on-site engineers.

Laxco Stereo microscopes provide several key advantages in manufacturing, assembly, and quality control due to their unique optical and ergonomic features.

Built in America. Backed by Expertise.
One Brand. One Source. One Support Team.

Stereo Microscope Quick Reference for Manufacturing, Assembly & QC

Feature	***Description***	***Benefit***
3D Visualization	True stereoscopic view with depth perception	Accurate alignment, handling, and defect detection of small parts
Magnification Range	10x – 80x (low to medium)	Suitable for inspecting solder joints, connectors, plastics, and surfaces
Working Distance	Extended space between lens and object	Enables hands-on rework, soldering, and part placement under magnification
Illumination	Integrated & adjustable external lighting options	Highlights surface defects and enhances contrast
Inspection Type	Real-time, non-destructive	No sample prep; allows fast inspections and in-line checks
Ergonomics	Adjustable viewing angles & user-friendly design	Reduces operator fatigue during extended use
Digital Compatibility	Supports digital camera integration	Enables defect documentation, remote inspection, and training
Durability	Industrial-grade, low maintenance	Reliable for harsh environments and continuous operation

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LAXCO LMS-Z100 SERIES STEREO ZOOM MICROSCOPE

Stereo microscopes ideal for manufacturing, assembly, inspection, and quality control

Basic (LMS-Z140-TS1)

Unique Features

Viewing Head:

- Binocular viewing head with 45° angle
- Interpupillary adjustment 52mm to 75mm
- Diopter adjustment
- Auxillary lenses/Camera options available

Configured Illumination Modes:

- Transmitted illumination only
- Reflected illumination only
- Discopic illumination only
- Darkfield illumination only
- Reflected and Transmitted illumination
- All illuminations symultaneously on (DF, DI, REFL, TRANS)

Focusing:

- 70mm working distance
- 40mm height adjustment on focusing mechanism
- Coarse focus adjustement

Optical System:

- 10X WF eyepieces
- Continuous zoom control
- 1X - 4X objective
- Zoom ratio 1 : 4

Illumination:

- LED ring in transmitted light provides homogeneous light distribution
- LED incident illumination
- Eco friendly energy efficient LED illumination
- Membrane switch controls
- LED light indicator on membrane switch identifies which lighting technique is turned on

Stand:

- Low profile plain stage with clips
- Track stand
- Compact design

ORDERING INFORMATION	
PART NUMBER	*DESCRIPTION*
LMS-Z140-TS1	Binocular Head, Low Profile LED Stand, Transmitted/Reflected

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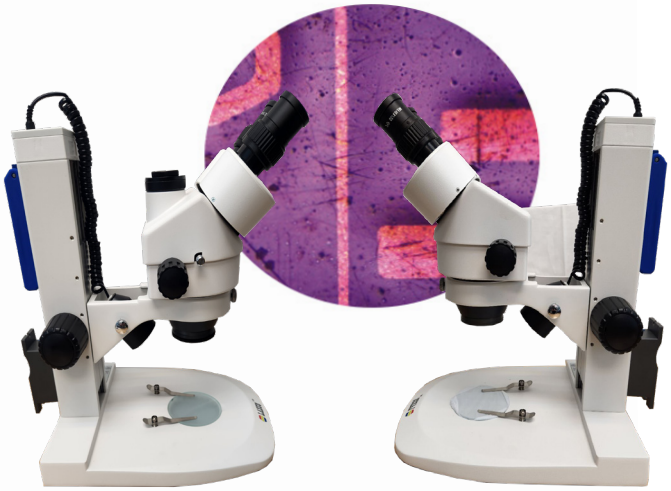
LAXCO LMS-Z100 SERIES STEREO ZOOM MICROSCOPE

Stereo microscopes ideal for manufacturing, assembly, inspection, and quality control

Standard (LMS-Z164-TS1) Unique Features



Viewing Head:

- Binoc/Trinocular viewing head with 45° angle
- Interpupillary adjustment 54mm to 76mm
- Diopter adjustment

Configured Illumination Modes:

- Transmitted illumination only
- Reflected illumination only
- Discopic illumination only
- Darkfield illumination only
- Reflected and Transmitted illumination
- All illuminations symultaneously on (DF, DI, REFL, TRANS)

Focusing:

- 100mm working distance
- 40mm height adjustment on focusing mechanism
- Coarse focus adjustement

Optical System:

- 10X WF eyepieces
- Continuous zoom control
- 0.7X - 4.5X objective
- Zoom ratio 1 : 6.4

Illumination:

- LED ring in transmitted light provides homogeneous light distribution
- LED incident illumination
- Eco friendly energy efficient LED illumination
- Membrane switch controls
- LED light indicator on membrane switch identifies which lighting technique is turned on

Stand:

- Low profile plain stage with clips
- Track stand
- Compact design

ORDERING INFORMATION	
PART NUMBER	*DESCRIPTION*
LMS-Z164B-TS1	7x to 45x binocular, Stereo Head,, Stand, LED, DF/DI/REFL/TRANS lighting
LMS-Z164T-TS1	7x to 45x Trinoc, Stereo Head,1002865 , Stand, LED, DF/DI/ REFL/TRANS lighting

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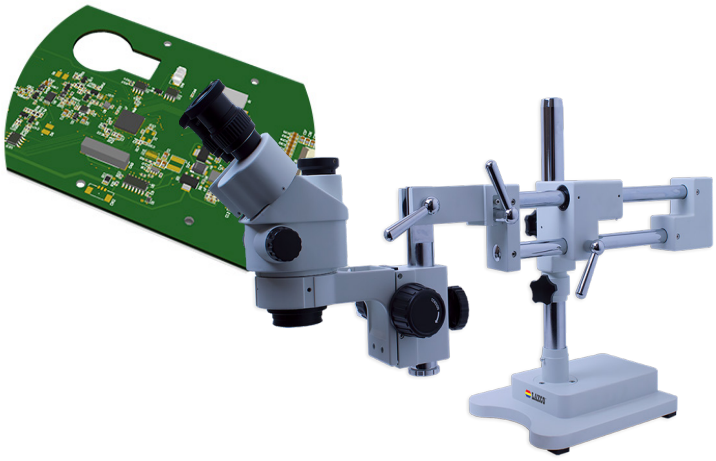
LAXCO LMS-Z200 SERIES STEREO ZOOM MICROSCOPE

Stereo microscopes ideal for manufacturing, assembly, inspection, and quality control when higher resolution is needed and/or documentation and analysis are required

Premier (LMS-Z230-T40) Unique Features

- Binocular/Trinocular
- Diopter adjustment
- Interpupillary adjustment (54mm - 76mm)
- Greenough optical design
- 100mm working distance
- 10X WF eyepieces
- Zoom ratio 1 : 6.4
- 0.7X - 4.5X objective
- Large Low Profile Lighted base
- Dual GooseNeck LED
- Super Low Profile Transmitted Light



Premier (LMS-Z230-BS200) Unique Features

- Binocular/Trinocular
- Diopter adjustment
- Interpupillary adjustment (54mm - 76mm)
- Greenough optical design
- 100mm working distance
- 10X WF eyepieces
- Zoom ratio 1 : 6.4
- 0.7X - 4.5X objective
- Double Bearing arm for easy operation

ORDERING INFORMATION	
PART NUMBER	*DESCRIPTION*
LMS-Z230-T40	LED track stand (T40), Reflected LED Gooseneck, transmitted LED Microscope, Stereo Zoom, LMS-Z200 Series, trinocular observation head, 45°, 0.70X ~ 4.5X zoom.
LMS-Z230-B200	LMS-Z230 Stereo Zoom Body, BS200 Boom Stand, AMPS-ILED-30 LED Gooseneck, 0.5x c-mount.

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LAXCO LMS-Z200PRO SERIES STEREO ZOOM MICROSCOPE

Stereo microscopes ideal for manufacturing, assembly, inspection, and quality control when exceptional image quality & comfortable operation are a necessity

Precise · Practical · Compact

The LMS-Z200Pro series features the Greenough optical system which provides high resolution optics at an economical price. The newly designed optical path with integrated click stop function, allows for reproducible precision for life science research, education and industrial applications.

Ergonomic Design

The ergonomic design of the LMS-Z200Pro series relieves the fatigue of long time use.

Depth of field and flatness

Greenough optical system with convergence angle of 10 degrees paired with wide field plan eyepieces provide excellent image flatness and depth of field.

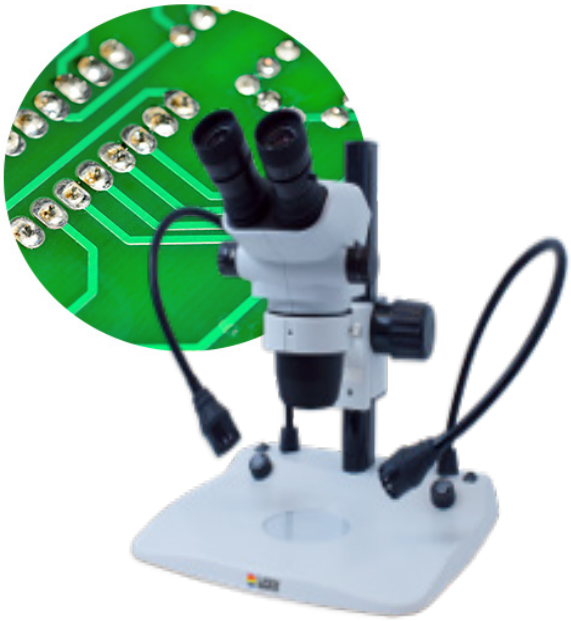
Click stop function

Zoom knob features click stop option that allows user to easily reproduce magnification setting with precision

Advanced (LMS-Z220P-T40)

Unique Features

- Binocular
- Diopter adjustment
- Greenough optical design
- 110mm working distance
- 10X WF eyepieces
- Zoom ratio 1 : 6.7
- 0.67X - 4.5X objective
- Membrane switch controls
- Large Low Profile Lighted base
- Dual GooseNeck LED
- Super Low Profile Transmitted Light



ORDERING INFORMATION	
PART NUMBER	*DESCRIPTION*
LMS-Z220-T40	MS-Z220 Stereo Binoc Zoom Body, T40 Stand, Eyepiece Reticule, Stage Micrometer, 0.5x AUX Lens

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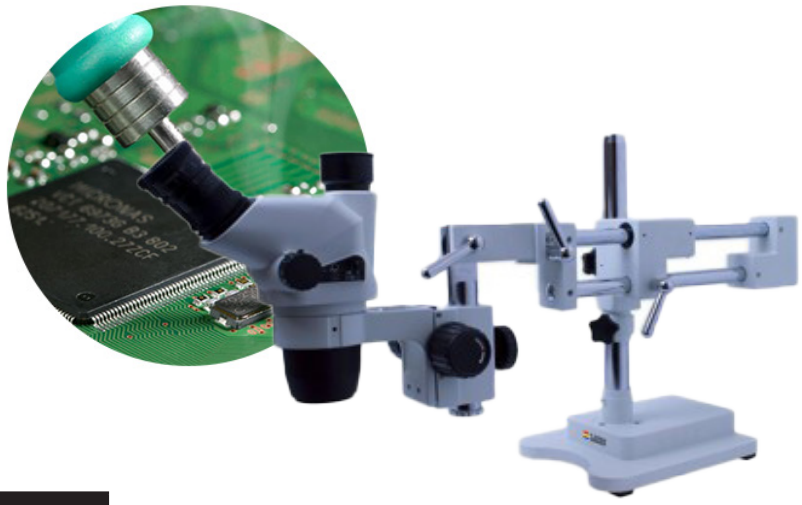
LAXCO LMS-Z200PRO SERIES STEREO ZOOM MICROSCOPE

Advanced (LMS-Z230P-T40)
Unique Features

- Trinocular
- Diopter adjustment
- Greenough optical design
- Interpupillary adjustment (52mm - 76mm)
- 110mm working distance
- 10X WF eyepieces
- Zoom ratio 1 : 6.7
- 0.67X - 4.5X objective
- Membrane switch controls
- Large Low Profile Lighted base
- Dual GooseNeck LED
- Super Low Profile Transmitted Light

Advanced (LMS-Z230P-BS200)
Unique Features

- Trinocular
- Diopter adjustment
- Interpupillary adjustment (52mm - 76mm)
- Greenough optical design
- 100mm working distance
- 10X WF eyepieces
- Zoom ratio 1 : 6.4
- 0.7X - 4.5X objective
- Double Bearing arm for easy operation



ORDERING INFORMATION	
PART NUMBER	*DESCRIPTION*
LMS-Z230P-T40	LED track stand (T40), Reflected LED Gooseneck, transmitted LED Microscope, Stereo Zoom, LMS-Z200P Series, Trinocular, 45°, 0.67X-4.5X zoom, working distance 110mm, Interpupillary adjustment range 52mm-76mm, click-stop,
LMS-Z230P-BS200	LMS-Z230P Stereo Zoom Body, BS200 Boom Stand, AMPS-ILED-30 LED Gooseneck, 0.5x c-mount

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LAXCO LMS-Z300 SERIES STEREO ZOOM MICROSCOPE

Indispensable testing tool for surface detection of PCB, SMT, semiconductor chip, metal materials and precision components

Research (LMS-Z303)

Unique Features

- Binocular
- Research grade stereo microscope with Galilean optical system.
- Large zoom ratio (10:1) with 0.8X - 8X objective
- Unrivaled optical performance with infinity parallel optical system.
- 100mm working distance.
- Ergonomic Design.
- Provides high-resolution, excellent contrast, and dynamic three dimensional image.
- LED illumination with ultra-thin LED illumination for both incident and transmitted light (6000 hours life expectancy)

LAXCO LMS-Z400 SERIES STEREO ZOOM MICROSCOPE

High end research stereo designed for the hightest quality image allowing detection of even minute defects.

Galilean optical system

Galilean optical design produces flat, crisp images to meet the demands of optical quality producing reproducible precision.

Forearm support

Compact, low-profile pad to support forearms reducing arm and shoulder fatigue from long-time operation.

Ergonomic Design

The LMS-Z400 is equipped with high eye-point wide field eyepieces providlng a high resolution image; Coaxial coarse and fine focus mechanism for fast and precise operation; and tilting viewing head from 5 to 45 degrees which can be adjusted to a comfortable height for multiple users

ORDERING INFORMATION	
PART NUMBER	*DESCRIPTION*
LMS-Z303	LMS-Z300 Series Stereo Microscope, 10:1 zoom, Binocular head, LED Stand, Reflected Transmitted Illumination

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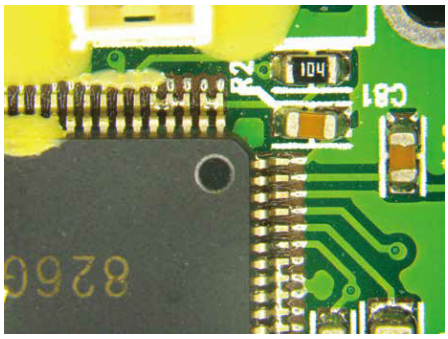
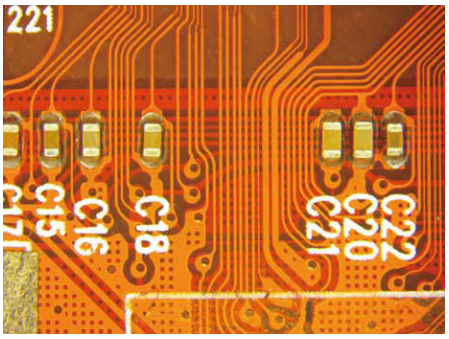
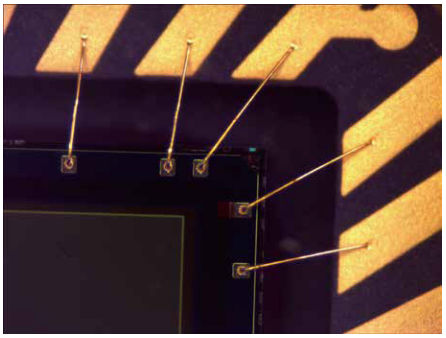
Research (LMS-Z400-BL4) Unique Features

- Trinocular
- Diopter adjustment
- 100mm working distance
- 10X/23mm WF eyepieces
- Zoom ratio 1 : 12.5
- 0.8X - 10X objective
- Infinity System with APO Objective
- Adjustable Angle Mirror for Discopic Lighting







Research (LMS-Z400-BL10) Unique Features

- Trinocular
- Diopter adjustment
- 100mm working distance
- 10X/23mmWF eyepieces
- Zoom ratio 1 : 12.5
- 0.8X - 10X objective
- Infinity System with APO Objective
- Adjustable LED color temperature

ORDERING INFORMATION	
PART NUMBER	*DESCRIPTION*
LMS-Z400-BL4	LMS-Z400 Series Stereo Microscope, 12:5 zoom, 1x APO Objective, Tilting Trinocular head, Oblique Stand with base mirror, LED illuminator
LMS-Z400-B10	LMS-Z400TTR-BL10-1 Stereo with tilt trinocular, 2x nosepiece. 1x & 2x PlanApo objectives, BL10 Base

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LAXCO STEREO ZOOM MICROSCOPE ACCESSORIES

Stands

AMPS-A10
Articulated ARM

AMPS-BM300
Boom Stand

LED Light Sources

AMPS-ILED-21

AMPS-ILED-30

AMPS-RLED4

SeBaCam10C

SeBaCamCool1.4C

ORDERING INFORMATION	
PART NUMBER	*DESCRIPTION*
AMPS-A10	ZP-AMPS-A10 85 Pneumatic arm with clamp
BM300-MV2	BM300-MV2 Boom stand, 5.5x to 175x, digital, FOS w/ ring lamp
AMPS-ILED-21	AMPS-ILED-21 dual gooseneck LED illuminator with weighted base
AMPS-ILED-30	AMPS-ILED-30 interchangable dual LED light guide

ORDERING INFORMATION	
PART NUMBER	*DESCRIPTION*
AMPS-RLED4	AMPS-RLED4 four quadrant LED ring light for stereo .icroscopes, 144 LEDs
SeBaCAM10C	SeBaCam10c Digitial Camera, Color, CMOS, 10MP
SeBaCAMCool1.4C	SeBaCamCool1.4C Digital Camera, Color, CCD, 1.4MP

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LAXCO LMC4000 SERIES MICROSCOPE FOR INDUSTRIAL APPLICATIONS

Laxco's LMC 4000 series compound microscope product line re-defines quality and durability. Infinity corrected optics deliver underrepresented, vibrant color, crisp images under bright field, polarization, and metallurgical applications. The LMC-4000 series sturdy design, advanced features, and superior quality; makes this series ideal for those who looking for high, top end quality.

The LMC4000 metallurgical and polarizing microscopes play key roles in manufacturing, assembly, inspection, and quality control, especially in industries where materials analysis and precision are critical such as metals, semiconductors, polymers, and composites.

Typical Aplications for the LMC4000 Metalurgical Microscopes

- Microstructure analysis of metals and alloys.
- Grain size measurement for controlling mechanical properties.
- Heat treatment evaluation, checking for proper annealing or quenching.
- Weld inspection, checking weld zones for porosity, cracking, or phase boundaries.
- Surface defect analysis
- Component fit and finish inspection at the micro-level.
- Bond interface examination such as solder joints, brazed connections.
- Inspection of surface coatings or platings

Typical Aplications for the LMC4000 Polarizing Microscopes

- QC of optical materials where birefringence indicates manufacturing stress or defects.
- Surface stress inspection in high-tolerance molded or extruded products.
- Stress birefringence mapping in plastics, glass, or polymers.
- Checking alignment of optical components, such as lenses or crystals.
- Identifying contamination or birefringent defects in adhesive layers or transparent components

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LMC-4000 Series POLARIZATION

POLARIZATION

- Corrected for eyeglasses
- Carrying Handle
- LED Transmitted Illumination
- Stage Locking
- Stress Free Objectives
- 50W Halogen

KEY FEATURES

- Y-Shaped body for maximum stability
- Carrying handle
- Can be purchased pre-configured or customized for your specific requirements
- High contrast, broad beam optical design
- Modular Transmitted and reflected light polarization for identification of crystallized structures in biological or material samples
- Can be purchased pre-configured or customized for your specific requirements
- Anti-corrosive and friction coated, graphite stage
- Intermediate device for conoscopic observation with internal Bertrand lens, Analyzer, Compensator, and Wave Plates. Easily determine the degree of polarization for crystal identification.

OPTICAL SYSTEM

- Infinity corrected optical system
- Plan POL and LMPlan POL objectives available
- Wide range of magnifications: 4x, 5x, 10x, 20x, 40x, 60x & 100x
- Central stop dispersion staining objectives available for asbestos analysis
- Sharp images with bright natural color
- Parcentric and parfocal objectives

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STAND

- Large, sturdy base designed for the lab environment
- Rack and pinion focusing mechanism for smooth focus control
- Rotating Stage with Stage Lock
- Coarse and fine focus adjustment
- Centerable objective nosepiece
- Full Koehler illumination with field and iris diaphragm

Eyepiece Rotation Lock

Centerable Objective Turret

50W Halogen

Rotating Stage

Locking Stage

Bayonet locking mechanism on eyepiece ensures that the reticle remains orthogonal with the polarizer and analyzer.

Intermediate device for conoscopic observation with internal Bertrand lens, Analyzer, Compensator, and Wave Plates. Easily determine the degree of polarization for crystal identification.

50 Watt reflected light illuminator allows for viewing transmitted or reflected light. A pre-centered bulb ensure easy replacement of the bulb.

ORDERING INFORMATION	
PART NUMBER	*DESCRIPTION*
LMC4-PL5	LMC-4000 Series, Transmitted Light, Trinocular, Bertrand Lens, 4x, 10x, 20x, 60x Plan Infinity Stress Free Objectives, Polarization Microscope
LMC4-PL6	LMC-4000 Series, Reflected Light, Bertrand Lens, Trinocular, 5x, 10x, 20x, 50x Plan Fluor, Polarization Microscope
LMC4-AB2	LMC-4000 Series, Transmitted Light, Trinocular, Central Stop Polarization Microscope, Bertrand Lens, 4x, 10x dispersion staining central stop, 20x, 40x dispersion staining Objectives, asbestos testing

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LMC-4000 Series METALLURGICAL

METALLURGICAL

- Corrected for eyeglasses
- Carrying Handle
- LED Illumination
- Stage Locking
- LMPLAN Objectives
- Adjustable Stage

KEY FEATURES

- Y-Shaped body for maximum stability
- Carrying handle
- Ultra-Bright LED Illumination, reflected and transmitted light for Material Science applications
- Reflected and transmitted light for Material Science applications
- Can be purchased separately or in a pre-configured system

OPTICAL SYSTEM

- Infinity corrected optical system
- LMPlan objectives
- Wide range of magnifications: 5x, 10x, 20x, 50x & 100x
- Sharp images with bright natural color
- Parcentric and parfocal objectives

OBJECTIVES

Series	Magnification	N.A.	W.D. (mm)	F.N.
LMPlan	5x	0.15	10.80	22
	10x	0.30	10.00	22
	20x	0.45	4.00	22
	50x	0.55	7.90	22
	100x	0.80	2.10	22

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STAND

- Large, sturdy base designed for the lab environment
- Rack and pinion focusing mechanism for smooth focus control
- Adjustable stage height. 28mm sample height in transmitted and 78mm high samples in reflected light allows for maximum flexibility on the times of materials that can be viewed on this system
- Coarse and fine focus adjustment

Centerable Objective Turret

50W Halogen

5 Watt reflected light illuminator with field and iris diaphragm, polarization and color filter options.

Both transmitted and reflected light options with independent light intensity control.

ORDERING INFORMATION	
PART NUMBER	*DESCRIPTION*
LMC4-MT5	LMC-4000 Series, Reflected Light, Trinocular, Microscope, 5x, 10x, 20x, 50x Plan Long Working Distance Metallurgical Objectives, Material Sciences
LMC4-MT7	LMC-4000 Series, Reflected Light, Trinocular, Microscope, 5x, 10x, 20x, 50x, 100x Plan Long Working Distance Metallurgical Objectives, Material Sciences

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LMI3000MT Product Flyer

LAXCO LMI3000MT SERIES INVERTED METALLGURICAL MICROSCOPE

The LMi3000-MT, also known as an inverted metallograph, or inverted metallurgical microscope, is a specialized optical instrument engineered for the high-resolution observation and analysis of the microstructure of metallurgical specimens, including metals, alloys, and ceramics. Its defining characteristic is the placement of the objective lenses beneath the specimen stage, allowing examination of the sample surface from below. This configuration facilitates the analysis of large, flat, or mounted samples without extensive sectioning or repositioning, making it particularly well-suited for industrial quality control and materials characterization.

TYPICAL APPLICATIONS

Grain Structure | Phase Identification | Heat Treatment | Welding | Surface Defects
Failure Analysis | Materials Research Discovery | Thin Film | Composite Materials

Enhanced Optical System

Optical system equipped with special metallurgical objectives and PL 10X plan eyepieces, provide high image quality, resolution.Mechanical stage, Size:160mm X 250mm, Moving range: 120mm X 78mm

Enhanced Digital Package

Analysis tools include color adjustment, image deformation, digital form processing, image enhancement texture analysis, particle identification system, particles' segmentation fuction and geometric measurement with quantitative analysis.

Single Source Supplier

The LMi3000MT system is designed, manufactured, and assembled in the USA by Laxco, ensuring a unified source for sales, technical support, and service. This integrated approach streamlines communication and support, providing researchers with reliable and efficient assistance throughout the system's lifecycle.

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UNIQUE FEATURES

VIEWING HEAD

- The eye-point height is ajustable and able to be raised 34mm by adjusting the 360 degree rotatable viewing head eliminating the need for changeless sitting posture.

FOCUS

- Focus system provides a low position coaxial focus system withn 38mm per rotationfor coarse focus and fine focus precision of 0.002mm.

MECHANICAL STAGE

Focus system provides a low position coaxial focus system withn 38mm per rotationfor coarse focus and fine focus precision of 0.002mm.

OPTICAL SYSTEM

Equipped with plan achromatic, semi-apochromatic, or apochromatic objectives to deliver high-contrast, flat-field imaging across a wide field of view.

Component	Description
Optical System	Infinity color corrected optical system
Observation Methods	Brightfield / Simple Polarized Light
Viewing Head	45 degree inclined gemel type trinocular viewing head, interpupillary distance 50-76mm,binocular:trinocular=100:0 or 20:80.
Eyepieces	High eyepoint wide field plan eyepiece PL10X22mm, with adjustable diopter; reticle attachable. High eyepoint wide field plan eyepiece PL15X16mm (optional)(
Objectives	LWD bright field plan achromatic metallurgical objective 5X/10X/20X/50X/100X
Nosepiece	Quintuple nosepiece
Frame	Reflected frame, low-position coaxial focusing system, coarse range 9mm, fine precision0.002mm, with tension adjustment
Illumination	Reflected illuminator with variable field diaphragm and aperture diaphragm, both centeradjustable, with slots for filters and polarizing kit. Lamp house with 12V50W halogen bulb, light intensity adjustable, 90-240V wide rangevoltage.
Stage	Fixed stage, size 160X250mm, can be mounted with specimen fixture, extension plate andthe coaxial mechanical mobile ruler, moving range 120X78mm, right hand low positioncontrol knob (the rectangler extension plate must be attached when using mechanicalmobile ruler).
Camera Adapters	0.35X / 0.5X / 0.65X / 1X C-mount adapter, focusable

ORDERING INFORMATION	
PART NUMBER	DESCRIPTION
LMi3-MT	LMI-3000 series Inverted Metallurgical Microscope,Trinoc,5-POS nosepiece,-OBJ-5/10/20/50 LWD PL, Ach metallurgical objective, Mech Stage,Polarizer/Analyzer, Halogen Illumination
LMi3-MTD	LMI-3000 series Inverted Metallurgical Microscope,Trinoc,5-POS nosepiece,-OBJ-5/10/20/50 LWD PL, Ach metallurgical objective, Mech Stage,Polarizer/Analyzer, Halogen Illumination, 0.5x cmount, 10MP color camera + Imaging Software

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