



Leica M651

Manual surgical microscopes for microsurgical disciplines

Living up to Life

Leica
MICROSYSTEMS

Microsurgery in Any Specialty

The first operations that made use of a microscope

were in ENT surgery performed by Nylén in 1921 and by Holmgren in 1923.

Otorhinolaryngology thus became the leading specialty to use microsurgical methods until, in 1949 and 1950, Ridley, Baraquer and Trautmann used a surgical microscope in eye surgery.

About 1960, neurosurgeons began to exploit the potential of surgical microscopes in their specialty. Microvascular anastomosis and microsurgical nerve sutures were the twin pillars on which microsurgery was based, and offered totally new possibilities in plastic and reconstructive surgery for restoration and transplants.

The surgical microscope has meanwhile become an indispensable tool in every surgical discipline

It has helped microsurgeons to develop new and yet more sophisticated surgical techniques and has revolutionized conventional operations. An end of this development is still not discernible.

The problem

Extensive use of surgical microscopes in the operating room calls for extreme adaptability to a vast variety of microsurgical techniques.

The solution

This is why the Leica M651 surgical microscope is designed for quick, easy adaptation to the surgeon's individual requirements. It takes little effort to adjust the stand to a wide range of basic positions, to fine-position the microscope, and to obtain fatigue-free viewing in any position. And there is a wide choice of accessories for an assistant or a second observer, for photography, closed-circuit television, and videorecording. Various types of laser can be used.

The problem

In ear surgery, the operating area is so small that a surgical microscope is essential to make manipulation possible.

The solution

Leica M651 surgical microscopes have built-in coaxial lighting for bright, uniform illumination of the entire operating area even when the operating canal is extremely narrow. The straight binocular tube ensures a comfortable viewing position on the inclined instrument. The long second-observer tube can be positioned for maximum convenience.



Total Adaptability to Different Surgical Techniques

In many clinics, a surgical microscope is used by different surgeons for a variety of microsurgical tasks. This is why the Leica M651 surgical microscope is designed to be adapted quickly and simply to changing needs.

The most important variable components are:

- Microscope carrier and tiltable joint for positioning according to the job in hand
- Binocular tubes for fatigue-free posture
- Range of objectives for various working distances/focal length.



Perfect adaptation of basic position

Perforated-disk couplings permit a wide range of swingarm configurations.

In the horizontal position, the stand can be used to the full extent of its cantilever range. An additional joint allows you to move the microscope at rightangles to the microscope carrier.

In the mid-position the microscope is extremely mobile.

100 mm to 400 mm focal length

Interchangeable objectives give a choice of ten carefully matched focal length, magnifications, and field diameters.

Precise fine adjustment

Tiltable joint and microscope carrier provide full 360° of movement and ensure accurate positioning in both the vertical and horizontal planes. The drive permits precise fine positioning.

Perfect viewing comfort

A large choice of binocular tubes ensures a comfortable posture in any of the wide variety of instrument positions. The eyebase is adjustable from 52 mm to 76 mm. Inclined and straight tubes are available with or without a double-iris diaphragm and with or without a drive head for eyebase adjustment.

Ideal for different surgical tasks and for neurosurgery

Because the surgeon frequently alters the microscope's position, a 0°–180° variable-angle binocular tube is preferred.

For ophthalmology

The surgeon uses an inclined binocular tube with low viewing height when working with the horizontal surgical microscope.



For otorhinolaryngology

The surgeon uses a straight tube when working with the inclined surgical microscope.

Leica M651 – for the Operating

The Leica M651 surgical microscope simplifies the surgeon's difficult task. Its ergonomic design, ease of use, and excellent mobility fit smoothly into operating-room routine.

You can use the high-quality Leica M651 surgical microscope for examining patients in your surgery, but it is also the perfect instrument for training and for the laboratory.



Large magnification range

The Leica M651 surgical microscope has a five-step magnification changer, with steps for 6×, 10×, 16×, 25×, and 40× magnification.

Ergonomic design

The surgical microscope's ergonomic design and the logical layout of its easy-grip controls ensure fast routine reactions. The magnification changer and focusing drive are placed low down to make the distance to the operating area as short as possible. The easy-to-reach focusing controls remain securely in the same position.

Uniform coaxial illumination

A built-in quartz-halogen illuminator and a sophisticated system of collector lenses produce a very bright, uniformly illuminated field of view. The brightness is continuously adjustable. The filter slide can accommodate two filter mounts, for a UV barrier filter, and daylight, green, or grey glass filters, as required.

Microscope for two-surgeon team

The Leica M651 with 180° dual stereo attachment provides ideal conditions for back surgery, plastic surgery, gynaecology, and urology.

Fingertip focusing control

The focusing drive has a 50 mm range, with a mid-range indicator that simplifies setting-up the surgical microscope before the operation. You can adjust the braking resistance to the exact amount you need regardless of any of the special accessories fitted.

Room, the Doctor's Surgery, and the Laboratory



Leica M651
with 180° dual stereo attachment

Leica M651
training microscope



Brilliant Image Quality

The high-performance optical and illumination system produces an image of superb contrast, outstanding color fidelity, and perfect definition.

The instrument's large, extremely bright, evenly illuminated field, the excellent spatial image and generous depth of field ensure the best possible conditions for difficult surgical procedures performed under the microscope.

The Leica M651 surgical microscope also proves the outstanding optical quality and precision in lengthy procedures. High-quality optical components, adjusted with the utmost precision, ensure fatigue-free relaxed working conditions.

Excellent light quality

Built-in coaxial lighting illuminates the operating area brightly and evenly. The steep angle allows deep penetration by the light beam even when there is only a very small opening, and prevents shadows forming when you are working with instruments. A quickchange slide permits a fast, safe bulb change from outside.

For ophthalmology

The light intensity can be reduced with a regulating knob and interchangeable filters if necessary.

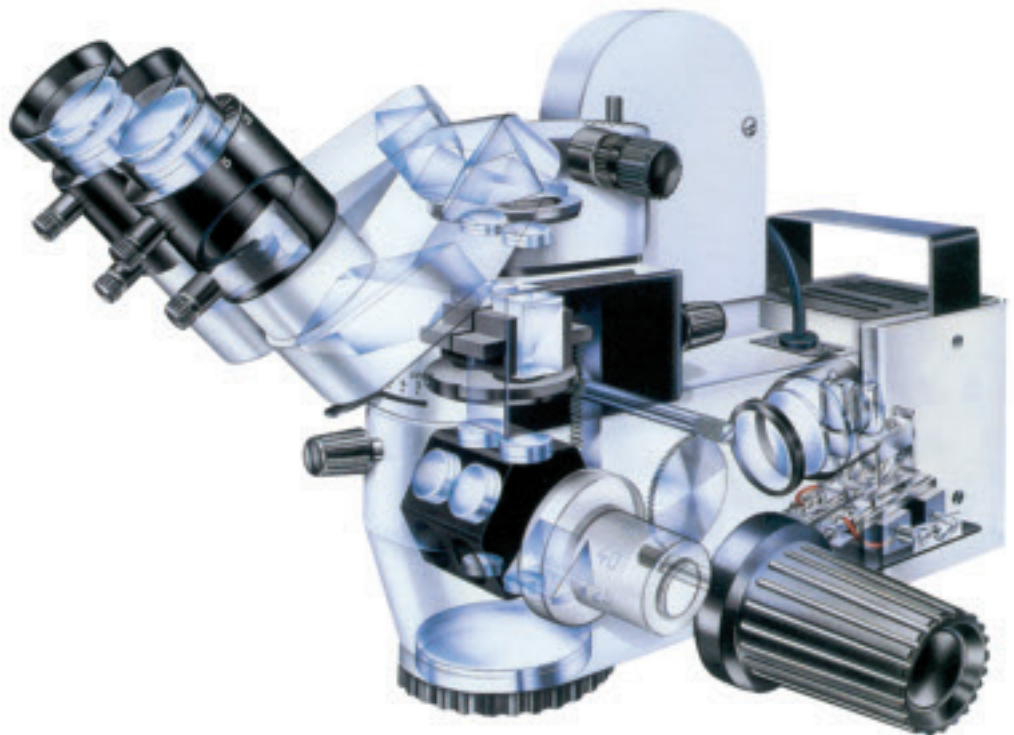
Leica M651 surgical microscopes have a unique depth-of-field range.

Operate with or without your glasses

Wide-field 10×, 12.5×, and 25× spectacle wearers' eyepieces give greater magnification without changing the working distance. Other features are variable eye contact and continuous dioptric adjustment from +5 to -5 diopters.

Sterility

Sterile handles and caps are available for all manually operated controls. Sterile covers that protect the entire surgical microscope and accessories are commercially available.



Stands

for Every Application



Leica floor stands and ceiling mounts are extremely mobile and easily maneuverable. That's why Leica M651 surgical microscope fit perfectly into any surgical routine. The microscope can be moved quickly to the operating area, positioned effortlessly in all three dimensions, and moved out of the way again just as easily. The integrated counterbalance system and sophisticated precision braking of the joints can be precisely adjusted to ensure that the surgical microscope stays in position exactly where you want it.

Mobile floor stand

- 1.40 m cantilever
- Stand height 1.83 m and 2.03 m
- 360° sweep from column of stand
- Base readily maneuverable
- Extremely stable

The mobile floor stand is extremely maneuverable. It can be set up at a safe distance from the operating table and provides ample room for the entire operating team.

The 1.40 m horizontal reach of its cantilever can be used with a full complement of accessories.

Ceiling mount

- 2.40 m cantilever
- 300° sweep
- Motorized 0.60 m vertical adjustment
- Easy to install, no interference with other equipment
- Makes maximum use of available space

The large cantilever and unusual mobility make any point on the operating table accessible. The surgical microscope is easy to position and move out of the way, without interference with other equipment. The ceiling mount can be sited in accordance with the user's wishes and the location of existing equipment.

Wall mount

- 1.40 m cantilever
- Customized height
- Easy to install
- Makes maximum use of available space

The wall mount has been designed for permanent examination and treatment stations in health centers, doctors' surgeries, outpatient clinics, polyclinics, and research institutes. It saves space, leaves the floor uncluttered, and can be installed in accordance with the space available.

“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.**

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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.

