

From Eye to Insight

Leica
MICROSYSTEMS



Surgical microscope for anterior and posterior segment surgery

SEE WELL.
PERFORM WELL.

M822 ophthalmic microscope



Optimal visualization

Rely on sharp, high-contrast images with an optimally illuminated field of view, e.g., during cataract surgery, for efficient, precise, and safe procedures.

Pages 4–5

Comfort and versatility

Work ergonomically and feel better thanks to the M822 and its accessories. The flexible system gives you the freedom to adapt its set-up easily for other surgeries.

Pages 6–7

Uninterrupted workflows

Set up the microscope quickly and work seamlessly with preprogrammed settings during complete procedures. The M822 will support your clinical workflow from start to finish.

Pages 8–9

SEE WELL. PERFORM WELL.

M822 ophthalmic microscope

Images of natural color, great depth of field, and high contrast are crucial for successful ophthalmic surgery. The M822 ophthalmic surgical microscope from Leica Microsystems allows you to always see well, in both anterior and posterior eye surgeries, thanks to its optimal visualization, based on premium Leica optics, and its dual illumination system.

Designed with your comfort in mind, the M822 offers a wide range of ergonomic binocular tubes, which allow you to tailor the microscope to fit your physique. In addition, the M822 is versatile and interfaces with a wide assortment of viewing systems and accessories, helping you to perform a variety of eye surgeries.

With dedicated microscope functions for smooth setup and operation, the M822 allows you and your team to work very efficiently, especially during setup between surgeries. Preprogrammed settings and special functions support you to perform precise and safe eye surgeries with an uninterrupted workflow, time and time again.



“The daily challenge in my anterior segment surgeries is being able to see well, because seeing well equals performing well.

What I particularly like about the M822 is the outstanding and very stable red reflex that leads me reliably through surgery. Especially in complex cases, e.g., in cataracts with an opaque cornea, I can see all the details of the anterior chamber sharply thanks to the bright and homogenous illumination.”

Professor Luigi Fontana,
MD, PhD, Director of the Department of Complex
Ophthalmology, Sant’Orsola Hospital, Bologna, Italy

OPTIMAL VISUALIZATION

Rely on sharp, high-contrast images with an optimally illuminated field of view during your cataract surgery for more efficiency, precision, and safety.



The M822 combines high transmission Leica optics and a dual illumination system with LED main illumination and Halogen coaxial illumination.

The result: finely adjustable illumination levels to achieve optimal visualization for any procedure.

Work with a brilliant and stable red reflex

Throughout all steps of cataract surgery, you can rely on an incredibly stable red reflex of impressive quality. The built-in OttoFlex coaxial illumination by Leica Microsystems has been designed to visualize smallest cortical fragments clearly, especially when operating with low levels of light. Even if the patient's eye moves intraoperatively, e.g., during phacoemulsification, the red reflex stays stable.

See crucial details under low light levels

Highly transmissive apochromatic optics paired with the dual illumination system of the M822 make for astounding image quality during low light operation. You benefit from higher viewing comfort as your eyes tire less and as you can see a more natural image with reduced corneal glare. Since low light levels are less uncomfortable and stressful for your patient, you will experience better patient collaboration. Also, the risk of phototoxicity can be managed better.

Reduce light intensity quickly for more safety

Effortlessly activate the Retina Protection function during lens preparation via the footswitch or control panel to automatically reduce light intensity. The intensity of the main light is reduced to 10% and the red reflex light is reduced to 20%. Once deactivated, the previous setting is reinstated.



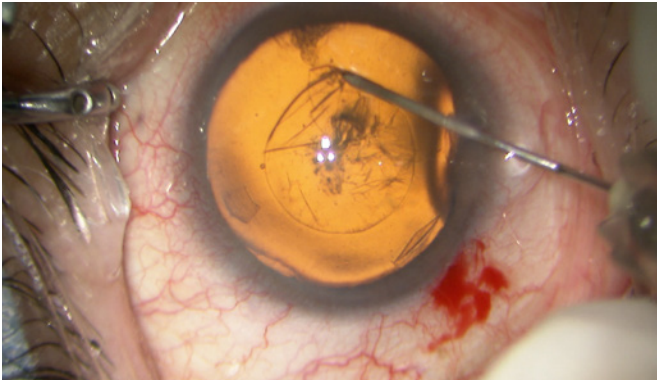
What does direct illumination mean?

In Leica ophthalmic microscopes, such as the M822, the light source is directly in the optics carrier. In many other systems, the light source is built into the microscope stand and the light is guided into the optics carrier via fiber-optic cables.

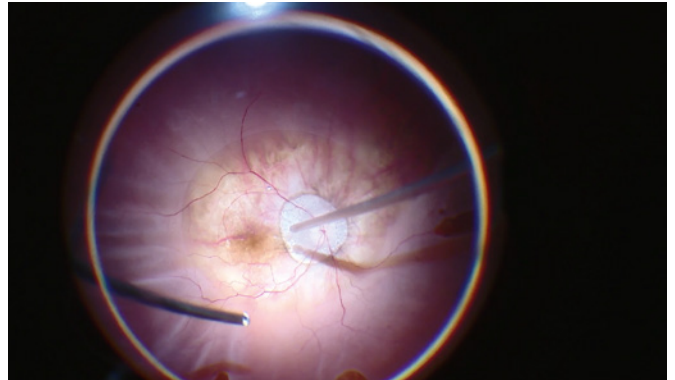
What are the advantages of direct illumination?

- > Low maintenance cost: Fiberoptics can lose light intensity over time, as the fibers can break due to movement. No fiberoptics mean less money spent.
- > Low light levels: Thanks to the light source very near to the operating field and the high-transmission Leica optics, surgeons can keep light levels down, but still see clearly.
- > Low stress levels: Less light needed in eye surgeries directly translates to more patient and surgeon comfort.

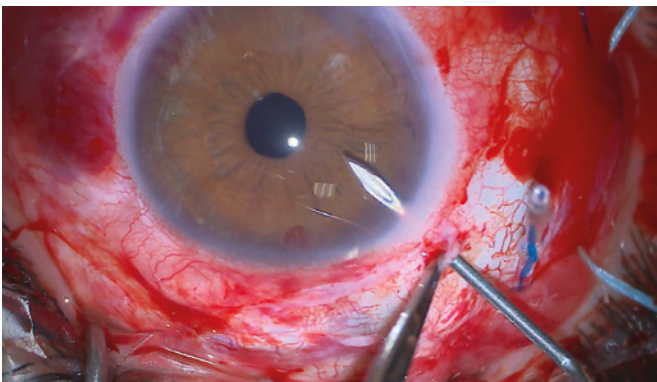
SEE WELL IN ...



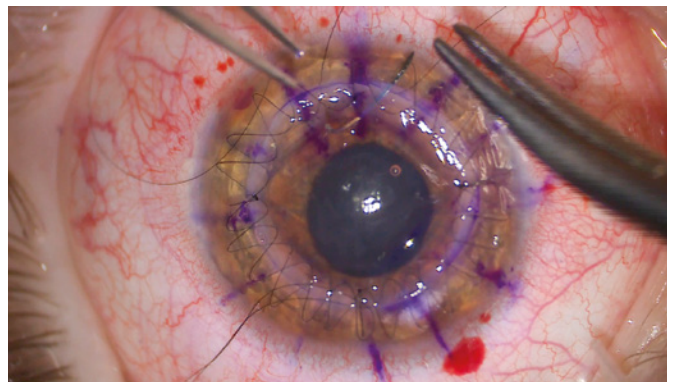
... **CATARACT SURGERY** with finely adjustable light levels for your and your patient's needs



... **RETINA SURGERY** with Leica optics for great depth of field and easy-to-use wide-angle viewing systems



... **GLAUCOMA SURGERY** with a tilted optics carrier for a bright and highly magnified view of the Schlemm's canal



... **KERATOPLASTY SURGERY** with bright LED illumination for a detailed view of the donor tissue



COMFORT AND VERSATILITY

Work comfortably, feel better

Benefit from a large selection of ergonomic binocular tubes to tailor the M822 ophthalmic surgical microscope to your physique, allowing you to work comfortably, in a relaxed position. Natural posture and fluid movement can mean less tension, less fatigue, and uninterrupted concentration.



Inclined binocular tube with 45° angle

Work in comfortable standard position with a fixed 45° viewing angle.



Inclinable 5°–25° binocular tube

Enjoy working more ergonomically with a tiltable viewing angle from 5–25°.



Binocular tube for 0°–180° movement

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



10°–50° UltraLow III binocular tube

Work in a more compact position with your body and arms closer to the operating field.

Adaptable microscope for many procedures

Using one microscope for cataract and vitreoretinal surgery is an economical approach. The M822 can easily be changed from one setup to another. It has mechanical and electronic interfaces to accept and easily mount a wide range of accessories — now and in the future. This flexibility can help to improve workflow, support better surgical outcomes, and allows you to adopt new surgical techniques. Last but not least it makes for a smart long-term investment.

- > RUV 800: retinal wide-angle viewing system with an integrated inverter
- > BIOM 5 and SDI 4 from OCULUS: wide-angle observation system and stereoscopic diagonal inverter
- > Toric EyePiece: cost-effective, easy to use, time-saving aid for toric IOL placement

The M822 is also mechanically compatible with Verion image guided systems and NGENUITY 3D visualization systems from Alcon, as well as laser protection filters from various suppliers.

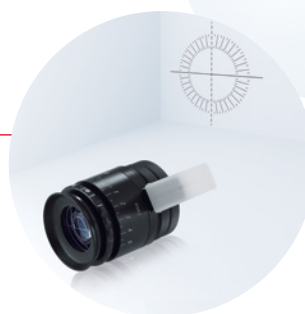
RUV800



OCULUS SDI 4 / BIOM 5



Toric EyePiece



Choose what best fits your needs

Leica Microsystems offers two floor stands and one ceiling mount for the M822, so that you can select the optimal setup for your OR. The M822 optics carrier can be combined with two interchangeable floor stands. This allows you to upgrade the microscope conveniently and cost-effectively according to changing surgical requirements.



The M822 ophthalmic microscope with the F20 floor stand with mechanical friction brakes and 27-inch microscope-mounted 4K monitor



The M822 ophthalmic microscope with the F40 floor stand with electromagnetic brakes and 27-inch microscope-mounted 4K monitor



The M822 CT40 space-saving telescope ceiling mount

UNINTERRUPTED WORKFLOWS

Set up the microscope quickly and work seamlessly with preprogrammed settings during complete procedures. The M822 will support your clinical workflow from start to finish.

Simple and versatile control

The user-friendly touchscreen control unit offers intuitive control of all microscope functions. Up to 30 surgeons can set their individual preferences, so the microscope is always ready for each surgeon.

Intuitive graphical user interface for all microscope settings



Quickly ready for temporal approach in cataract surgery

Effortlessly change the assistant binocular tube from side-to-side in cataract surgery. This saves time between cases and increases efficiency in the operating room.



Rotatable beam splitter

Seamless progress through surgery

StepCycle allows surgeons to program and switch between predefined settings such as illumination, focus, and zoom for each step of a procedure. They can select these presets using the footswitch, which saves time and keeps their hands free for uninterrupted work.

Wireless footswitch for 12 or 14 functions plus four additional freely programmable microscope or accessory functions



Efficient processes in the OR

When the surgeon pushes the swingarm up and away from the operating table after a procedure, all microscope functions automatically reset. The microscope is then ready for the next operation. The staff does not need to reset the system beforehand, which saves time between procedures and makes work easier.



Auto Reset for the next operation



Record and share easily

The M822 is designed to provide outstanding image quality both through the eyepieces and to the camera. When you integrate the HD C100 medical video camera into your M822, you have an ideal system for capturing and displaying your surgeries in brilliant High Definition.

You can easily display the live image on an external monitor to share the view with your entire OR team in addition. You can also take images and record videos in full HD quality and then export them to a PC.

If you need to document your surgeries comprehensively, you can use the M822 with the EVO 4K video recording and documentation system from Med X Change allowing for more detailed case documentations.



The HD C100 digital medical video camera from Leica Microsystems supports workflow efficiency. Easily set up recording and optimize images at any time using the one-touch control button or the optional IR remote control — without interrupting workflow.

TECHNICAL SPECIFICATIONS

ELECTRICAL DATA: POWER SOCKET AND CONSUMPTION

M822 F20 floor stand	100–240 V ($\pm 10\%$), 50/60 Hz, 400 VA
M822 F40 floor stand	100–240 V ($\pm 10\%$), 50/60 Hz, 550 VA
M822 CT40 ceiling mount	100/120 V, 60 Hz, 1500 VA and 220/240 V, 50 Hz, 1400 VA
Protection class	Class 1

MICROSCOPE: OPTICS

Magnification changer	APO-Zoom 6:1, motorized, with 2 separate beam paths
Magnification	3.5 $\times$ – 21 $\times$ (WD 175 mm, 10 $\times$ eyepieces)
Optics	OptiChrome optics, apochromatically corrected for high contrast, brilliant colors, crisp definition, and outstanding resolution
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 $\times$, 10 $\times$, 12.5 $\times$) Dioptric setting ± 5 with adjustable eye cup
Objective	OptiChrome, WD 175 mm, APO
(WD = working distance)	OptiChrome, WD 200 mm, APO
	OptiChrome, WD 225 mm, APO

MICROSCOPE: ILLUMINATION

Main light	Integrated LED illumination system for intensive, uniform illumination of the field of view.
Coaxial red reflex illumination	The two precision-formed halogen bulbs 12 V / 50 W of the OttoFlex illumination generate a clear and stable red reflex, decreasing stray light through the sclera and increasing image contrast. Lamps can be changed effortlessly and quickly.
Retina Protection Function	Reduce the main light intensity up to 10% and OttoFlex up to 20%. When the user deactivates the function, the light intensity will go back to previous intensity.
Filter	Built-in UV-protection, 400 nm

F20 FLOOR STAND

Coating	Coated with antimicrobial paint
Type	Floor stand with 3 friction brakes
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. 330 kg as a fully configured system
XY-unit	Focus operation motorized, 50 mm $\times$ 50 mm, with automatic reset
Tilt mechanism	Motorized, +15° / –50°
Footswitch	14- or 12-function wireless footswitch with cross pedals
Control unit	> User-friendly, individually programmable touchscreen (up to 30 surgeons) for control of motor functions and light intensity > Menu selection based on unique software for user-specific configuration > Built-in electronic auto-diagnosis and user support > Software-independent hard keys and indicator for illumination Data shown by means of LCD

F40 FLOOR STAND, CT40 TELESCOPE CEILING MOUNT

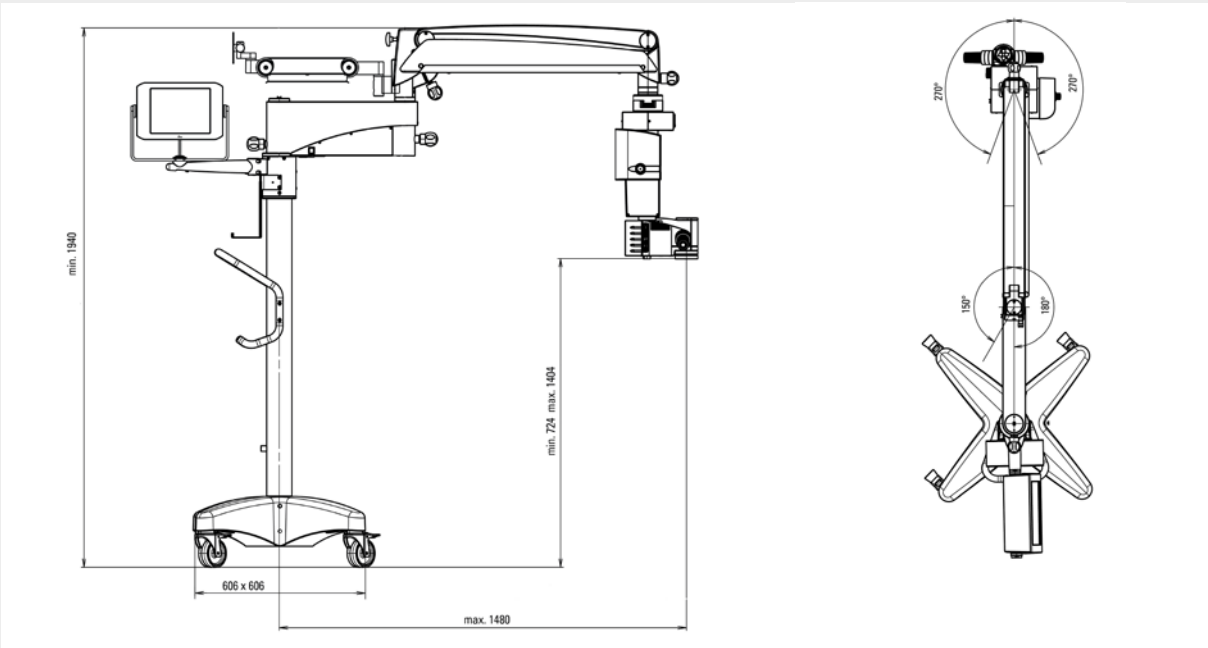
Coating	Coated with antimicrobial paint
Type	Floor stand with 4 electromagnetic brakes
Balancing	Continuously adjustable gas spring
Load	Max. 12.2 kg accessories attached to the microscope
Reach	Max. 1492 mm
Vertical range	846 mm
Transport height	Min. 1949 mm
Weight	Approx. 330 kg as a fully configured system
XY-unit	Focus operation motorized, 50 mm $\times$ 50 mm, with automatic reset
Tilt mechanism	Motorized, +15° / –50°
Footswitch	14- or 12-function wireless footswitch with cross pedals
Control unit	Please see information provided in previous column under F20

ACCESSORIES

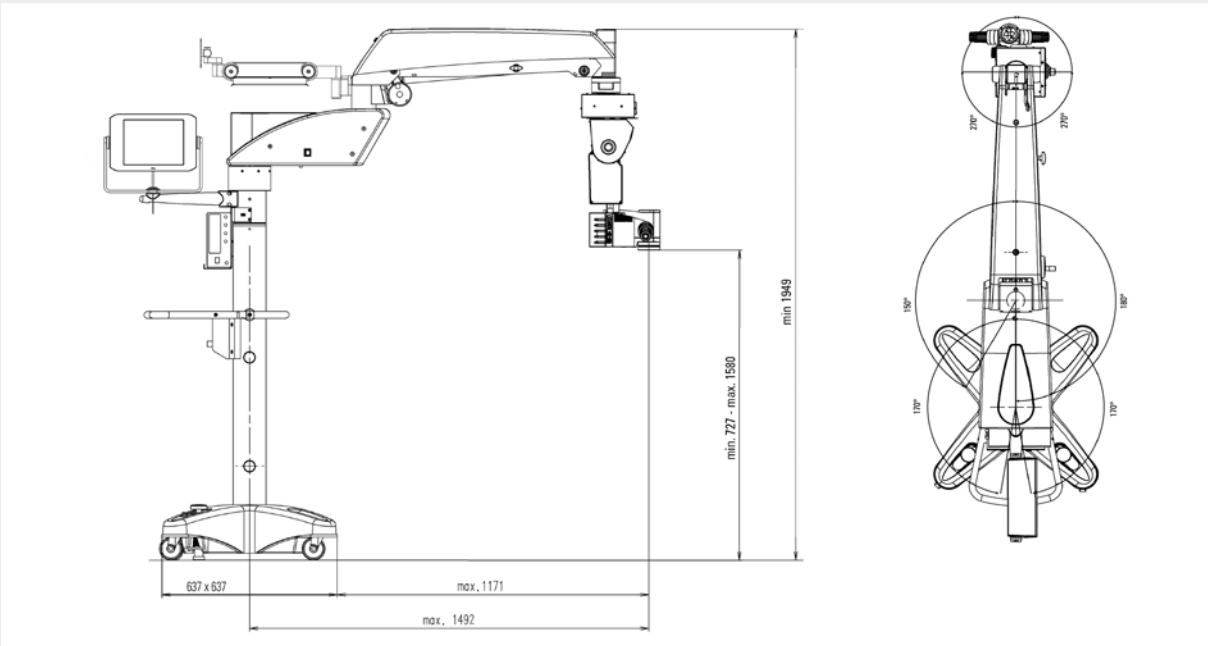
Assistant attachment	Stereo assistant attachment
Beam splitter	50% / 50%, 70% / 30%, rotatable beam splitter
Video camera	Digital medical camera system: HD C100 for HD-quality imaging
	Leica Manual Video Adapter (MVA): focal length f = 55 mm, 70 mm, 107 mm; c-mount port; manual fine focus
	Leica Remote Video Adapter (RVA): focal length f = 55 mm, 70 mm, 107 mm; c-mount port; manual fine focus
	Leica Zoom Video Adapter (ZVA): 3:1 zoom, focal length f = 35 mm – 100 mm; c-mount port; manual fine focus
Wide-angle observation system	RUV800, BIOM*, EIBOS*
Inverters (interface)	SDI*
Interface for laser adapters	Interface to fit various commercially available lasers, ask your Leica Microsystems' representative for more information
IOL placement	Toric EyePiece
Binocular tubes	Variable angle 0° – 180°
	Variable angle 10° – 50° UltraLow III
	Variable angle 10° – 50°
	Variable angle 5° – 25°
Footswitch	Inclined angle 45°
	14- or 12-function wireless footswitch with cross pedals
Asepsis	Sterilizable protective glass for the objective, sterilizable components for all drive knobs, commercially available drapes
Documentation	DICOM integration only via EVO 4K video recording and documentation system from Med X Change*
Mechanical compatibility	Verion image guided system and NGENUITY 3D visualization system from Alcon, as well as laser protection filters from various suppliers

* Accessories from third party manufacturers

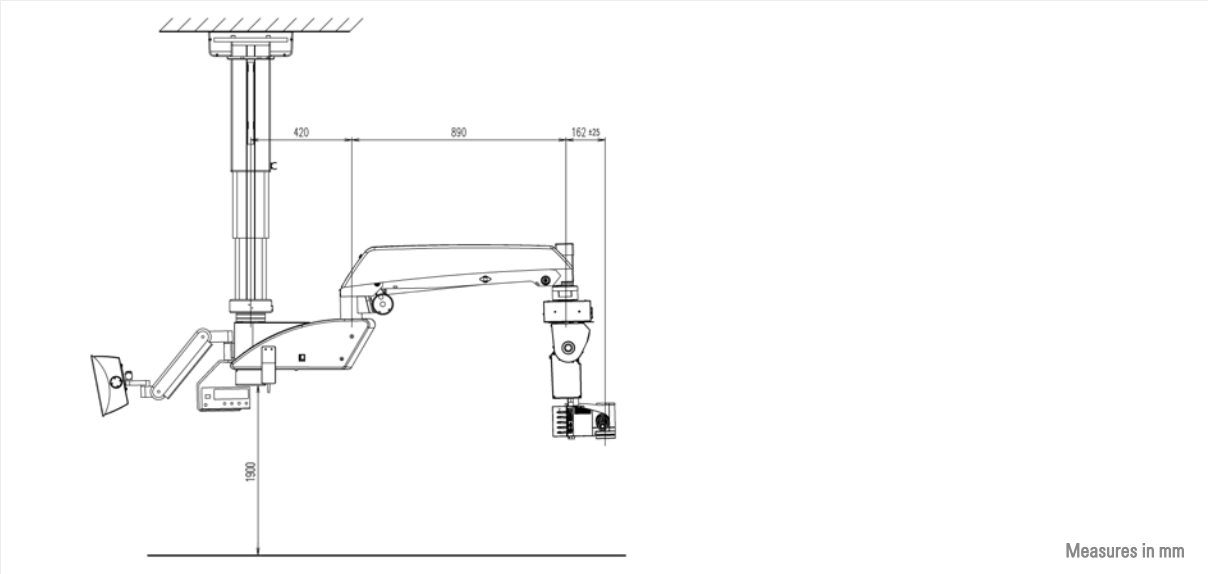
M822 F20



M822 F40



M822 CT40





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Class I surgical microscope M822

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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