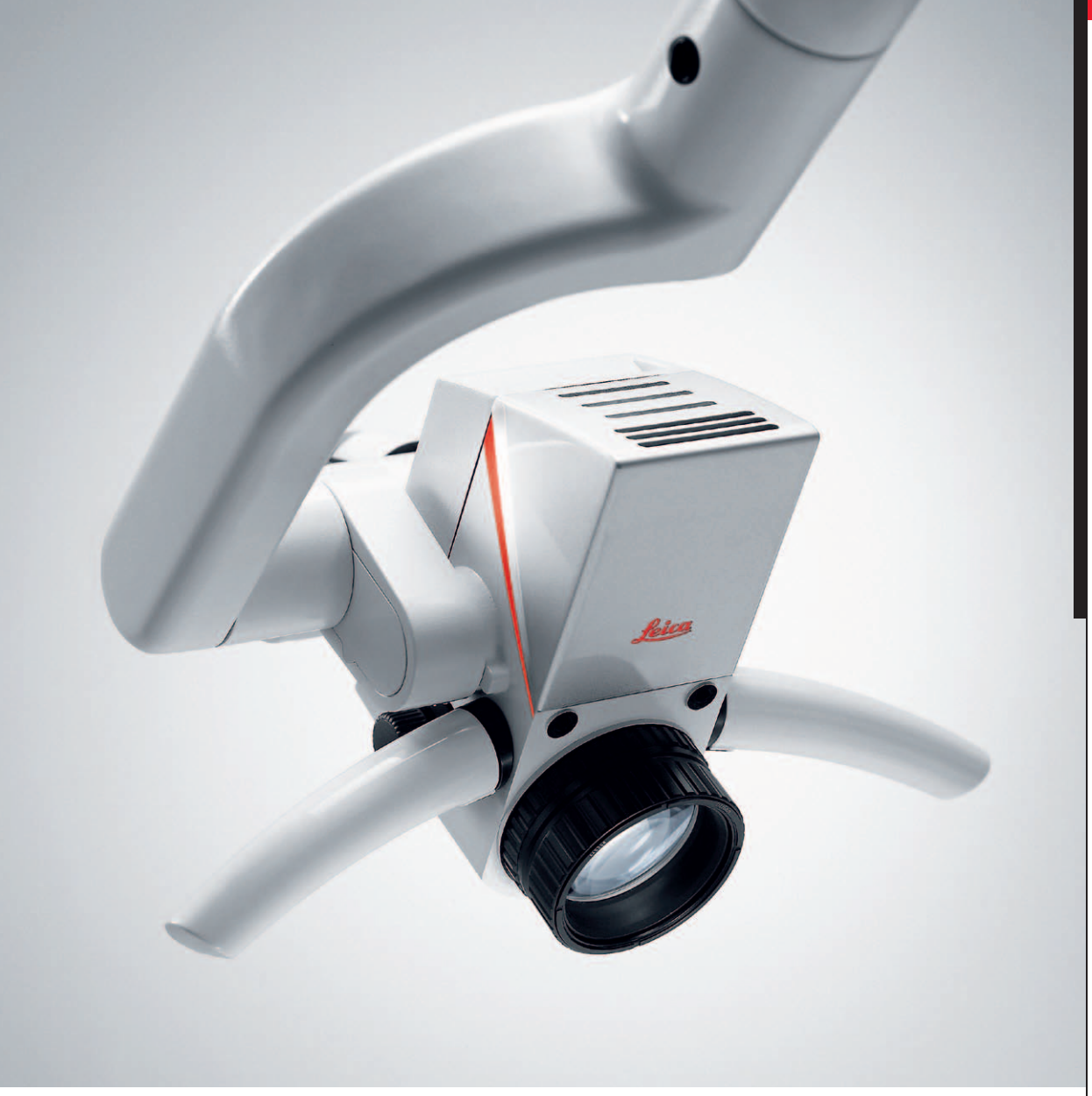


Leica M320 F12

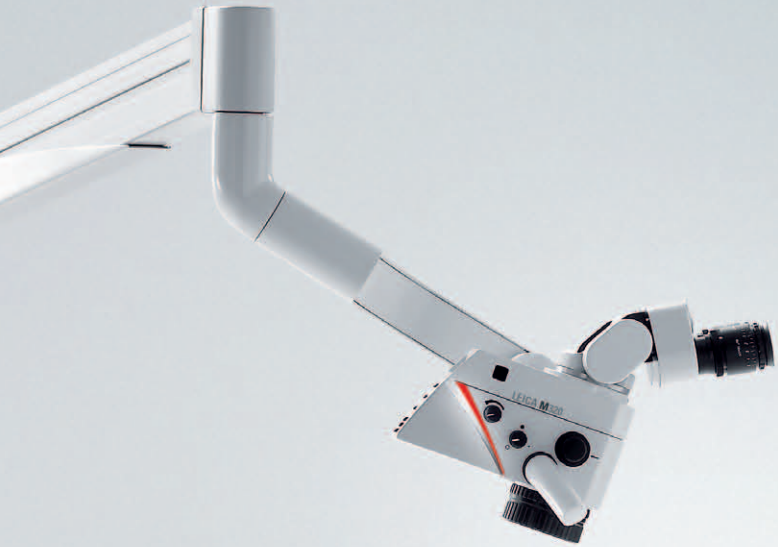
Designed for Dentists

The question is not whether you need a dental microscope, it's which one.

Living up to Life

Leica
MICROSYSTEMS


Leica
LEICA F12



Designed for Dentists

"Finally," some say. – "Already," we say. Because Leica Microsystems went all the way and didn't merely modify existing microscopes. We developed a totally new one from the bottom up. That is why the Leica dental microscope is the first system of its kind explicitly designed for modern dental medicine. The effort was worthwhile. The result is impressive:
Leica M320 F12

The highlights:

- Leica optics: the new paradigm of seeing
- Leica LED illumination: a global debut in dental medicine
- Leica high-definition imaging technology: the benchmark for image sharing and documentation
- Leica ergonomics: convenience for more efficiency
- Leica design: aesthetic, hygienic, innovative, refined


LEICA M320
Leica

Dental Medicine in Tomorrow's Light

Leica optics: the new paradigm of seeing

No other optics brand is associated with more prestige and heritage than Leica. To the general public, the name stands for the highest quality photography; in the medical environment, it is respected by surgeons and microsurgeons.

Crystal clear apochromatic optical quality is the core component of Leica Microsystems' high-level surgical microscopes. The same applies to the Leica M320 F12. Its optical system allows you to see more details than ever before. As the world's first configuration with LED illumination, the Leica M320 F12 opens up new dimensions in vision: absolutely crisp, clear, and bright images with amazing depth of field for dental surgery and procedures.

LED technology in a dental microscope: a global debut

The future belongs to LED technology. It is aesthetic, cost-effective, and ecologically sound, while producing excellent quality illumination. Daylight-temperature LEDs provide high fidelity image colors. LEDs have no start-up delay: when switched on, they instantly deliver full light output. Additionally, because LEDs are small and compact, they are conducive to attractive product design approaches.

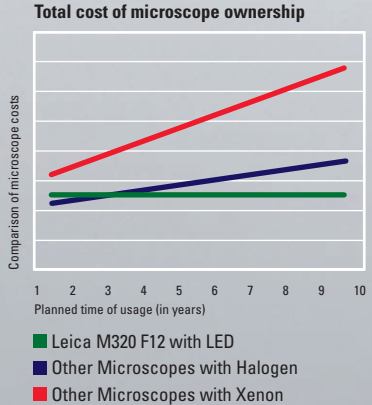
Finally, the 60,000-hour lifetime of an LED bulb exceeds that of conventional light sources by far and eliminates the need to replace fiber optic cables as well. All in all, LED illumination significantly reduces cost of ownership.

Leica optics with LED – a highlight in dental medicine.

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 F12.

Total cost of microscope ownership



Leica Microsystems' optics system with LED delivers more light and enhanced detail for precise dental surgery. This can mean better patient outcomes and faster results.


HD Display
SanDisk
32GB
HDMI

The Information Age in Dental Medicine

High-definition imaging

The growing need for information places more demands on the dentist, while at the same time opening up new opportunities for sharing and documenting procedures. The Leica M320 F12 features, as an option, an integrated HD camera and recording system that has the ability to take a 3-megapixel still image or a MPEG-4 video and save all data onto an internal SD memory card.

The Leica imaging technology makes it easy to share information for teaching or consultation purposes, document cases, keep records, present at meetings, and a wide variety of different uses. Visual resources have become part of dental care and are instrumental for positioning in the competitive environment. Dentists who can visualize their skills gain trust.

Leica high-definition imaging – the benchmark for documentation.

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

The Leica M320 F12 adapts to individual working preferences; for example, the dentist can choose either a perpendicular or inclined arm.

Easy Handling, Greater Efficiency

Unparalleled positioning flexibility

In addressing the requirements of the dentist, Leica Microsystems went beyond the refinement of optics and LED illumination and also focused on ease of use and maneuverability. All of the system articulations are exactly where they need to be and move with high-level precision. The microscope can be effortlessly positioned anywhere. The sophisticated mechanical engineering is easy to feel while using the microscope, and the stand features vibration-minimizing bearings for overall stability.

An individual fit

The dentist can select from an assortment of product accessories to ideally suit his or her working preferences and medical specializations. For example, Leica Microsystems offers a wide range of binoculars and objective lenses, the choice of a single or dual handle, and the Leica ergonomics modules: ErgoWedge™ and ErgoOptic Dent™. The result: a unique, customized microscope designed for the personal comfort of every user.

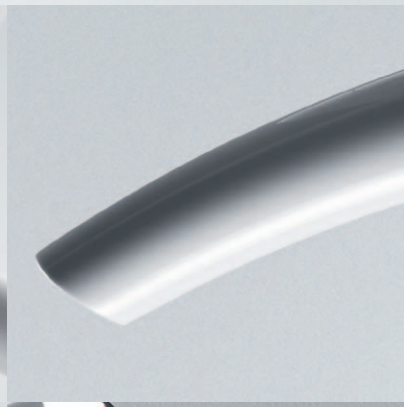
Leica ergonomics – convenience for more efficiency.

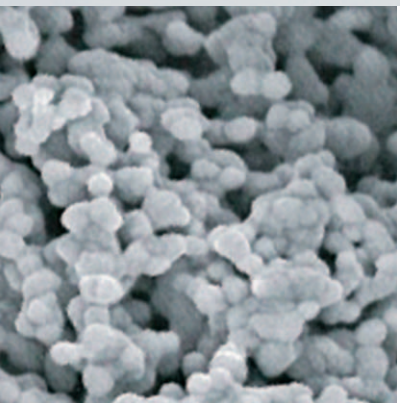
Hands-on Design for a Pleasant Ambience

Functional elegance is more than the result of an advanced design philosophy. It has a highly pragmatic origin: form follows function. The Leica dental microscope is virtually jointless, which makes it easy to clean. All cables are routed internally. The surface is protected with a permanent antimicrobial coating to reduce contaminants on the microscope. The handles can be washed and sterilized.

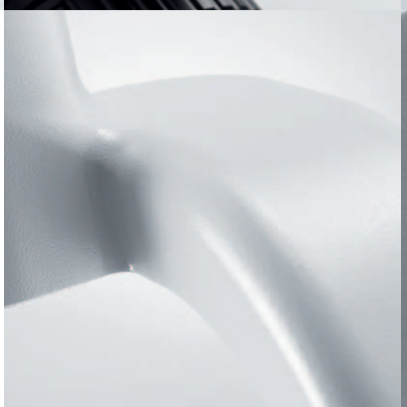
With its understated, contemporary design and slender silhouette, the Leica M320 F12 integrates well with any modern dental practice and is perceived by dentists, medical staff, and patients as a graceful, high-tech instrument.

Leica M320 F12 – designed for dentists.





AgProtect™: Typical structure of a metal powder produced via inert gas condensation (nano powder). This antimicrobial nano silver (Ag) coating reduces pathogens on the microscope and their transfer to the users.



Leica M320 F12 Technical Data

ELECTRICAL DATA

Power socket	100–240 V AC (±10%), 50/60 Hz
Fuse	2 × T 6.3 A/250 V
Power consumption	Leica M320 F12/C12/W12/FP12: 100 VA
Safety class	Class I
Control unit	Connection sockets for: Power cable, Video: HDMI / BNC

SURGICAL 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
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 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	1775 mm (fully stretched for the inclined version)
Base	608 × 608 mm (footprint)
Transportation height	Min 1621 mm
Balancing range	Min 1.1 kg to max 4 kg load on the optics carrier
Brake system	Fine adjustable mechanical brakes for all rotation axes with detachable brake
System weight	Max load ca. 116 kg
Stand options	Leica C12 Ceiling mount, Leica W12 Wall mount, Leica FP12 Floor plate

ACCESSORIES

Binocular tubes	Selection of fixed and variable observation angle
Handles	Two options: sterilizable and disinfectable
Knobs and protective glass	Sterilizable
Orange filter	External orange filter (530 nm) for illumination and observation
ErgoWedge	5° to 25° adjustment range for binocular tube with fixed angle
ErgoOptic Dent	With 52° rotation range for binocular tube 0° to 180° variable angle

OPTICAL DATA

Range of magnification	1.5× – 40× with 10× eyepieces
Field of view	5.3 mm to 206 mm with 10× eyepiece

VIDEO ACCESSORIES

Leica M320 HD video and photo camera	Integrated (optional) HD video camera with 1280×720P 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

AMBIENT CONDITIONS

Use	+10°C to +40°C
	+50°F to +104°F
	30% to 75% relative humidity
	500 mbar to 1060 mbar atmospheric pressure
Storage	–30°C to +70°C
	–22°F to +158°F
	10% to 100% relative humidity
	500 mbar to 1060 mbar atmospheric pressure

LIMITATIONS ON USE

The Leica 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 (see installation manual).

STANDARDS

Council Directive 93/42/EEC on Medical Devices (MDD) and its amendments.
Classification: Class I, in compliance with Annex IX, rule 1 and 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.
The Medical Division, within 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.

CE

“With the user, for the user”

Leica Microsystems

Leica Microsystems operates globally 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.

• Medical Division

The Leica Microsystems Medical 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:	Ballerup	Tel. +45 4454 0101	Fax +45 4454 0111
France:	Nanterre Cedex	Tel. +33 811 000 664	Fax +33 1 56 05 23 23
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
	Shanghai	Tel. +86 21 6387 6606	Fax +86 21 6387 6698
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. +44 800 298 2344	Fax +44 1908 246312
USA:	Buffalo Grove/Illinois	Tel. +1 847 405 0123	Fax +1 847 405 0164

and representatives in more than 100 countries

The Medical Division, within 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.

CE

www.leica-microsystems.com

Leica
MICROSYSTEMS

10 M3200 1en/A • © Leica Microsystems (Schweiz) AG • CH-9435 Heerbrugg, 2010 • Printed in Switzerland – VI.2011 – RDV