From Eye to Insight

Leica
MICROSYSTEMS

Surgical Microscope for cranial & spine surgery

PRECISION COMES STANDARD

M530 OHX

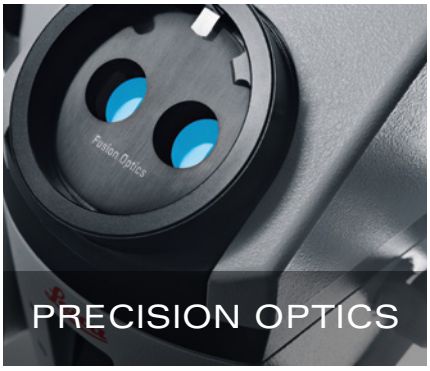






PRECISION COMES STANDARD

Designed to be your trusted OR assistant, the M530 OHX surgical microscope delivers the precise visualization, positioning and digital imaging options you need - as standard.



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 & superior manueverability

See pages 6 to 7.



Customizable to your needs

- Individually configurable and upgradeable
- Choose your imaging solution: Fluo-rescence, 2D HD recording, and image injection from IGS systems

See pages 8 to 11.

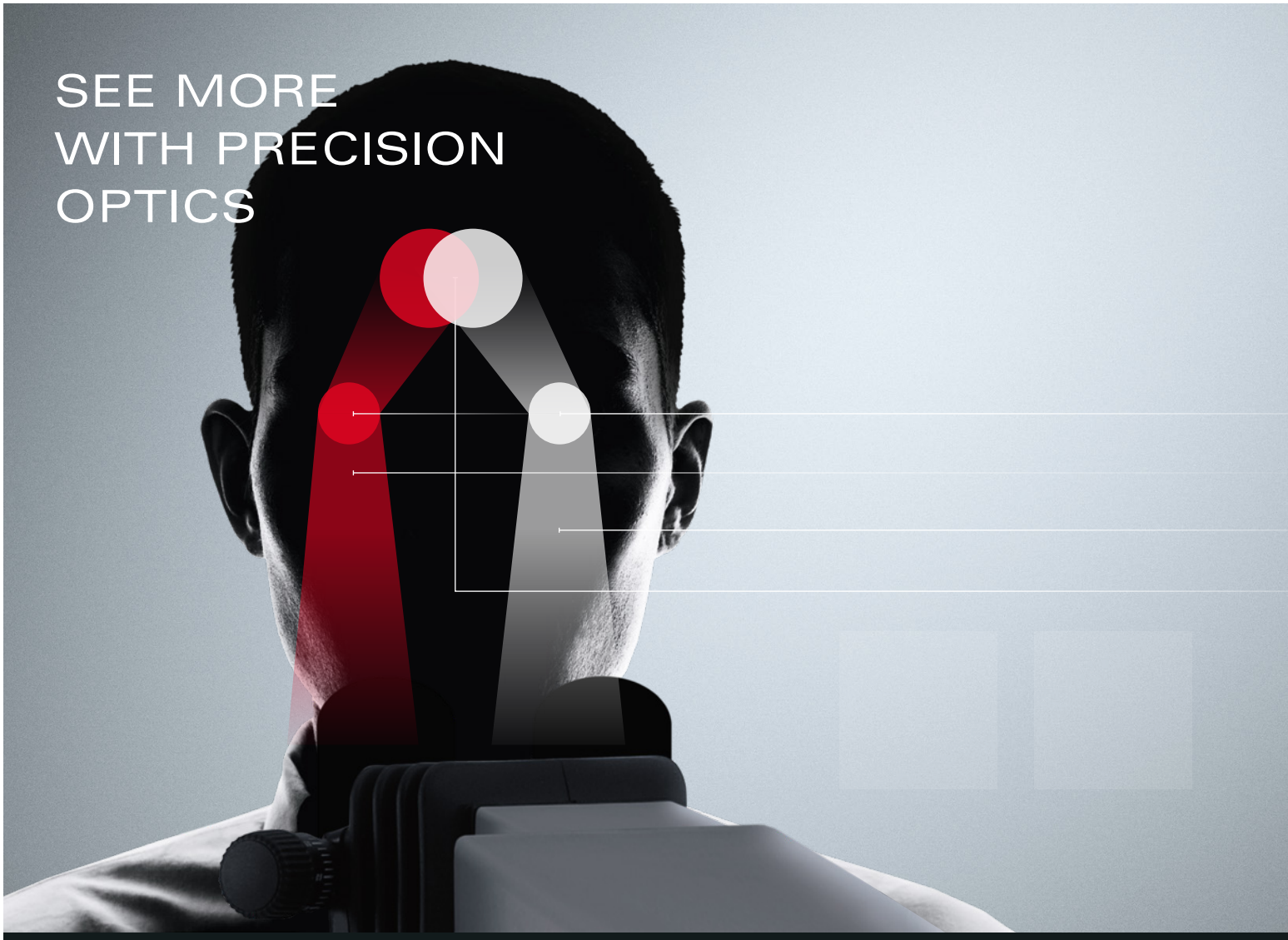


Patient safety first

- Automatic illumination controls help protect skin
- Consistent light intensity
- Hygiene protection built in

See pages 12 to 13.

SEE MORE WITH PRECISION OPTICS



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 optical 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.

FusionOptics Technology

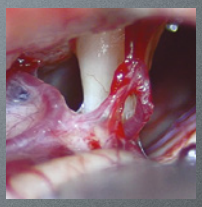
1. Two separate optical paths

2. One path provides depth of field

3. The other provides high resolution

4. The brain merges the two images into a single, optimal spatial image

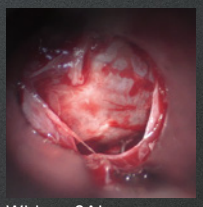




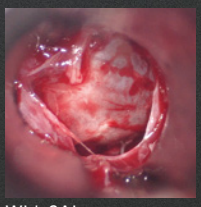


Deep insights

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.



Without SAI
(400 mm working distance)



With SAI
(400 mm working distance)



Magnification Multiplier for 40% boost



SpeedSpot for fast focusing



Fine focus for rear assistant

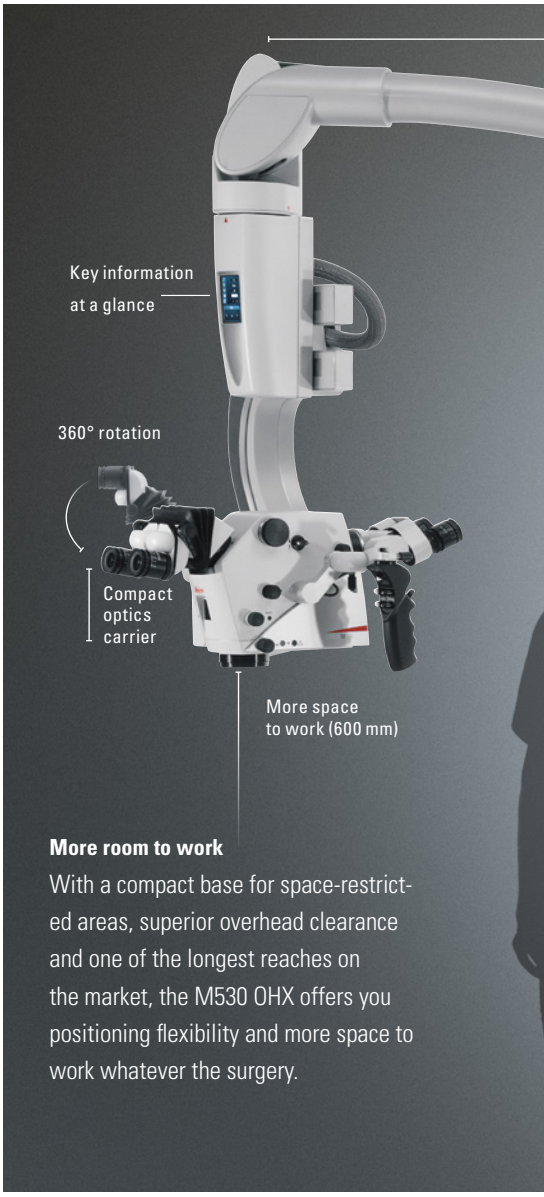
See even more, fast

Adapt the M530 OHX optics to meet the requirements of your surgery and your team

- Additional 40% magnification boost with the optional Magnification Multiplier
- SpeedSpot provides 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

COMFORT AND EFFICIENCY BUILT IN

Ergonomic working positions, smooth maneuverability and ease of use for comfort and streamlined workflow.



More room to work

With a compact base for space-restricted areas, superior overhead clearance and one of the longest reaches on the market, the M530 OHX offers you positioning flexibility and more space to work whatever the surgery.

The M530 OHX microscope 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.



Compact and fully integrated

Easy to set up, easy to use

Setting up the M530 OHX microscope is fast and simple with its 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.



Full range of movement and tilt of the optics carrier

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.



Auto balance conveniently located next to the left handgrip

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 by the left handgrip.

Superior reach

Superior overhead clearance

A range of multiple 2D screens

LEICA OHX

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, all with full 360°-rotation, for main and assistant surgeons
- The design of the optics carrier means that the opposite assistant can also achieve a comfortable upright working posture
- Extended 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



Comfortable working posture and large free working space during a spine surgery

CUSTOMIZABLE TO YOUR NEEDS

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

The streamlined, cable-free 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 it with the imaging and recording options of your choice. And if your requirements change or you want to add a new imaging technology in the future, the upgrade-ready design makes it simple.



Basic configuration: Integrated video adapter

The compact design of the IVA530 optics carrier is ideal for otolaryngology and neurotology. With no opposite assistant, more light is directed to the main surgeon and side assistant. The integrated video adapter has a built-in depth enhancer, for outstanding screen display and recording.



Standard configuration: Flexibility for your surgery type

The ULT530 optics carrier is the optimal configuration for neurosurgery, spine and plastic reconstructive surgery. There are interfaces for left, right and rear assistant binoculars as well as optional integrated HD C100 camera.



Advanced: Integrated CaptiView image injection into the eyepieces

The M530 OHX can be supplied with fully integrated FL800 vascular fluorescence and GLOW800 Augmented Reality fluorescence CaptiView image injection. Surgeons can inject data from external and internal sources, such as FL800, GLOW800, MRI, CT, and Image Guided Surgery (IGS) systems directly into the eyepieces.



Ready for today and tomorrow

The OpenArchitecture design of the M530 OHX surgical microscope allows easy integration of systems such as the Med X Change HDMD full HD digital recording system, or IGS systems in combination with the CaptiView module. Upgrade easily to the latest innovations or if your requirements change.



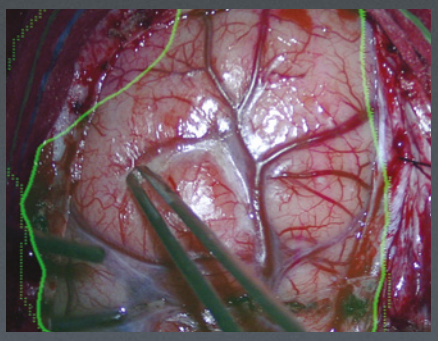
Fully integrated and under control

HD cameras, fluorescence, documentation systems and all cables are fully integrated inside the microscope. This improves maneuverability of the microscope and reduces the risk of damaging external components which supports workflow and provides consistent high performance. All systems are easily controlled via the handgrip or optional mouth and foot switches.

FULL HD IMAGE INJECTION, FULL CONFIDENCE

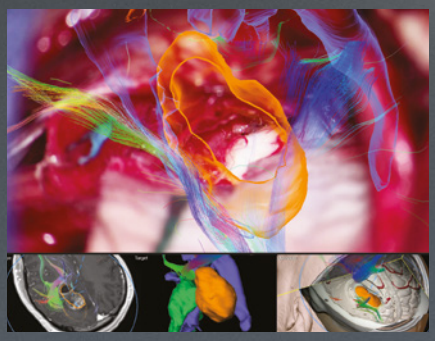
With CaptiView image injection you see full-HD visual data with 500:1 contrast directly in the field of view, for confident surgical decisions without interruption.





Every detail you need before your eyes

- Full-HD 1080p resolution and 500:1 contrast
- Overlay data onto the live surgical view or see a full image
- Data can be injected from an IGS system, or FL800 fluorescence and also seen on the microscope's monitor
- View in left, right or both* eyepieces



Integration avoids interruption

CaptiView image injection is with leading IGS systems and fully integrated with your M530 OHX microscope for an interruption-free workflow. You no longer need to switch between eyepieces and screen, and a single touch of the microscope handgrip or footswitch activates CaptiView.



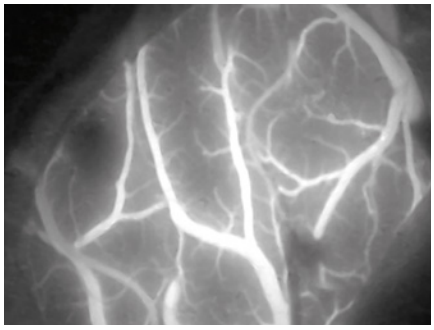
Share your view, share your skill

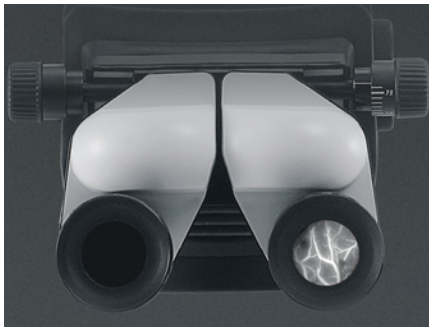
A shared view for main surgeon and assistant enhances the assistant's ability to follow each delicate surgical action. Full HD display and recording, complete with injected images, enable later review and teaching outside of the OR.



PIONEERING FLUORESCENCE INNOVATION

View blood flow in tissue and vessels during vascular surgery with integrated FL800 fluorescence.





Blood flow visualization how you want

FL800 fluorescence is used in conjunction with the fluorescent agent Indocyanine Green (ICG) to view vascular blood flow. The near infrared (NIR) fluorescence image is filtered through the premium M530 OHX microscope optics for maximum brightness and high contrast. Choose to view on an HD screen or injected into the microscope eyepieces via the CaptiView HD image injection module.

Blood flow visualization when you want

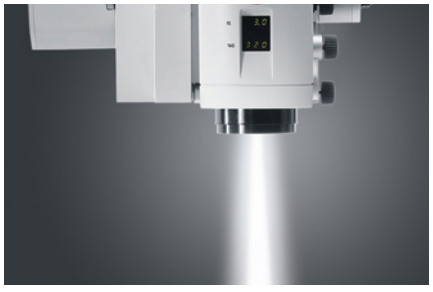
The FL800 ULT module is fully integrated into the M530 OHX microscope for smooth usage. Switching from white light to FL800 mode requires a single button push on the handgrip or the optional wireless footswitch. For best viewing results, the built-in Mode Control video technology automatically optimizes the settings of cameras.

Surgical images taken with CaptiView and Neuronavigation software from Brainlab

*FL800 fluorescence visible in right eyepiece only

REINFORCE PATIENT SAFETY

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



Bright 400-Watt xenon illumination



Safe, maximum brightness



Antimicrobial coating to minimize pathogens

Reliable illumination system

The M530 OHX features two redundant 400-Watt xenon arc-lamp illumination systems. Dual, independent lamps and boards reduce the probability of equipment downtime due to bulb failure. The microscope automatically switches to the second illumination system when needed.

Maximum brightness at all times

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

Protection for team and patients

Leica surgical microscopes are designed to support your multiple clinical needs including your hygiene protocols. Our microscopes are therefore coated with a paint which is designed to provide an antimicrobial effect on surfaces.



Luxmeter for consistent lighting

BrightCare Plus compensates for decreased light intensity as bulbs age to ensure consistent lighting. With the internal luxmeter providing real-time light intensity data to the BrightCare Plus system, light intensity is measured from actual bulb output, not by using an algorithm or formula.



Separate operating systems for video and microscope

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.

OPTIMAL LIGHT INTENSITY

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

Max. illumination



Long working distance.

Max. illumination (BrightCare Plus inactive)



Decreased working distance at same illumination setting (left) creates burn potential in conventional microscopes.

Microscope with BrightCare Plus activated

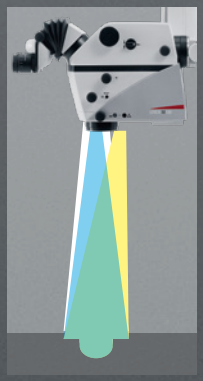


BrightCare Plus automatically adapts light intensity to the working distance, providing safer illumination (up to 60 % reduction of light intensity).

Optimal field of illumination

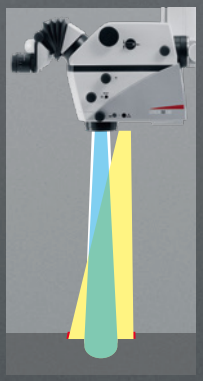
AutoIris automatically adjusts the diaphragm so that only the visible area is illuminated.

Conventional microscope at low magnification



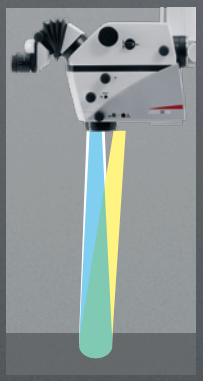
At low magnification, the field of illumination (yellow) fills the field of view (green) completely.

Conventional microscope at high magnification



Previously, as magnification increased, the field of view became smaller, but the illumination outside the field of view could potentially cause tissue burns (red).

Leica Microscope with AutoIris



AutoIris automatically adjust the field of illumination based on the microscope magnification. As the field of view decreases, so does the field of illumination, decreasing the possibility of peripheral tissue burns.

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	1.0× to 12.0× with 10× eyepiece
Magnification multiplier	1.4× (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 10× eyepiece
Eyepieces	Wide-field eyepieces for persons wearing glasses 8.3×, 10× and 12.5× dioptric 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

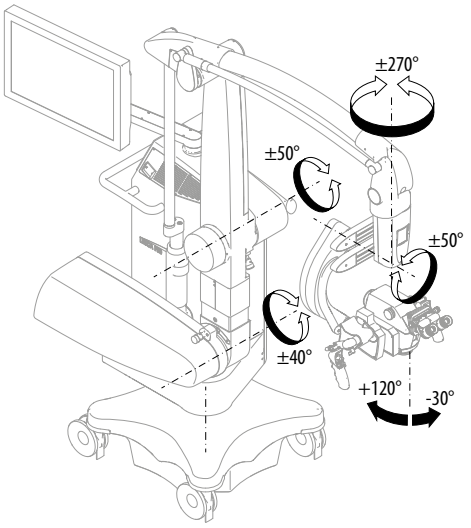
Basic: IVA530	- Full stereo view for main surgeon, semi stereo view for 2 side assistants and C-mount interface for camera (HD or SD) - Light distribution: 67% for surgeon, 23% for side assistant, 20% for C-mount port
Standard: ULT530	- Full stereo view for main surgeon and opposite assistant, semi stereo view for 2 side assistants - Optional integrated HD C100 camera - Light distribution: 50% for main surgeon, either 20% for each side assistant or 40% for opposite assistant
Advanced: FL800 ULT &/or CaptiView image injection	- Full stereo view for main surgeon and opposite assistant, semi stereo view for up to 2 side assistants - CaptiView HD image injection (optional) - FL800 vascular fluorescence with built-in NIR camera (optional)
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 HD Video	Fully integrated 2D HD video and recording (optional)

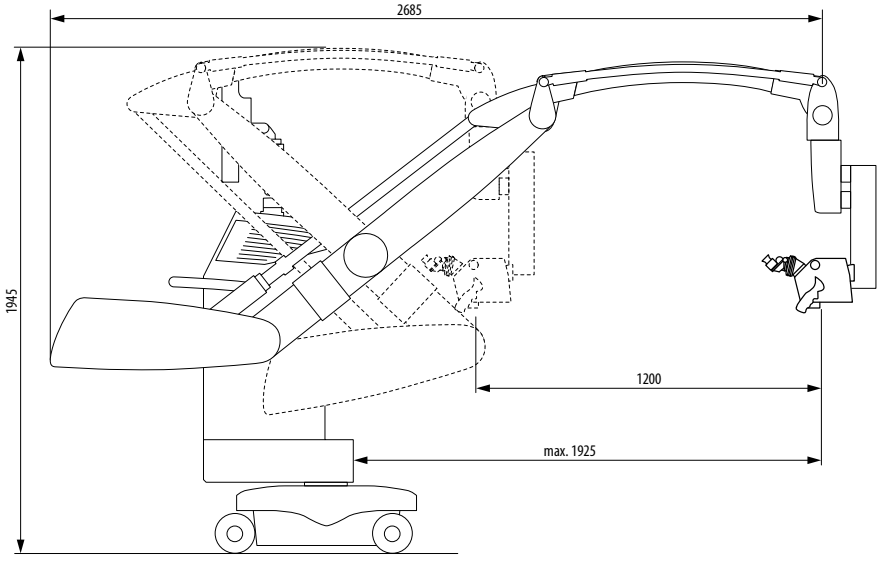
CONTROL	
Control unit	- Programmable touch-screen with user-friendly Graphical User Interface for control of microscope and stand - Built-in electronic auto-diagnosis and user support - Software independent hard keys for illumination and auto-balancing - Indicator for main/backup illumination and fluorescence modes
Control elements	- Pistol-grip handles with 10 programmable functions - Optional mouthswitch - Optional 12-function wireless footswitch
IR sensor	For remote control of the external Leica HD C100 camera

SAFETY	
AutoIris	Built-in automatic zoom-synchronized illumination field diameter, with manual override and reset feature
BrightCare Plus	Safety function through working distance-dependent limitation of the brightness, controlled by a built-in luxmeter

CONSTRUCTION	
Base	690 × 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 × T10 AL 100/120 V - 2 × T8 AL 220/240 V
Protection class	Class 1





From Eye to Insight

Leica MICROSYSTEMS

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Class IIa FL800 ULT

CE

Class I surgical microscope Leica M530 OHX incl. accessories

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.

CONNECT WITH US!

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