



# Leica M50 and M80

**Routine stereomicroscopes for manufacturing, assembly, inspection, quality control, and failure analysis**

Living up to Life

**Leica**  
MICROSYSTEMS

### M50 features

- Magnification range 6.3 to 40×
- Five defined, step magnification levels
- Greater working distance and field of view for observing specimen over an extended area

### M80 features

- Zoom range 7.5 to 60×
- Eight levels
- Optics with excellent contrast for a detailed view of the sample

### Common features

- Modular product range: optimum adapts the microscope for the application
- Parfocally matched optical system: image sharpness remains constant when the magnification is adjusted
- Field number 23 for an even greater overview
- 76mm standard interface for quick, simple integration
- Wide range of achromatic and planachromatic objectives
- Ergonomic design: best possible adaptation of the instrument to the user
- ESD-dissipating design helps prevent damage caused by electrostatic discharge
- Focus column with integrated cable channel keeps the workplace uncluttered

### The New Leica M-Series

Leica Microsystems introduces the Leica M50 and M80, two new high-quality routine stereomicroscopes of the CMO product line from Leica Microsystems. The optical brilliance and wide range of accessories make them the ideal stereomicroscopes for quality assurance and failure analysis of components in industrial applications.

### Magnification in steps or smooth zoom

The Leica M50 stereomicroscope includes precise, reproducible magnification steps for repeated examinations, measurements, drawing or photography of samples under identical conditions. The five easily selectable position levels can be set without moving the eyes from the eyepieces. This ensures that the results remain comparable at all times without great effort.

The Leica M80 stereomicroscope can be used for a wide range of routine applications with its 8:1 smooth zoom or engaged, precise click-stops at predetermined magnifications. The large working distance and brilliant imaging power show the finest details without losing the field of view over large workpieces.

Common to both stereomicroscopes is the Leica range of accessories. Whether the work requires a variety of illumination types, a wide selection of objectives, or a boom stand – Leica Microsystems has a solution for everything!

The Leica M50 and M80 fit into microscope carriers the same 76mm diameter interface microscope carriers as with previous models and are therefore compatible with many suppliers. They adapt easily to existing components and add high-quality imaging power to your inspection process.

Left side: Leica M50 with small swingarm stand  
Right side: Leica M80 with incidentlight base

# Routine microscopy: different challenges every day



## Ergonomic Design

- Ergonomic design in the workplace can improve employee welfare, motivation and performance
- Ergonomic can positively affect profitability
- An investment in ergonomically-designed instrumentation amortizes quickly

### Leica ErgoModule®

- ErgoWedge® ±15°
- ErgoTube® 10° to 50°
- ErgoTube® 45°
- Straight Tube
- ErgoModule® 30mm to 120 mm
- ErgoWedge® 5° to 25°
- ErgoWedge® ±15°
- Manual and motorized mechanical stages
- SmartTouch™
- Motorized focus drive

# The benefits of ergonomic design

Ergonomically designed workstations and efficient work processes are essential in today's welfare of people in the workplace. A well designed work environment can improve the motivation and performance. When correctly applied, ergonomically designed instrumentation can make a strong contribution to increased productivity and improved profitability.

Occupational medical studies show that workstations with optical equipment place high demands on a person's posture, hands, and eyes. Compared to computer workstations, microscope workstations can be much more demanding for users.

The investment cost in ergonomically designed workstations amortizes quickly and can provide a long-term benefit for a company through improved performance and higher quality work.

### The correct viewing height

When matching the viewing height of the microscope to the physical height of a user, a few millimeters are crucial. If the user has to change his or her head position to use the instrument, the entire body can assume an unnatural posture, which may cause headaches, a stiff neck, and reduced work performance. Using a tube with variable viewing heights such as Leica Microsystem's new ergobinocular tube can solve this problem with a few simple twists of the user's wrist.

### The correct posture

Routine work while seated at the microscope in an incorrect posture can cause tension in the neck and back muscles, and in the worst case even postural defects of the spine. All the control elements of Leica stereomicroscopes are arranged for the greatest possible comfort of the user. In this way, they actively combat muscle tension and fatigue.





# The best illumination

## LED illumination

- Minimum maintenance with LED service life of 50,000 hours
- Realistic image with color temperature similar to daylight
- Constant color temperature over the complete brightness range
- Uncluttered workplace with compact design
- Silent operation without fan

## KL200 LED

- Modular design gives numerous fiber optic accessory options
- Compact, lightweight, integrated design

## LED3000 NVI™

- Precise, shadow-free inspection of depressions and holes
- Significantly brighter than a 150 W coldlight source
- Suitable for working distances from 60 to 150 mm

## LED5000 CXI™

- Integrated coaxial illumination for observation of flat, reflective surfaces, e.g., material fault analysis
- Brightness 3 to 4× greater than cold-light source
- On-board control panel for easy operation
- Settings saved with image and can be recalled later

### Large selection of different illumination

The correct illumination reveals the full power of a microscope – it gives the maximum possible amount of information from a sample. The type of illumination should be completely oriented to the object under observation. The choice depends on whether the user is viewing large, high-relief sample or reflective metal surfaces for material faults, for example. In each case a near-vertical or goose-neck illumination will give completely different information and as a result, completely different results.

The modular **Leica KL200 LED cold-light** source is one of the most powerful and compact light sources in its class and is suitable for a wide range of applications in industry. In addition to oblique illumination with one-armed or two-armed light guides accessories, other illumination methods are available. The KL200 LED can be integrated directly with the stand. It operates as an integrated or standalone illumination and generates a very bright, natural light without the use of a daylight filter.

New and unique: the **Leica LED3000 NVI™**. Optimized for routine stereo-microscopy, this illumination is the ideal solution for viewing holes, indentations or gun barrels.

The **Leica LED5000 product line** is another central component in the complete Leica stereomicroscope system. The most recent addition to this series is the Leica LED5000 CXI™, a fully integrated LED coaxial illumination system. Two integrated high-power LEDs ensure excellent illumination while the data exchange for reading and controlling the settings is conducted over a single cable. In combination with the coarse/fine focus drive all digital signals are bundled at the foot of the focus column, digitally processed, and sent to the Leica Application Suite (LAS) software. The user can read all the information that was saved with the image. This allows the user to reproduce recurring experiments with just a few clicks of the mouse.



LEICA M80

Leica

PLAN 1.0x

# Leica Stereo Bases

## Incident light bases

- Small Incident light base
- Compact standard Incident light base

## Transmitted light bases

- Small Incident light base with optional transmitted light base
- TL Series (ST, BFDF, RC™, RCI™) with different transmitted light types for all requirements

## Boomstands

- For all applications that require space for large samples
- Various equipment options for different tasks and attachments
- ESD-dissipating equipment helps prevent damage caused by electrostatic discharge

## XL Universal Plate

- Stationary Incident light base
- Ample space for very large specimens
- Optional gliding stage with 300×300 mm traverse path
- Compatible with all Leica stereo-microscope columns
- Separate ESD-dissipating socket for safety from electrostatic discharge

Stereomicroscopes are required in the electronics industry for visual inspection of large print-ed circuit boards. The surfaces of engine pis-tons are optically inspected for quality during manufacture. Dental laboratories fabricate and test implants, dental crowns, and dentures in complex, time-consuming processes. These are just some applications that require an optical inspection system with a large working distance, easily reproducible settings and, depending on the type of samples, specialized stands and illumination.

Leica Microsystems offers the perfect solution for all of these cases with the swin-garm stand series and M-series modular routine stereomicroscope line. The large extension of the swingarm, the available at-tached load, the connection for the focu arm with a wide range of adjustment op-tions, and the outstanding ESD-dissipating qualities are only a few of the numerous features. The Leica Microsystems M-Series stereomicroscopes enable the user to work efficiently and comfortably, with plenty of space for large samples, tools, and work equipment.

Leica M50 with stereozoom incident and transmitted light base

Leica M50 with small boomstand





# The correct base

## Antistatic coating for sensitive components

When inspecting printed circuit boards and their extremely sensitive components it is important to avoid any risk of damage from electrostatic discharge. Leica products show their strength in this field with their ESD equipment: they have antistatic coatings and prevent the build-up of electrostatic charges.

## Incident light or transmitted light?

Leica Microsystems has a wide range of different bases to select from depending on whether the user is inspecting the surfaces of workpieces or viewing thin objects in transmitted light. The small incident light base with optional transmitted light base is a flexible alternative to the Leica swingarm stands. Leica TL bases are available for the Leica M-series: normal transmitted light, dark field or the Rottermann Contrast™ method.

## Leica XL Universal Base for extra large workpieces

A new addition to the Leica Microsystems boom stand options is the Leica XL Universal Base. It provides a stationary stereomicroscopy workstation large enough for the inspection of large specimens such as engine pistons. It is compatible with all M-Series columns, and with an adapter to all columns of the swingarm series. The optional XL mechanical stage has a traverse path of 300×300mm. Even large assemblies can be inspected and (with a corresponding socket at the back of the stage) protected against ESD.

Leica M80 with standard swingarm stand

Leica M80 with Leica XL Universal Base and XL extension



## Leica OEM products

- Space-saving adaptation to bonders, probes, etc.
- Simple operation
- Fatigue-free viewing and working
- Continuously reliable, smooth-operating, and accurate
- Excellent price-performance ratio

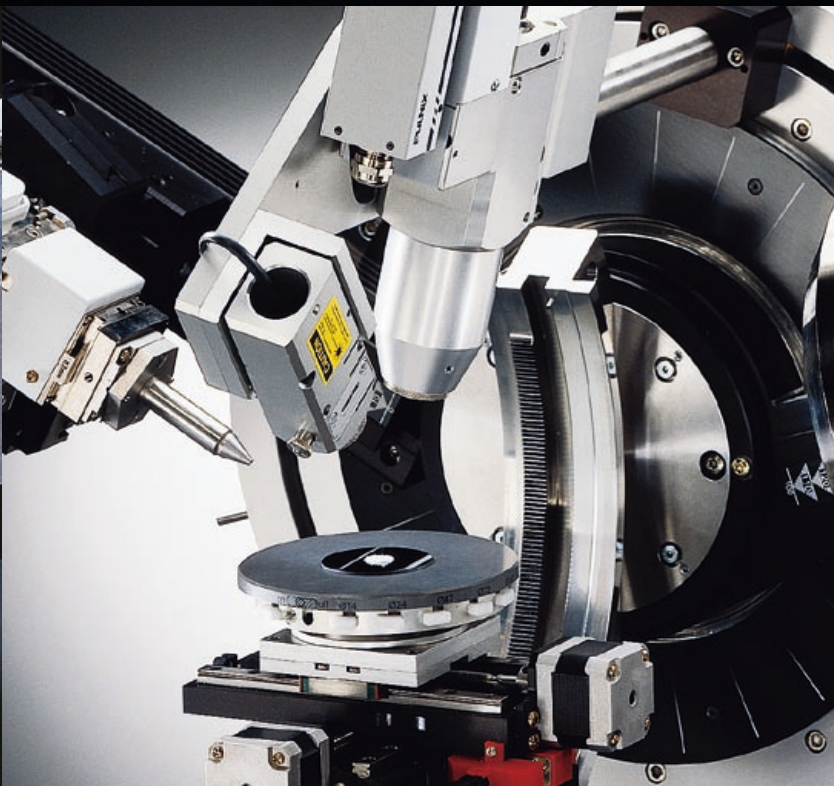
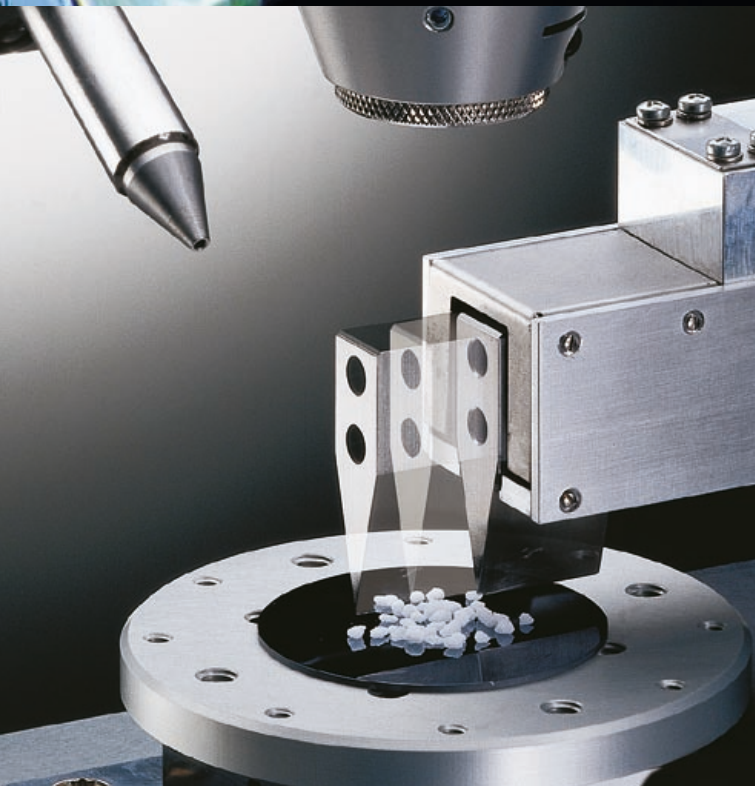
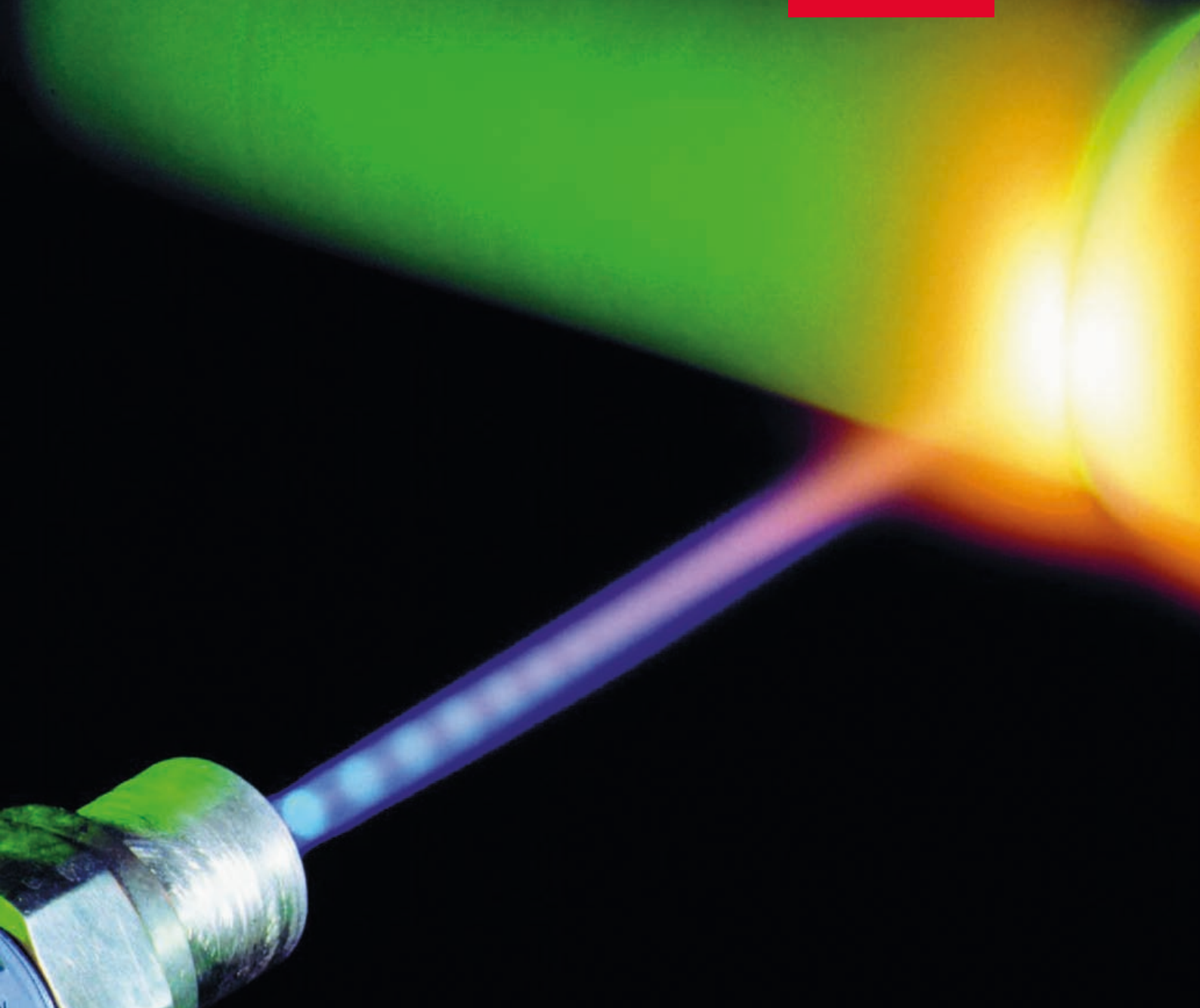
# Precision and adaptability

Original Equipment Manufactures can ensure success with profitable and competitive production or testing plants. An important system component is a high-quality stereomicroscope, which ensures reliable results during assembly, machining, and testing. Powerful stereomicroscopes can be easily integrated with production machines without taking up excessive space. The Leica M-Series offers superior image quality, comfortable viewing, and simple operation, while operating reliably, smoothly and accurately over the long term.

### Leica stereomicroscopes – advantages for industrial production

- Simple, space-saving attachment to bonders, probes, machines, and systems
- Tilttable and 360° rotatable
- Excellent price-performance ratio
- Modular design adjusts to precise mechanical requirements
- Selection of five magnification levels or 8:1 zoom
- Very large fields of view and large working distances
- Clear, sharp, undistorted, flat, high-contrast images
- Optimum chromatic correction
- Simple operation for fatigue-free viewing and working
- Ergonomic accessories for viewing comfort
- Continuous reliability, smooth operation, and accuracy

Leica Microsystems engineers are available to assist in making integration smooth and simple are pleased to answer any questions about the range of accessories or about customized solutions.



# “With the user, for the user”

## Leica Microsystems

Leica Microsystems operates internationally in four divisions, where we rank with the market leaders.

### • Life Science Division

The Leica Microsystems Life Science Division supports the imaging needs of the scientific community with advanced innovation and technical expertise for the visualization, measurement, and analysis of microstructures. Our strong focus on understanding scientific applications puts Leica Microsystems' customers at the leading edge of science.

### • Industry Division

The Leica Microsystems Industry Division's focus is to support customers' pursuit of the highest quality end result. Leica Microsystems provide the best and most innovative imaging systems to see, measure, and analyze the microstructures in routine and research industrial applications, materials science, quality control, forensic science investigation, and educational applications.

### • Biosystems Division

The Leica Microsystems Biosystems Division brings histopathology labs and researchers the highest-quality, most comprehensive product range. From patient to pathologist, the range includes the ideal product for each histology step and high-productivity workflow solutions for the entire lab. With complete histology systems featuring innovative automation and Novocastra™ reagents, Leica Microsystems creates better patient care through rapid turnaround, diagnostic confidence, and close customer collaboration.

### • Surgical Division

The Leica Microsystems Surgical Division's focus is to partner with and support surgeons and their care of patients with the highest-quality, most innovative surgical microscope technology today and into the future.

The statement by Ernst Leitz in 1907, “with the user, for the user,” describes the fruitful collaboration with end users and driving force of innovation at Leica Microsystems. We have developed five brand values to live up to this tradition: Pioneering, High-end Quality, Team Spirit, Dedication to Science, and Continuous Improvement. For us, living up to these values means: **Living up to Life.**

### Active worldwide

Australia:	North Ryde	Tel. +61 2 8870 3500	Fax +61 2 9878 1055
Austria:	Vienna	Tel. +43 1 486 80 50 0	Fax +43 1 486 80 50 30
Belgium:	Groot Bijgaarden	Tel. +32 2 790 98 50	Fax +32 2 790 98 68
Canada:	Richmond Hill/Ontario	Tel. +1 905 762 2000	Fax +1 905 762 8937
Denmark:	Herlev	Tel. +45 4454 0101	Fax +45 4454 0111
France:	Rueil-Malmaison	Tel. +33 1 47 32 85 85	Fax +33 1 47 32 85 86
Germany:	Wetzlar	Tel. +49 64 41 29 40 00	Fax +49 64 41 29 41 55
Italy:	Milan	Tel. +39 02 574 861	Fax +39 02 574 03392
Japan:	Tokyo	Tel. +81 3 5421 2800	Fax +81 3 5421 2896
Korea:	Seoul	Tel. +82 2 514 65 43	Fax +82 2 514 65 48
Netherlands:	Rijswijk	Tel. +31 70 4132 100	Fax +31 70 4132 109
People's Rep. of China:	Hong Kong	Tel. +852 2564 6699	Fax +852 2564 4163
Portugal:	Lisbon	Tel. +351 21 388 9112	Fax +351 21 385 4668
Singapore		Tel. +65 6779 7823	Fax +65 6773 0628
Spain:	Barcelona	Tel. +34 93 494 95 30	Fax +34 93 494 95 32
Sweden:	Kista	Tel. +46 8 625 45 45	Fax +46 8 625 45 10
Switzerland:	Heerbrugg	Tel. +41 71 726 34 34	Fax +41 71 726 34 44
United Kingdom:	Milton Keynes	Tel. +44 1908 246 246	Fax +44 1908 609 992
USA:	Bannockburn/Illinois	Tel. +1 847 405 0123	Fax +1 847 405 0164

and representatives in more than 100 countries