Leica M820 F20

High Performance for Best Results

Microscope for Ophthalmic Surgery

Living up to Life

Leica
MICROSYSTEMS

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Leica Design by Christophe Apothéloz

The Leica M820 F20 provides the ophthalmic surgeon with high performance 800-series optics on an easy-to-use, intuitive floor stand.

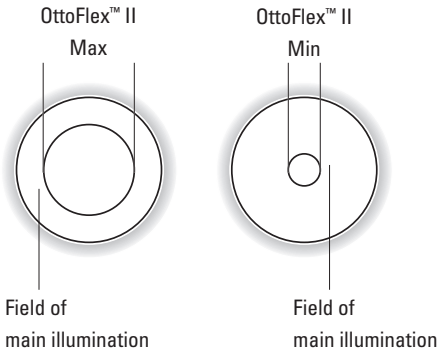
ca M820 F20

Crisp and sharp!
Leica M820 APO OptiChrome™ Optics provide the highest resolution to see even the smallest anatomical details.

Added safety for the patient, fatigue-free viewing for the surgeon!
Leica Microsystems' exclusive direct illumination system offers the best clarity, contrast, and color at safer, low-light levels.

Double beam stereo illumination!
The unique 800-series double beam illumination system provides a stable red reflex and three-dimensional vision for the surgeon.

See More with Less Light



The Leica M820 builds on the success of the 800-series APO OptiChrome™

A sharp, crisp image is critical for all types of ophthalmic microsurgery. The proven technology of the Leica 800-series optics gives the surgeon natural color, outstanding depth of focus, and higher contrast for maximum detail recognition. The extraordinary degree of light transmission through the Leica M820 optics provides added patient safety by allowing the surgeon to use lower levels of illumination.

Double beam stereo illumination is the key

Using two bulbs and two prisms, the Leica M820 creates true, three-dimensional illumination. The surgeon can quickly and accurately complete the surgical procedure because of the highly defined view seen through the microscope. Direct halogen illumination projects a crisp, sharp, and homogenous image – even at low light levels.

An extra boost for difficult visualization

OttoFlex™ II, an integrated independent illumination system, gives a brilliant red reflex even in low light conditions. Difficult anatomical conditions, such as small pupils or very advanced cataracts, are more easily visualized through this unique system. Continuously adjustable from 4 – 35 mm diameter, the OttoFlex™ II places the brightness where the surgeon needs it most.

Take Control

Two-in-One display, control unit mode (above), and video mode (below)

Simple, straightforward control

The touchscreen control unit provides many innovative features, and is very user friendly for the operating room staff. Up to 30 different users can input their individual, customized settings so the microscope is ready for each surgeon's individual needs.

The unique StepCycle™ for more efficient surgical procedures

Different levels of light, focus, and zoom are used during a typical surgical procedure. Each time the surgeon makes these adjustments, precious time is wasted. With StepCycle™, the surgeon can program predefined settings into the microscope. Throughout the surgical procedure, a touch of the button on the foot control will make fast, accurate adjustments.

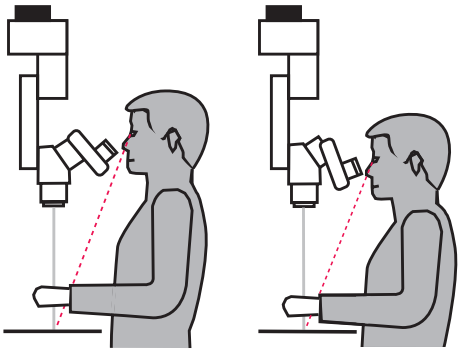
Real time video is conveniently located on the microscope

With one touch of a button, the Leica M820 control unit's display becomes a general use, real-time video monitor. Conveniently located on the microscope, the operating room staff can watch the ongoing surgical procedure without bringing a separate video cart into the room.

More accuracy at higher magnification

Enjoy sharp images thanks to the focus and the XY-positioning being dynamically linked to the magnification. In other words, as magnification increases, the drive-speeds of the focus and the XY-unit decrease simultaneously and vice versa. This function allows to avoid overrun of the correct focus plane and of the surgical field.

Widest Range of Ergonomic Accessories to Ensure Comfort



A Surgeon can choose the binocular for individual comfort needs

Largest selection of binoculars for individual needs

The physical comfort of the surgeon and assistant are important to the success of any surgical procedure. Since no two people are alike, having a wide choice of binoculars and objective lenses to choose from is very important. Leica Microsystems provides the largest selection of interchangeable binoculars from any microscope company. Newest to the line are the UltraLow™ II, which drop lower than conventional binoculars to compensate for stacking auxiliary accessories on the optics.

Going temporal? Swing around…

For those surgical procedures where an assistant is needed, especially with the growing number of temporal approach cataract surgeries, Leica Microsystems proudly presents the world's first two-beam path solution – the Leica Rotatable Beamsplitter. The easy side-to-side quick change of the assistant observer optics saves time between cases, increases efficiency in the operating room, and minimizes potential damages to the binoculars. Also the interface for the Leica Video Adapter is conveniently placed at the rear for maximum flexibility.

Leica Rotatable Beamsplitter
Leica M820 with Video Adapter at the rear, and rotatable assistant microscope tube

Binocular Tubes
Perfect ergonomics in every situation

Easy to Use from Start to Finish

Clean floor stand design with AgProtect™
This antimicrobial nano silver (Ag) coating reduces pathogens on the microscope and their transfer to the users.

Leica F20 compact floor stand, maneuverable and affordable
The Leica F20 floor stand has an exceptionally small foot print. Its long reach and slim solid metal construction make the Leica M820 F20 very convenient in the limited space of today's operating rooms. Pivot points give the Leica F20 easy maneuverability with knobs that adjust using friction.

Auto Reset and the microscope is ready for the next case
When the surgeon pushes the swing arm up and away from the operating table after each procedure, all the microscope functions are automatically reset. Now the microscope is ready for the next surgical case. The staff does not need to remember to reset the system before the next case, which saves time and provides peace of mind for staff and surgeon.

Choice of foot switches for many functions
Leica Microsystems offers three foot switch styles to meet the needs of all users. Standard functions, such as XY, zoom, focus, and illumination can be controlled from three choices. The 16-function cross pedal gives the user four additional options for individual tasks, such as inverter usage, StepCycle™ or the room light function. Additionally, the surgeon can now choose between a wired or a wireless foot switch.

The wide selection of foot switches fulfills any ergonomic need.

Leica Wireless Footswitch
Using ISM bandwidth technology, it offers maximum mobility for a fast and easy switch between left and right eye procedures.

Flexibility for Individual Needs

Leica M820 with Leica Zoom Video Adapter

Leica M820 controlling
Oculus SDI/BIOM system

Leica Slit Illuminator

Your choice of documentation

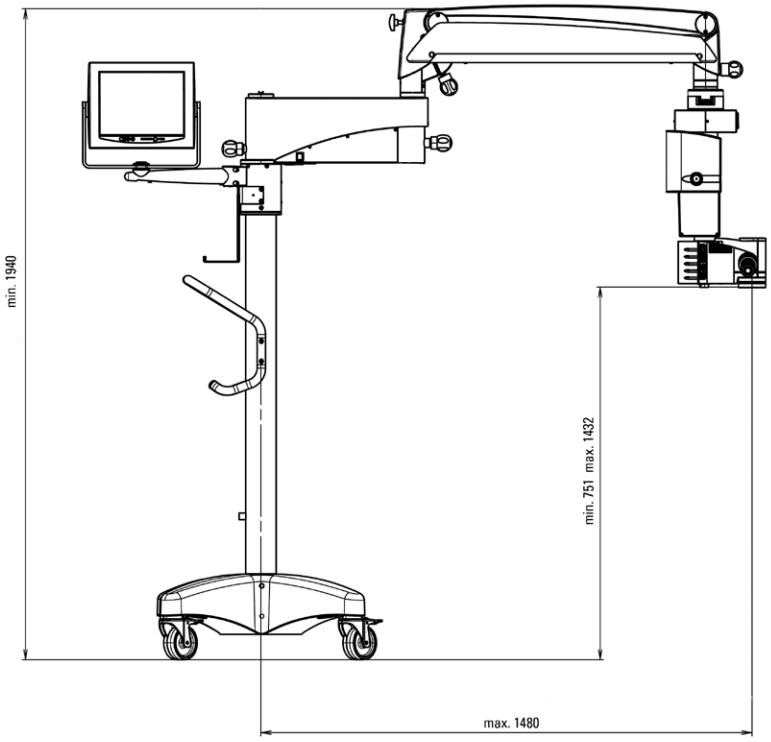
All the latest documentation options are available with the Leica M820. The Leica MDRS4 digital recording system, as well as many other commercially available digital video systems can be easily interfaced. Even classic, 35 mm photography can be performed.

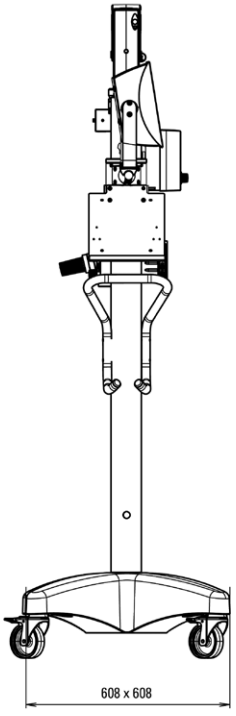
The unique Leica Zoom Video Adapter

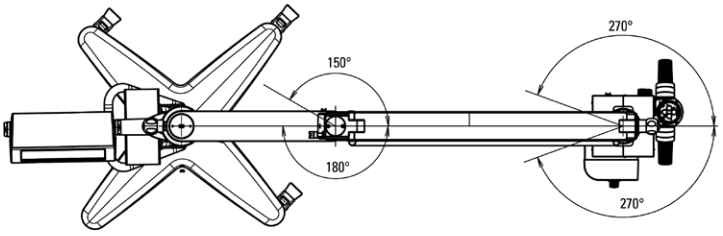
The Leica Zoom Video Adapter has a 3× optical zoom, which gives the surgeon full freedom to adjust the monitor image for observers without affecting the surgeon's view. The monitor image can also be independently focused both before and during surgery by an easy-to-reach, fine focus adjustment knob, which can be covered by a sterilizable cap.

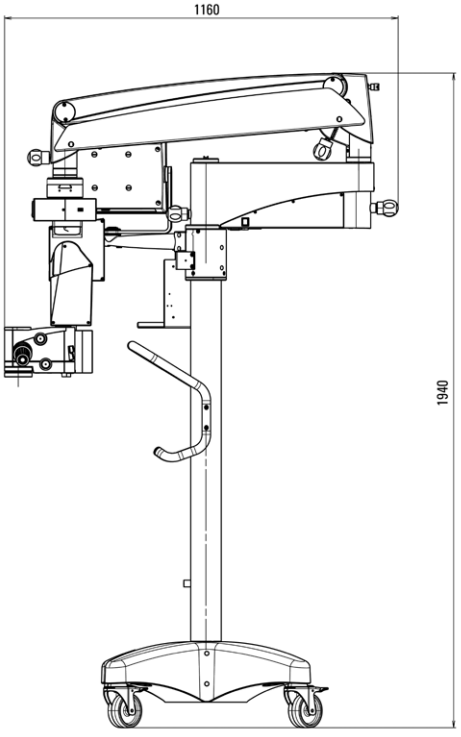
Interface for retinal procedures

The Leica M820 is designed to accept the most commonly used wide-angle observation systems and stereo image inverters. For the Oculus SDI/BIOM electronic inverter system, the surgeon can control its functions through the Leica 16-function foot switch. For surgeons who want to use the precision surgical slit lamp from Leica Microsystems, attachment to the Leica M820 is quick and easy. Laser shutters and laser filters can also be easily integrated.









Dimensions in mm

Leica M820 F20 Technical Data

Electrical data	
Power supply	100 – 240 VAC (±10%), 50/60 Hz
Power consumption	250 VA
Classification	Class I

Microscope Leica M820	
Magnification changer	APO-Zoom 6:1, motorized, with 2 separate beam paths
Magnification	3.5× – 21× (WD 175 mm, 10× eyepieces)
Optics	APO-chromatic corrected optics
Field diameter	7 mm – 80 mm
Working distance	175 mm, 200 mm and 225 mm
Focus range	54 mm, motorized, with automatic reset
Eyepieces	Widefield eyepieces for eyeglass wearers (8.33×, 10×, 12.5×)
	Dioptric setting ±5 with adjustable eye cup
Objectives	Leica OptiChrome™, WD 175 mm, APO
	Leica OptiChrome™, WD 200 mm, APO
	Leica OptiChrome™, WD 225 mm, APO (WD = working distance)

Illumination	
Quick-change lamp mount	With two 12 V / 50 W halogen lamps
Filters	IR-barrier filter, UV-barrier filter, two built-in filter holders for optional filters

Stand Leica F20	
Type	Floor stand with 3 friction brakes
	Alternatives: Floor stand F40 with electromagnetic brakes, Ceiling mount C40 or Telescope mount CT40
Balancing	Continuously adjustable gas spring
Load	Max. 11.5 kg accessories attached to the microscope
Reach	Max. 1480 mm
Vertical range	650 mm
Transport height	Min. 1940 mm
Weight	Approx. 270 kg as a fully configured system
XY-unit	Motorized, movement range 50 × 50 mm, with automatic reset
Tilt mechanism	Motorized, +15° / –50°
Hand / foot switches	16- or 12-function foot switch with controls arranged longitudinally or transversally, wired or wireless
	12-function hand switch

Control unit	Two-in-one display: control and video display in one. The latest electronic control for the continuous governing of all motor functions and the light intensity. Data shown by means of LCD, with adjustable contrast and brightness. Operation by modern touch-panel control. ISUS™ Intelligent SetUp System, menu selection based on unique software for user specific configuration, with built-in electronic auto-diagnosis and user support.

Accessories Leica M820	
Assistant attachment	Stereo assistant attachment
Beamsplitter	50/50% or 70/30%
TV / Photo	Leica 2D video systems
	Leica MDRS4 digital recording system
	Leica Zoom Video Adapter (VA) f = 35 – 100 mm, Manual VA 55/70 mm, Remote VA 55/70 mm
	Photo/TV dual attachement: f = 60/85/107 mm for TV, f = 250/350 mm for 35 mm camera
	Photo tube f = 250/350 mm
Wide-angle observation	BIOM, EIBOS
Inverters	AVI, SDI, OIVSL, ROLS
Laser	Can be fitted, adapters available from laser suppliers
Slit lamp	Motorized travel ±23°, slit width 0.01 – 15 mm, length 3 – 15 mm, Rotatable 180°, quick lamp-changer, made by Leica Microsystems
Asepsis	Sterilizable components for all drive knobs, commercially available drapes

Standards
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. 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.

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“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

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and representatives in more than 100 countries

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Leica M820 F40

Premium Performance for Best Results

Microscope for Ophthalmic Surgery

Living up to Life

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Technical Data Leica M820 F40

Electrical data	
Power supply	100 – 240 VAC (±10%), 50/60 Hz
Power consumption	300 VA
Classification	Class I

Microscope Leica M820	
Magnification changer	APO-Zoom 6:1, motorized, with 2 separate beam paths
Magnification	3.5× – 21× (WD 175 mm, 10× eyepieces)
Optics	APO-chromatic corrected optics
Field diameter	7 mm – 80 mm
Working distance	175 mm, 200 mm and 225 mm
Focus range	54 mm, motorized, with automatic reset
Eyepieces	Widefield eyepieces for eyeglass wearers (8.33×, 10×, 12.5×)
	Dioptric setting ±5 with adjustable eye cup
Objectives	Leica OptiChrome™, WD 175 mm, APO
	Leica OptiChrome™, WD 200 mm, APO
	Leica OptiChrome™, WD 225 mm, APO (WD = working distance)

Illumination	
Quick-change lamp mount	With two 12 V / 50 W halogen lamps
Filters	IR-barrier filter, UV-barrier filter, two built-in filter holders for optional filters

Stand Leica F40	
Type	Floor stand with 4 electromagnetic brakes
	Alternatives: Ceiling mount C40, Telescope mount CT40 or Floor stand F20 with friction brakes
Balancing	Continuously adjustable gas spring
Load	Max. 12.2 kg accessories attached to the microsope
Reach	Max. 1492 mm
Vertical range	846 mm
Transport height	Min. 1949 mm
Weight	Approx. 330 kg as a fully configured system
XY-unit	Motorized, movement range 50 x 50 mm, with automatic reset
Tilt mechanism	Motorized, +15° / –50°
Hand / foot switches	16- or 12-function foot switch with controls arranged longitudinally or transversally, wired or wireless
	12-function hand switch
Control unit	Two-in-one display, control and video display in one. The latest electronic control for the continuous governing of all motor functions and the light intensity. Data shown by means of LCD, with adjustable contrast and brightness. Operation by modern touch-panel control. ISUS™ Intelligent SetUp System, menu selection based on unique software for user specific configuration, with built-in electronic auto-diagnosis and user support.

Accessories Leica M820	
Assistant attachment	Stereo assistant attachment
Beamsplitter	50/50% or 70/30%
TV / Photo	Leica 2D video systems
	Leica MDRS4 digital recording system
	Leica Zoom Video Adapter (VA) f = 35 – 100 mm, Manual VA 55/70 mm, Remote VA 55/70 mm
	Photo/TV dual attachement: f = 60/85/107 mm for TV, f = 250/350 mm for 35 mm camera
	Photo tube f = 250/350 mm
Wide-angle observation	BIOM, EIBOS
Inverters	AVI, SDI, OIVSL, ROLS
Laser	Can be fitted, adapters available from laser suppliers
Slit lamp	Motorized travel ±23°, slit width 0.01 – 15 mm, length 3 – 15 mm, Rotatable 180°, quick lamp-changer, made by Leica Microsystems
Asepsis	Sterilizable components for all drive knobs, commercially available drapes

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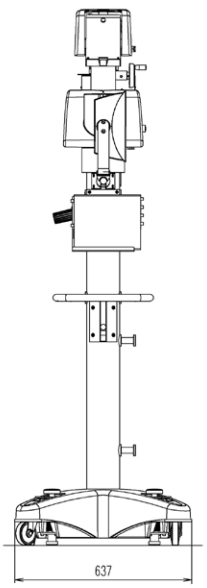

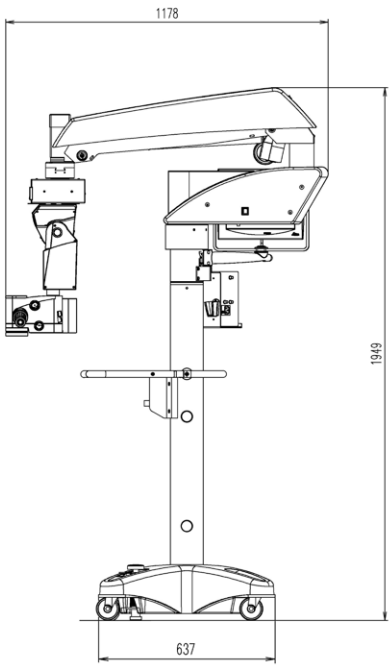

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