Premium Surgical Microscope

STAY FOCUSED
Leica M530 OHX
with FusionOptics
STAY FOCUSED

Focus on your patient, focus on your surgery and let the Leica M530 OHX support you to achieve the best possible outcome.

Designed to be your trusted partner in the OR, the Leica M530 OHX unites the exclusive innovation FusionOptics with a flexible, ergonomic design and customizable imaging options. Experience outstanding visualization and feel the ongoing benefits of a comfortable working position - for you and your team.

See more with optical innovations
- FusionOptics for high resolution with enhanced depth of field
- Better visibility in deep cavities
See pages 4 to 5.

Comfort and efficiency built in
- More space to work
- Full integration
- Flexible positioning for everyone
- Superior maneuverability
See pages 6 to 7.

Customizable to your needs
- Individually configurable
- Modular for changing needs
- Imaging upgrades made easy
See pages 8 to 11.

Three-in-one fluorescence
- Leica FL400 oncological fluorescence
- Leica FL800 vascular fluorescence
- Leica FL560 fluorescence
See pages 10 to 11.
SEE MORE
WITH OPTICAL INNOVATION

FusionOptics Technology
1. Two separate beam paths
2. One beam path provides depth of field
3. The other provides high resolution
4. The brain merges the two images into a single, optimal spatial image

Deep insights
Small Angle Illumination (SAI) combined with bright 400-Watt xenon light provides a concentrated light beam that penetrates to the bottom of deep, narrow cavities. The result is better illumination with less shadow. SAI provides you with more details and an improved depth perception.

FusionOptics technology combined with intelligent illumination and apochromatic optics delivers astounding image quality.

See more, refocus less with FusionOptics
Achieving depth of field and high resolution in one image has always been a challenge. Leica Microsystems has developed an innovative new approach to overcome this challenge: FusionOptics. Making use of the power of the human brain, FusionOptics technology captures different information from each of the two beam paths, delivering the highest possible resolution to the left eye and maximum depth of field to the right. The brain then easily merges the visual information into a single, optimal spatial image with amazing clarity and a significantly expanded area in full focus. A larger area in full focus also means you need to refocus less frequently, potentially enhancing your workflow efficiency. FusionOptics helps you to stay focused, in every sense of the word.

See even more, fast
Adapt the Leica M530 OHX optics to meet the requirements of your surgery and your team
- Additional 40% magnification boost with the optional Magnification Multiplier
- Fast focusing with two laser beams acting as a focusing reference to quickly provide a defined focus point for all three viewing positions (surgeon, assistant, camera)
- Independent fine focus for the rear assistant with a range of +/- 5 diopters
- A selection of binoculars all with full 360°-rotation to allow adjustment to different heights and positioning needs - no need to swap binoculars

LEICA M530 OHX OPTICS

Magnification Multiplier
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Fast focusing
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Independent fine focus
> Independent fine focus for the rear assistant with a range of +/- 5 diopters

Selection of binoculars
> A selection of binoculars all with full 360°-rotation to allow adjustment to different heights and positioning needs - no need to swap binoculars
Smooth handling
With cables routed internally and electromagnetic brakes, maneuvering is smooth and effortless, reducing the potential strain of harsh movements. For unmatched positioning flexibility the optics carrier has an extensive range of movement. Fast stabilization keeps workflow interruptions to a minimum.

Ease of use
Setting up the Leica M530 OHX is fast and simple with the intuitive touch-screen control panel. For your comfort and efficiency key functions can be controlled via handgrip, foot or mouth switches. To confirm settings just glance to the surgeon information panel above the optics carrier.

Perfect balance
The time-saving auto-balance system requires only two pushes of one button to fully balance all six axes. To quickly and accurately re-balance the microscope intraoperatively, even through a sterile drape, simply push the AC/BC button, conveniently located above the optical head.

Positioned for your comfort
> Compact optics carrier design means less distance from eyepiece to objective lens so arms can remain in a natural position and are not over-extended
> Accommodates different operating positions and body frames with a range of binoculars for main surgeon and assistant all with full 360° rotation
> The design of the optics carrier means that the opposite assistant can also achieve a comfortable upright working posture
> Market-leading 600 mm working distance allows for easy maneuvering and passing of instruments enabling the microscope to be used in spine procedures where previously only loupes could be used

COMFORT AND EFFICIENCY BUILT IN
Ergonomic working positions, smooth maneuverability and ease of use for comfort and streamlined workflow.

The Leica M530 OHX is designed to fully adapt to you and the needs of your surgical specialty. Its intelligent ergonomic features and smooth maneuverability limit physical distraction and workflow interruptions so you can stay even more focused on the critical task at hand.
The streamlined, cable-free Leica M530 optics carriers were developed with a modular Open Architecture design to allow for maximum configuration flexibility. Choose the optics carrier to best suit your surgery needs and then configure with imaging and recording options. And if your requirements change or you want to add a new imaging technology in the future, the upgrade-ready design makes it simple.

A modular yet integrated design for configuration flexibility today and in the future.

The Ultraobserver is the optimal configuration for neurosurgery, spine and plastic reconstructive surgery. Left, right and rear assistant interfaces and optional integrated Leica HD C100 camera, Leica FL800, Leica FL400 and Leica FL560 fluorescence modules offer maximum flexibility.

The compact design of the Leica IVA650 offers an ideal solution for otolaryngology and neurotology. With no opposite assistant, more light is directed to the main surgeon and side assistant for even greater visual enhancement. The integrated video adapter has a built in depth enhancer, for outstanding screen display and recording.

The top plate configuration is designed for attachment of the Leica DI C500 dual imaging color module. The Leica DI C500 allows the surgeon to inject data directly into the eyepiece, from external and internal sources, such as MRI, CT, IGS, endoscopes and Leica FL800 video sequences.

Three-dimensional view for all
Integrated TrueVision 3D visualization and recording is also available. 3D imagery can greatly enhance microsurgery education, providing staff and students with the same 3D view as the surgeon during live surgery or a seminar. With TrueVision Smart 3D built in, set-up time is minimized and OR space freed up.

Fully integrated and under control
HD 2D and 3D cameras, fluorescence modules, documentation systems and all cables are fully integrated inside the microscope. Not only does this give a sleek, clean appearance, it ensures seamless integration and flexible control via the handgrip or optional mouth and foot switches. Ready for today and tomorrow
The OpenArchitecture design of the microscope allows easy integration of systems such as the user-friendly Med X Change HDMD full HD digital recording system or Image Guided Surgery (IGS). Upgrade easily when your requirements change or when new imaging techniques or further surgical guidance applications become available.
THREE-IN-ONE FLUORESCENCE

Available with three fluorescence modes fully integrated, the Leica M530 OHX enables you to go beyond the visible.

The Leica M530 OHX can be supplied with three types of fluorescence fully integrated: Leica FL400 for oncological fluorescence, Leica FL800 for vascular fluorescence, and Leica FL560. With only a few button clicks, you can easily switch from white light to fluorescence mode or between fluorescence filters. Brilliant HD fluorescence video can be easily viewed on screen and recorded. For best viewing results, the built-in Mode Control video technology automatically optimizes the settings of specific, optional cameras according to the selected mode.

FL400 oncological fluorescence
The fluorescence module Leica FL400 for M530 is used in conjunction with 5-ALA fluorescent agent for characterization of tumor tissue in open neurosurgery.

FL800 vascular fluorescence
The Leica FL800 ULT intraoperative videovascularography module is used in conjunction with ICG fluorescent agent and allows surgeons to see blood flow through vessels in real-time during surgery.

FL560 fluorescence
The Leica FL560 module is designed to enable fluorescence observation of fluorophores with an excitation peak between ~460 nm and ~500 nm (blue) and fluorescence emission observation comprising the green, yellow, and red spectrum in a spectral band above ~510 nm.

* For all fluorescence modules: please check the status of regulatory approval for your country with your local Leica Microsystems representative.
**OPTIMAL FIELD OF ILLUMINATION**

Conventional microscope

At low magnification, the field of view at low magnification is limited. The field of view becomes narrower as the magnification increases. This can cause tissue burn if the field of view cannot be maintained.

Leica Microscope with Autobrio

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**Luxmeter for consistent lighting**

BrightCare Plus optimizes the light intensity relative to the working distance. With increased working distance, the light intensity is reduced to prevent tissue burn.

**REINFORCE PATIENT SAFETY**

Innovative illumination controls, fail safes and design features help you optimize patient safety and minimize interruptions.

**Reliable illumination system**

The Leica M530 OHX features two redundant 400-Watt xenon arc-lamp illumination systems, with independent lamps and boards. The microscope automatically switches to the second illumination system when needed.

**Maximum brightness at all times**

The efficient light transmission of the Leica M530 OHX ensures that the maximum possible amount of light is always being provided. Therefore, you can operate at safer light levels and still see more than ever before.

**Protection for team and patients**

For superior hygienic conditions the Leica M530 OHX has a special AgProtect coating. Nano silver minimizes pathogens on the microscope as well as possible transmission to OR staff.

**Stay operational**

To ensure full operability the microscope and the video have completely independent operating systems. In the rare case of a video system error, the microscope retains full functionality and surgery can continue uninterrupted.

**Efficient light transmission**

Maximum brightness

Antimicrobial nano silver coating to minimize pathogens

Separate operating systems for video and microscope

**OPTIMAL LIGHT INTENSITY**

BrightCare Plus optimizes the light intensity relative to the working distance.

Max. illumination

Max. illumination

Microscope with BrightCare Plus activated

Long working distance

Decreased working distance

BrightCare Plus automatically adapts light intensity to the working distance, providing safer function (up to 60% reduction of intensity).
TECHNICAL SPECIFICATIONS

OPTICS AND ILLUMINATION

FusionOptics  For increased depth of field and high resolution for main surgeon
Fully apochromatic optics  For high contrast, natural colors without chromatic aberrations
Magnification  6:1, zoom, motorized
Total magnification  1.0x to 12.1x with 10x eyepiece
Magnification multiplier  1.4x (optional)
Focus  Motorized via multifocal lens, with manual adjustment
Fine focus  ±5 diopter available for opposite assistant (ULT)
Objective / working distance  225–600 mm, motorized multifocal lens, continuously adjustable and manual adjustment option
Field of view  17.4 to 210 mm ø with 10x eyepiece
Eyepieces  Wide-field eyepieces for persons wearing glasses 8.3x, 10x and 12.5x dioptic adjustment, ±5 diopter settings and adjustable eyecup
Integrated 360° rotatable adapter  For main surgeon binocular (IVA, ULT) and opposite assistant (ULT)
Illumination  - High-output 2x 400-W redundant xenon arc-lamp systems via fiber optics cable
- Continuously variable illumination field diameter with Gaussian distribution
- Continuously adjustable brightness at constant color temperature
SpeedSpot  Laser focusing aid for fast and exact positioning of the microscope

MANEUVERABILITY

Optics  - 540° rotation
- 50° lateral tilt to left and right
- 30° /+120° inclination tilt
XY speed  Zoom linked XY speed
Balancing  One button/two push complete automatic balancing of stand and optics
Intraoperative balancing  Automatic intraoperative AC/BC balancing of AC and BC axes (not available for Japan).
Brakes  Floor stand with 6 electromagnetic brakes
Carrier for monitor  700 mm flexible arm with 4 axis for rotation and inclination

MODULARITY

Leica UTS30  - Full stereo view for main surgeon and opposite assistant, semi stereo view for 2 side assistants
- High sensitivity, built-in IR video camera with 1/2” CCD
- Optional integrated HD Camera (Leica HD C100)
- Light distribution: 50% for main surgeon, either 20% for each side assistant or 40% for opposite assistant

Iva530  - Full stereo view for main surgeon, semi stereo view for 2 side assistants and C-mount interface for camera (HD or SD)
- Light distribution: 67% for surgeon, 23% for side assistant, 20% for C-mount port

Top plate with Leica Di C500  - Full stereo view for main surgeon and opposite assistant, semi stereo view for up to 2 side assistants
- Data injection
- Optional: C-mount interface for camera (HD or SD), FL800 function, FL400 function

OpenArchitecture  - Easy integration of IGS and laser systems (please ask your Leica Microsystems representative)
- Prepared for integration of video camera system and digital recording system

Connectors  - Numerous built-in connectors for video, IGS and control data transfer
- Internal power supply 12 VDC, 19 VDC and AC terminals

2D/3D HD Video  Fully integrated 2D HD and/or 3D HD video and recording

CONTROL

Control unit  - Programmable touch-screen with user-friendly Graphical User Interface for control of microscope and stand
- Built-in electronic auto-diagnosis and user support
- Software independent hard keys for illumination and auto-balancing
- Indicator for main/backup illumination and fluorescence modes

Control elements  - Pistol handle with 10 programmable functions
- Optional: mouthswitch
- Optional 12-function wireless footswitch

IR sensor  For remote control of the external Leica HD C100 camera

SAFETY

Autokris  Built-in automatic zoom-synchronized illumination and auto-balancing of AC and BC axes (not available for Japan).
Indicator LEDs for fluorescence mode status and video record status

BrightCare Plus  Safety function through working distance-dependent limitation of the brightness, controlled by a built-in luxometer

CONSTRUCTION

Base  690 x 690 mm with four 360° rotating castors with a diameter of 150 mm each, one parking brake
Materials  All solid metal construction coated with antimicrobial paint
Load  Min. 6.7 kg, max. 12.2 kg from microscope dovetail ring interface
Weight  Approx. 320 kg without load
Indicator LEDs for fluorescence mode status and video record status

TECHNICAL DATA

Ambient conditions in use  -10° C to +40° C
-50°F to +104°F
-30% to 95% rel. humidity
-800 mbar to 1060 mbar atmospheric pressure

Power connection  1600 VA 50/60 Hz
- 100 V, 120 V, 220 V, 240 V (+10%/-15%)
- 2 x T10 AL 100/120 V
- 2 x T8 AL 220/240 V

Protection class  Class I

Dimensions  1400 × 1400 × 2350 mm
REGULATIONS AND STANDARDS

Class I surgical microscope Leica MS30 OHX incl. accessories
Class IIa FL800 ULT
> IEC 60601-1 / EN 60601-1 Medical Electronical Equipment, Part 1: General requirements – including national differences of EU, CA, US.

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.