

From Eye to Insight

Leica
MICROSYSTEMS

Surgical microscope with integrated 4K camera for ENT

FOR YOU AND
YOUR PATIENTS

M320 ENT microscope





“Microscopes are essential in ENT. An enhanced, bright visualization simply allows to work more precisely. Taking pictures or videos is very practical and helps in teaching and when talking to patients. And last, but not least, I can work longer and feel better thanks to the ergonomic design of the M320 microscope.”

Dr. Lucia Oriella Piccioni
Otolaryngologist, University San Raffaele, Milan, Italy

FOR YOU AND YOUR PATIENTS

As an otolaryngologist, you deal with a wide variety of challenges and a wide range of patients, including children and their parents. Sensitive and stress-free treatment is always important, because the delicate areas of the head and neck are involved. Using a surgical microscope can facilitate diagnoses, treatments, and even minor outpatient surgeries.

With the M320, you and your patients will benefit from a smoother procedure. On the one hand, the visualization of deep and narrow cavities supports your work. On the other hand, you can share diagnoses easily with patients, and in case of children, with their parents, by using images or videos to explain your diagnoses. This transparency helps build trust with your patients and their families.

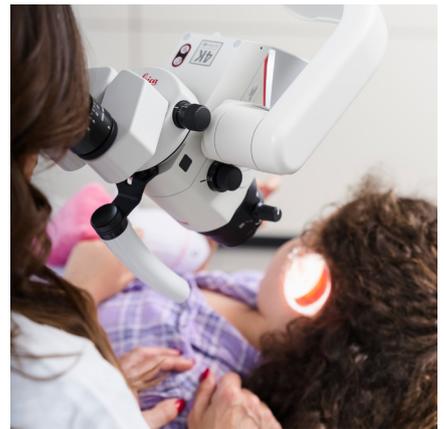
The M320 also facilitates a more ergonomic working posture which can help avoid physical strain and thus has an impact on your well-being.



INCREASE YOUR
INSIGHTS



REINFORCE
PATIENT TRUST



ENHANCE YOUR
COMFORT

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Leica



INCREASE YOUR INSIGHTS

See better into deep or narrow cavities and manage your daily ENT work more precisely and efficiently with microscopically enhanced visualization.

The apochromatic optics and double LED illumination of the M320 surgical microscope combined with an integrated 4K camera support you with exactly what you need—a crisp, bright, true-color image with impressive depth of field.



SEE WHAT YOU NEED TO SEE

- > Visualize deep channels thoroughly when placing a transtympanic aerator or removing foreign bodies, thanks to homogenous illumination with two LED light paths
- > Maneuver instruments confidently in narrow cavities thanks to great depth perception and high magnification
- > Differentiate tissues easily thanks to LED illumination with high color perception and reproduction



FOCUS ON WHAT MATTERS

- > Stay focused on your patient and maintain efficiency and concentration, switching focus levels quickly and easily
- > Minimize workflow interruption thanks to the 5-step magnification changer
- > Increase accuracy and precision during examination, diagnosis, and minor outpatient procedures thanks to clear visualization that you can even document in 4K resolution



REINFORCE PATIENT TRUST

Use ultra-high definition pictures to discuss the medical condition at hand. Benefit from advanced imaging and streaming capabilities of the M320 surgical microscope with integrated 4K camera for clarity.

DOCUMENT IN IMPRESSIVE IMAGE QUALITY



All-in-one or modular Imaging

- > Record every surgery for thorough documentation using the fully integrated, cable-free 4K camera
- > Upgrade your M320 if you need to add digital imaging to your modular microscope* or use the c-mount for an external camera



Flexible image acquisition and viewing options

- > Start video or image recordings conveniently via remote control or directly on the microscope
- > Share images with your patient on a 4K monitor in order to illustrate the diagnosis and explain possible treatment options



Easy image transfer and storage

- > Store images and video in 4K quality conveniently on an SD card for easy transfer to a computer
- > Transfer images directly to your PC via USB connection and save them, e.g., in your patient files for easy revisiting



Wireless image streaming and transfer via Leica View App***

- > Benefit from wireless image streaming from the M320 microscope to your mobile devices**
- > Record and download images or videos to your mobile devices for image-supported patient communication

STRENGTHEN PATIENT TRUST

Especially young patients and their parents can get nervous when visiting an ENT doctor. This is where the M320 with integrated 4K camera can help you. With a number of viewing options, the M320 makes it easy to communicate with patients.

You can use live images or videos to guide your patients through the steps of a procedure, alleviating their fear of the unknown. The ultra-high resolution images can be easily transferred to PC for archiving in the patient files for documentation of treatment.



Leica View App allows you to:

- > Stream the live microscope view from your M320 microscope
- > Capture images and videos directly from a mobile device
- > Access recorded pictures and video of your microscope's SD card gallery
- > Download assets to your mobile devices to always have them conveniently at hand
- > Explain the diagnosis and available treatments by reviewing recorded video and pictures together with your patients

SHARE YOUR EXPERTISE EASILY

While the growing need for information places more demands on ENT specialists, it also opens up new opportunities for sharing and documenting diagnostic examinations and surgical procedures. You can now share your expertise with peers and patients easily and conveniently with ultra-high resolution ENT pictures from your M320 surgical microscope.

This makes it easy for you to share knowledge clearly and authentically, e.g., for training or consultation purposes, for professional publications, and last, but not least on your website or social media channels.





ENHANCE YOUR COMFORT

Benefit from ergonomic microscope design, allowing you to work more efficiently and precisely in any ear, nose, or laryngeal procedure.

PHYSICAL COMFORT INCREASES EFFICIENCY

Ensure you are sitting comfortably. Leica Microsystems offers a choice of objective lenses, binocular tubes, and ergonomic accessories that suit your body frame, specialty, and working preference. Also, enjoy the flexible image acquisition and viewing options via remote control, directly on the microscope, or via Leica View App.



Straight binocular tube

Work in comfortable standard position with a fixed viewing angle



Binocular tube for 30°–150° movement

Enjoy working more ergonomically with a tiltable viewing angle of 30°–150°



Binocular tube for 180° movement

Enhance comfort and flexibility through an even wider range of viewing angles



The M320 adapts to individual working preferences. Choose either a perpendicular or an inclined arm.



STAY FOCUSED

The optional MultiFoc objective for the M320 allows you to switch quickly and easily between different focus levels during examinations and treatments. Simply adjust the working distance within the range from 200 mm to 300 mm by micro-movement of the adjustment knob. By limiting the time and effort of refocusing, you maintain efficiency and concentration while retaining an ergonomic posture.

- > Maintain efficiency and concentration, since you can work uninterruptedly
- > Retain a comfortable working position, since you need to move less
- > Position the adjustment knob on the right, left, or centrally

ENSURE YOUR EQUIPMENT FITS YOUR PRACTICE



STRENGTHEN HYGIENE PRECAUTIONS

- > Increase the physical distance between you and the patient to reduce exposure to spraying from the treatment
- > Benefit from additional safety through antimicrobial microscope coating
- > Make cleaning easier thanks to internally routed cables and flat surfaces
- > Ensure longevity even with regular autoclaving or other methods of sterilization as removable parts like handles are made from robust materials



Antimicrobial coating reduces pathogens



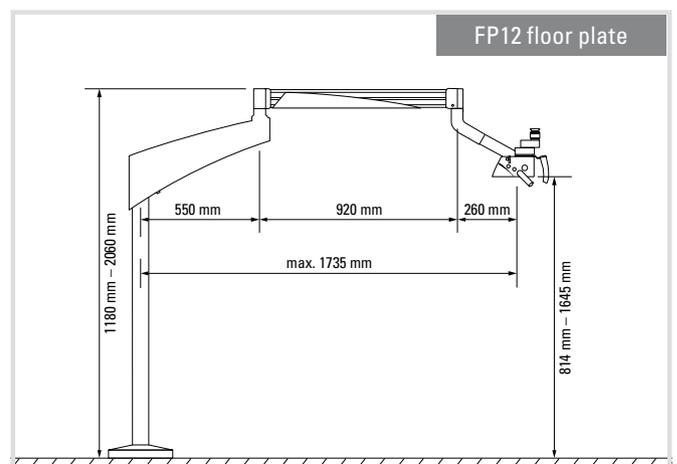
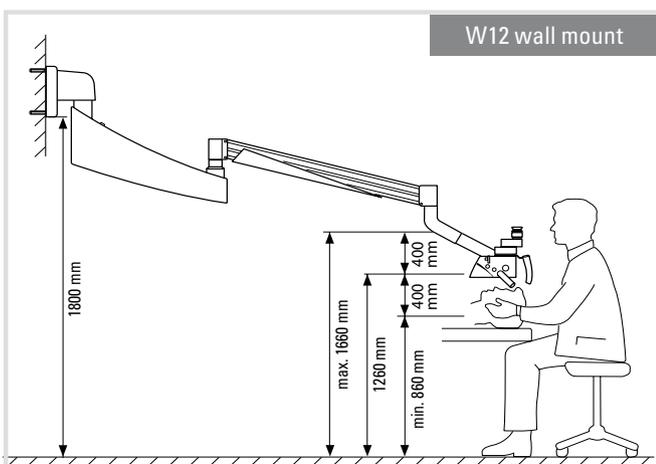
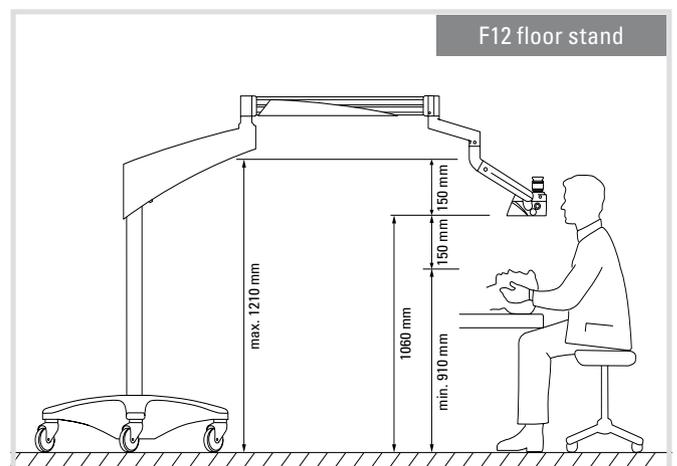
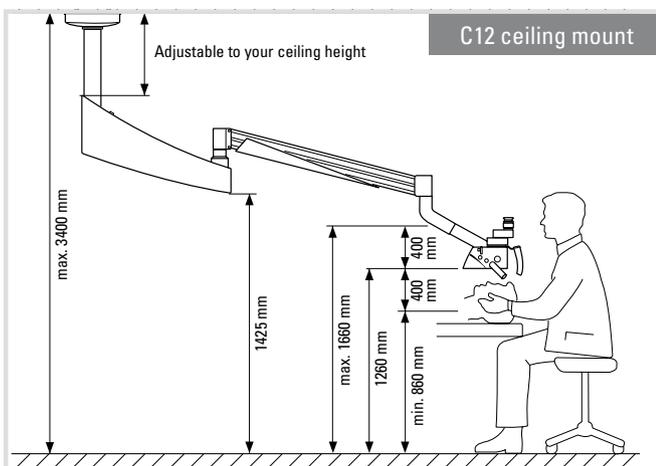
Virtually jointless for easy cleaning



Handles can be removed and sterilized

DESIGN YOUR IDEAL WORKSPACE

- > Select the configuration that best fits your practice needs by choosing from a variety of stands, e.g., ceiling, floor, or wall mounts
- > Enjoy working with an adaptable microscope with modern viewing and recording capabilities
- > Keep cost of ownership low with the LED illumination—avoiding costly replacement of fiber optics and cables
- > Integrated cables for maneuverability and long-life
- > Robust, yet easily adjustable for accurate positioning



TECHNICAL SPECIFICATIONS

Microscope

Magnification	Manual APOchromatic 5-step magnification changer 6.4 / 10 / 16 / 25 / 40×
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 MultiFoc objective lense with variable working distance of 200 mm to 300 mm
Eyepiece	10 × 21B, 12.5 × 17B, 8.33 × 22B, 10 × 21B with reticule
Reset functions	Limit switch for light on/off
Light source	Direct and long-lasting 2-LED illumination integrated into the optics carrier, with an average service life of up to 60,000 h
UV filter	UV and IR-free LED illumination
Built-in orange filter	OG530
Light intensity adjustment	Using a knob on the optics carrier

Camera

M320 4K video and photo camera	Integrated 4K video camera with 4K video resolution and 12 MP still photo resolution, camera also has playback function for video and photo and thumbnail view, video (MPEG-4) and photo (.jpg/.raw) storage on SD memory card (system comes with a 64 GB SD memory card), or transfer via USB. Video signal available in HDMI (1 video connector), video/photo control through IR remote control and two hard keys on camera body, all camera settings adjustable via onscreen menu.
Remote control	IR remote control for M320 4K video and photo camera
M320 IVA Integrated Video Adapter	Integrated (optional) video adapter for attachment of external c-mount cameras, focal length of optics: f = 55 mm

Limitations of Use

The M320 surgical microscope may be used in enclosed rooms and on flat surfaces with max. 0.3° unevenness, or at stable walls or ceilings that fulfill Leica Microsystems' specifications (please refer to the installation manual for more information).

ACKNOWLEDGEMENT

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Class I surgical microscope M320

Not all products or services are approved or offered in every market and approved labeling and instructions may vary between countries. Please contact your local Leica representative for details.

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