



# Leica M320

**Designed to Perform**

Microscope for Training and Teaching Microsurgery

Living up to Life

**Leica**  
MICROSYSTEMS

# Leica Optics with LED

High-quality equipment is a fundamental prerequisite when learning to use the microscope as a tool to view finest anatomical structures. The Leica M320 microscope bundles unique benefits for successful microsurgery workshops and laboratory applications.

## See more details than ever before

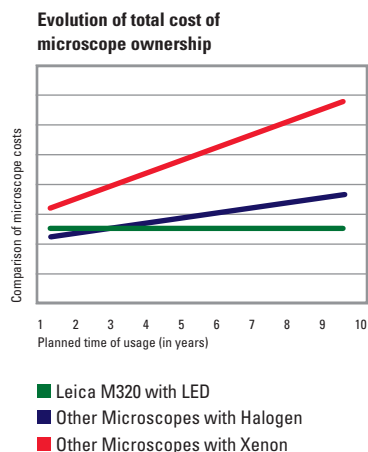
The Leica M320 uses the same apochromatic optics as higher-level surgical microscopes. It is also the world's first configuration with LED illumination. The output: absolutely crisp, clear, and bright images with optimal contrast and depth of field, especially in deep and narrow cavities.

## LED technology reduces cost of ownership

The future belongs to LED technology. It is cost-effective, and ecologically better, while producing excellent quality illumination. Color-temperature LEDs provide high fidelity image colors and have no start-up delay: when switched on, they instantly deliver full light output. The 60,000-hour lifetime of an LED bulb greatly exceeds that of conventional light sources and eliminates the need to replace fiber optic cables as well. All in all, LED illumination significantly reduces cost of ownership.

Comparison is based on initial purchase price, average consumption of bulbs and periodic fiber optic cable replacement costs.

Start saving from day one with the Leica M320.





# High-Definition Imaging

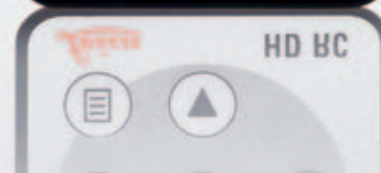
## Share what you see in high-definition

The growing need for information places more demands on the user, and at the same time opens up new opportunities for sharing and documenting procedures and results. The Leica M320 features an optional integrated HD camera and recording system that has the ability to take a 3-megapixel still image or a 1280 × 720p MPEG-4 video and save all data onto an internal SD memory card.

Leica Microsystems' imaging technology allows perfect co-viewing via the HD monitor and makes it easy to share information to teach, document cases, keep records, present at meetings, and accommodate a wide variety of different uses.



Remote control to operate the documentation system from anywhere in the room. Remote control and optional SD memory card, shown here in actual size.



# An Individual Fit for Easy Handling

## **Unparalleled positioning flexibility**

To meet the requirements of surgical trainees and trainers, Leica Microsystems went beyond the refinement of optics and LED illumination and also optimized the Leica M320's ease of use and maneuverability. All system articulations are exactly where they need to be and move with high-level precision. The microscope can be effortlessly positioned relative to the operative site. The sophisticated mechanical engineering is easy to feel while using the microscope, and the stand features vibration-minimizing bearings for overall stability.

## **Ergonomics for more efficiency**

The long arm with four smooth moving rotation axes allow the microscope to be efficiently shared between neighboring examination places in any position. Additionally, users can select from an assortment of accessories to ideally suit working preferences and comfort. For example, Leica Microsystems offers a wide range of binocular tubes and objective lenses, and the choice of a single or dual handle. The result: a unique, customized microscope designed for the personal comfort of every user.





The Leica M320 adapts  
to individual working  
preferences and positions  
thanks to the arm's flexibility.

# Functionality and Added Safety

## Designed for efficient use

Functional elegance is more than the result of advanced design philosophy. Form follows function. The Leica M320 microscope is virtually jointless, which makes it resistant to contaminants and easy to clean. All cables are routed internally. The compact, ergonomic design allows the microscope to be easily transported and safely stored in the according box. The system is quickly and intuitively set up after transportation. Finally, with its understated, contemporary design, the Leica M320 integrates well with any modern setting.

## Added safety

The Leica M320 surface is protected with a permanent antimicrobial coating, AgProtect™. This coating reduces pathogens on the microscope and their transfer to the users. The handles can be washed and sterilized. These features make clean-up and maintenance easy.



1 AgProtect™. Typical structure of a metal powder produced via inert gas condensation (nano powder).



# Technical Specifications

## Leica M320

Electrical data	
Power socket	100 – 240 V AC ( $\pm 10\%$ ), 50 / 60 Hz
Fuse	2 $\times$ T 6.3 A / 250 V
Power consumption	Leica M320 TC12 / TP12 / LW12: 100 VA
Safety class	Class I
Control unit	Connection sockets for: power cable; video: HDMI / BNC
Optical data	
Range of magnification	1.5 $\times$ – 40 $\times$ with 10 $\times$ eyepieces
Field of view	5.3 mm to 206 mm with 10 $\times$ eyepiece
Surgical microscope	
Magnification	Manual <b>APOchromatic</b> 5-step magnification changer 6.4 / 10 / 16 / 25 / 40 $\times$
Stereo base	24 mm
Objectives	Fixed focal lengths from $f = 100$ mm up to $f = 400$ mm, Fine focusing lenses with $f = 200, 250, 300$ mm
Eyepiece	10 $\times$ 21B, 12.5 $\times$ 17B, 8.33 $\times$ 22B, 10 $\times$ 21B with reticule
Reset functions	Limit switch for light on / off
Light source	Direct and long-lasting double LED illumination with average service life of 60,000 h
UV filter	UV and IR-free LED illumination
Built-in orange filter	OG530
Light intensity adjustment	Using a drive knob on the optics carrier

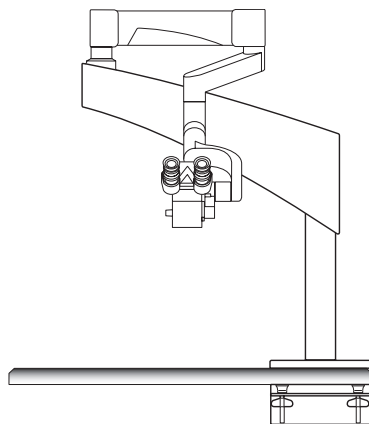
Stands	
Max extension range	1455 mm (fully stretched for the inclined version)
System weight	30 kg to 41 kg
Stand options	Leica TC12 table clamp, Leica TP12 table plate, Leica LW12 wall mount

Video accessories	
Leica M320 HD video and photo camera	Integrated (optional) HD video camera with 1280 $\times$ 720p video resolution and 3-Megapixel still photo resolution, camera also has playback function for video and photo and thumbnail view, video (MPEG-4) and photo (jpg) storage on SD memory card (system comes with a 4GB SD memory card), video signal available in HDMI and analog (PAL / NTSC selectable), video storage optionally on external recording system, video/photo control through IR remote control and two hard keys on camera body, all camera settings with onscreen menu
Remote control	IR-remote control for Leica M320 HD Video & Photo Camera
Leica M320 IVA integrated video adapter	Integrated (optional) video adapter for attachment of external c-mount cameras, focal length of optics: $f = 55$ mm

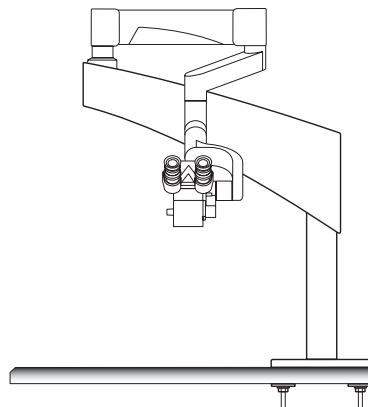
Conformity	
Guideline 93/42/EEC for medical products. Classification: Class I, in compliance with appendix IX, rule 1, with reference to rule 12 of the directive. Medical Electrical Equipment, Part 1: General Requirements for Safety IEC 60601-1; EN 60601-1; UL60601-1; CAN/CSA-C22.2 NO. 601.1-M90. Electromagnetic compatibility IEC 60601-1-2; EN 60601-1-2. Leica Microsystems (Schweiz) AG holds the management system certificates for the international standards ISO 9001 / ISO 13485 and ISO 14001 relating to quality management, quality assurance and environmental management. IEC 60825-1 Safety of laser devices.	

CE

Leica TC12 Table Clamp



Leica TP12 Table Plate



Leica LW12 Wall Mount

