

Living up to Life

**Leica**  
MICROSYSTEMS

MEDICAL DIVISION



# Leica M720 OH5

A Paradigm Shift in Vision, Comfort, and Flexibility  
Premium Surgical Microscope for Microsurgery

A photograph of two surgeons in an operating room. They are wearing teal scrubs, blue surgical masks, and blue bouffant caps. The surgeon on the right is wearing a binocular microscope. A robotic surgical system, partially covered in clear plastic, is visible on the right side of the frame. The surgeons are focused on their work, with one holding a surgical instrument. The background is a clean, white operating room environment.

# A Paradigm Shift

- Comfort through ergonomic design
- Brilliant images
- Unsurpassed patient safety
- Intraoperative fluorescence
- Viewing for the entire OR team
- Positioning flexibility
- Superior maneuverability

**see** better  
**work** better  
**feel** better

## Leica M720 OH5

# A Paradigm Shift in Vision, Comfort, and Flexibility

For years, surgeons have needed a surgical microscope with smaller, more compact optics. Traditional microscope design has evolved over the years using large, vertical optical zoom lens systems, which have inherently limited the surgeon's amount of working room, and the ability to work in the right ergonomic position. With the Leica M720 OH5, Leica Microsystems writes a revolutionary new chapter in microscope innovation. At the heart of the innovation: **Horizontal Optics Technology.**



**The heart of the innovation:** Horizontal Optics Technology reduces the size of the optical head and gives the user more space to work. At the same time it dramatically increases comfort.



More Space  
to Work

# Leica M720 OH5

## Comfort Through Ergonomic Design

**see** better  
**work** better  
**feel** better

The Leica M720 optical head is the most compact of all neurosurgical microscopes. Designed along a horizontal plane, the compact optics carrier helps the surgeon naturally align for a healthier working posture. Whatever the position of the patient, even sitting upright, the surgeon can see more, can work more precisely, and benefits from superior ergonomics.

### Compact Horizontal Optics

The substantial gain in free working distance gives the surgeon unobstructed access to the surgical area, greater instrument maneuverability, and an optimal view.

### Butterfly Binoculars

Leica's butterfly binoculars accommodate all body heights, for both the surgeon and the assistant, as well as the most challenging surgical positions. The tubes have an inclination range of 115°, and the eyepieces swing to a second viewing plane quickly and easily.

### SpeedSpot™

Two laser beams act as a focusing reference to quickly provide a defined focus point for all three viewing ports (surgeon, assistant, and camera).





Light  
Where You  
Need It

# Leica M720 OH5

## Brilliant Images

### Enhanced 3D Images:

Depth perception is improved thanks to Leica's large stereo base of 24 mm, creating a more true-to-life 3D effect compared to other microscopes.

The Leica M720 OH5 is equipped with Small Angle Illumination (SAI) to distribute more light to the bottom of deep cavities. SAI provides a concentrated light beam, closely aligned to the optical axis.

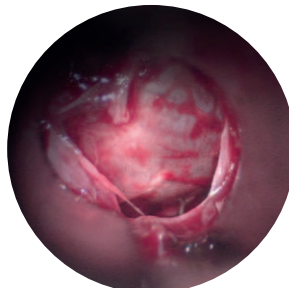
Combined with outstanding Leica APO OptiChrome™ optics, the result is significantly improved depth perception and better light penetration, specifically for new surgical access techniques such as intra-tracheal, transsphenoidal or METRx™. Images have outstanding contrast, brilliance, sharpness, resolution, and color fidelity.

### Small Angle Illumination (SAI)

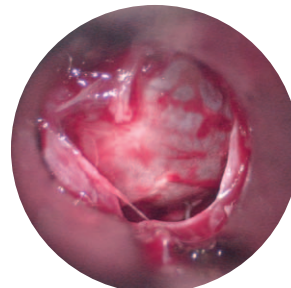
SAI distributes light more evenly, and reduces shadows in the surgical field, providing:

- Deeper light penetration
- Increased detail visibility
- Improved depth perception

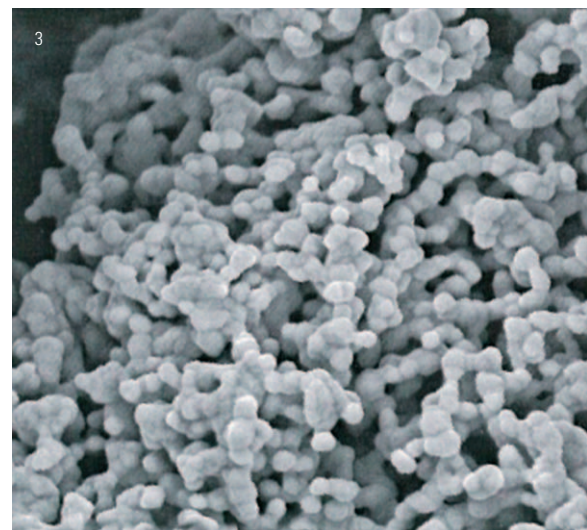
Conventional microscope illumination,  
WD 400 mm



Leica Microscope with SAI  
WD 400 mm



# Safety Without Compromise





# Leica M720 OH5

## Unsurpassed Patient Safety

### Dual independent light sources [1]:

The Leica M720 OH5 features two completely independent 400 W xenon arc-lamp illumination systems, giving the surgeon confidence to know that surgery will not be jeopardized due to lamp or board failure.

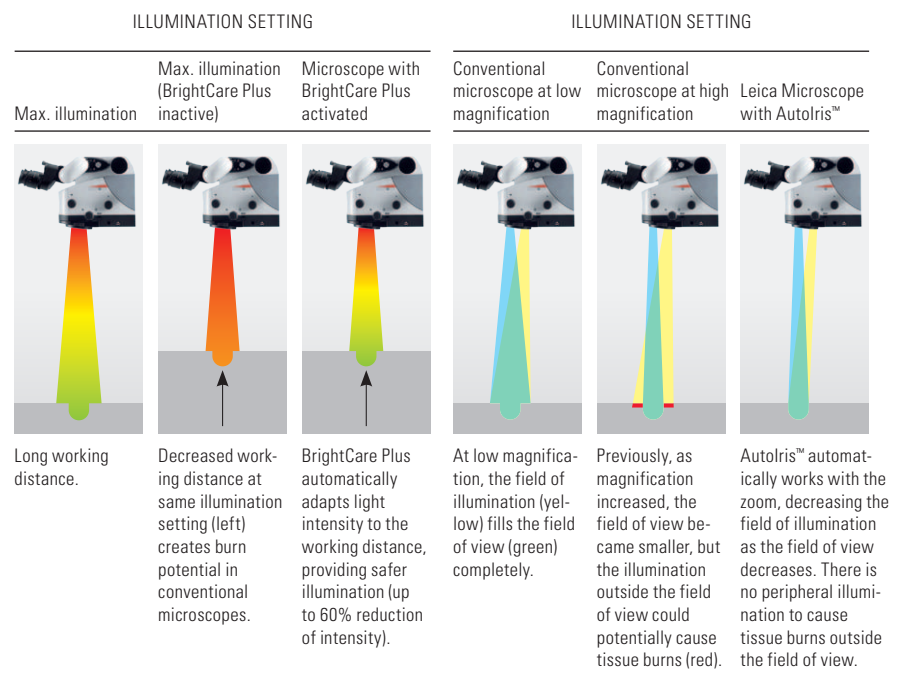
**Fast system reboot:** If the power cable becomes disconnected for any reason, the system reboots in the fastest reset time available today.

**Intuitive user controls [2]:** The graphical user interface and hard keys allow the user to conveniently and intuitively control all microscope functions during surgery.

**Independent microscope controls:** Stand, video, light, and microscope controls work independently. For example, should the video system fail, surgery can continue because the light and microscope are unaffected.

**Antimicrobial surface coating [3]:** Leica's AgProtect™ limits user exposure to surface pathogens. This nano silver coating covers the microscope's outside surfaces and penetrates the membranes of microbes to prevent replication.

The Leica M720 OH5 offers innovative illumination solutions to improve outcomes for both the surgeon and the patient.



### BrightCare Plus – Light Intensity

BrightCare Plus optimizes the light intensity relative to the working distance. As working distance decreases, the light intensity is reduced automatically, minimizing incidents of patient burns. As working distance increases, the light intensity rises again accordingly.

### Autolris™ – Light Diameter

Autolris™ automatically adjusts the diaphragm so that only the visible area is illuminated. When zoomed in, the light circle adapts automatically: the higher the magnification, the smaller the light circle. This prevents the possibility of drying or burning exposed tissue, outside of the actual field of view.



Invisible  
Becomes  
Visible

# Leica M720 OH5

## Intraoperative Fluorescence

**Surgical fluorescence:** The study of fluorescence microscopy has a long tradition at Leica Microsystems, dating back to the beginning of the 20th century. An indispensable component in biological research, fluorescence science is now an integral part of the surgical workflow to improve the patient's quality of life.

Fluorescence technologies provide intraoperative information to the surgeon and OR team, directly through the microscope eyepieces or on a monitor. The information gained allows the surgeon to make faster progress in work, increase surgical precision, and improve patient outcomes. Switching between white light and fluorescence mode requires only the push of a button on the hand grip or foot control. The Leica M720 OH5 is well prepared for new and future types of surgical fluorescence, with a selectable third fluorescence mode.

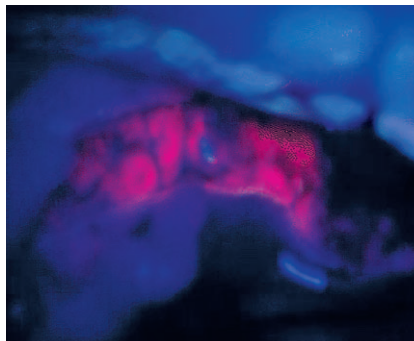
### Oncological Fluorescence

Leica FL400\* intraoperative module is used in conjunction with 5-ALA fluorescent agent to show tumor cells, and thus enables much higher accuracy with tumor resection.

### Vascular Fluorescence

Leica FL800\* intraoperative videoangiography module is used in conjunction with ICG fluorescent agent and allows surgeons to see blood flow through vessels in real time during surgery.

\* Please check the status of Leica FL400 and Leica FL800 regulatory approval for your country with your local Leica Microsystems representative.



Malignant glioma, blue-violet light mode



ICG injection after 9 seconds: venous view

### Leica HD C100 Camera

The Leica high-definition medical-grade camera delivers bright, sharp pictures and videos, and features an innovative one-touch control button for easy use.

### Leica Video Adapters

Leica HD video adapters offer intraoperative fine focus and manual or remote control, to always achieve crisp and clear image quality in documentation.

### Integrated HD Monitor

The Leica M720 OH5 features a built-in, movable video monitor arm with three rotation axes and an inclination axis to easily maneuver the large video screen into the perfect position for all viewers.

### HD Documentation Systems

The Med X Change HDMD® 1080p or 720p is a user-friendly digital recording system for the surgical environment. The 1080p version records videos in Full HD and detects ICG automatically. Image and video files can be transferred to a USB, external hard drive or wirelessly to an Apple® device within seconds.

### 3D Documentation System

The TrueVision® 3D Surgical\* system combines 3D visualization and guidance software applications focused on improving accuracy, efficiency, and outcomes for both surgeons and patients.

\* Please check the status of TrueVision® product availability with your local Leica Microsystems representative.



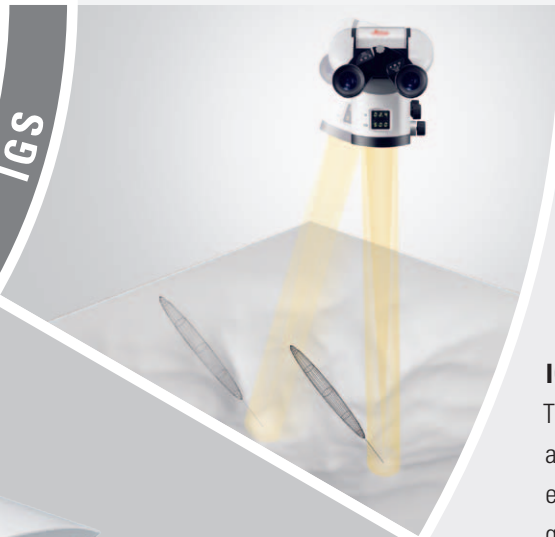
# Leica M720 OH5

## Viewing for the OR Team

Leica M720 OH5 OpenArchitecture™ allows for easy upgrades of rapidly evolving imaging technology. User-friendly operation ensures easy recording and editing of videos and photos for presentations, teaching, or medical records.



IGS



### IGS Integration

The Leica M720 OH5 includes mechanical and electronic interfaces to accept and easily integrate commonly used image-guided surgery (IGS) systems and their tool tracking capabilities.

IMAGE INJECTION



### Leica DI C700

The Leica DI C700 dual imaging color module 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. The data are displayed with the highest resolution and contrast currently available.

# Leica M720 OH5

## Positioning Flexibility to Suit Surgeon and OR Staff

The Leica M720 OH5 provides ultimate positioning flexibility with the highest overhead clearance and longest reach of any surgical microscope on the market. Superior reach and a compact footprint, give the surgeon positioning flexibility to place the microscope wherever it is most beneficial for the surgery. Alternatively, the Leica OHC5 ceiling mount option optimizes performance in space-restricted ORs.



# Freedom of Positioning



**Efficiency in Work:** The compact base of the Leica M720 OH5 creates a smaller footprint, yet provides superior reach and ample overhead clearance to work in comfort during any surgical case.





# Leica M720 OH5

## Superior Maneuverability

**Optics Carrier Tilt [1]:** The improved inclination angle combined with the most compact optical system provides the surgeon with unmatched comfort and gives much more flexibility for transsphenoidal and posterior fossa cases.

**Optics Carrier Lateral Movement [2]:** With the longest range of lateral movement available today, the surgeon can easily achieve the most challenging lateral approaches.

**ErgoLock™ [3]:** The main surgeon's binocular tube can be easily locked in five defined positions, ensuring stability of an individual's selected binocular position, especially when using the mouth switch.

**Mouth Switch (Optional) [4]:** The ergonomically-designed mouth switch allows the surgeon to easily position the microscope while leaving both hands free for surgery.

**Brakes:** Silent, high-precision electromagnetic Leica OH technology.

**Hand Grip [5]:** The ergonomic design and sturdy, all-metal construction of the hand grip ensure comfort and stability when moving the microscope.

**Foot Control (Optional) [6]:** For maximum mobility and for fast, easy adjustments, Leica Microsystems offers four models of foot controls: cabled or wireless, 12-function or 16-function.

The Leica M720 OH5 offers a greatly expanded range of movement in all dimensions, with intuitive functionality and minimal vibration at all magnification levels.

### AutoBalance [7]

The hard key "AutoBalance" on the stand saves valuable time. With only two pushes of one button, the system fully balances all six axes quickly and accurately.

### Intraoperative AutoBalance [8]

A microscope may need rebalancing during surgery due to changing needs for the surgeon's and assistant's positioning. With one push of the AC/BC button, conveniently located above the optical head, the surgeon can rebalance in seconds, even through the sterile drape.





# Leica M720 OH5

## Technical Specifications

The Leica M720 OH5 / OHC5 surgical microscopes feature innovative Horizontal Optics Technology for more room to work, a Small Angle Illumination system for better depth perception, and an OpenArchitecture™ platform to integrate the newest imaging technologies such as Full HD.

### ELECTRICAL DATA

<b>Power connection</b>	1600 VA 50/60 Hz 100 V (+10 % / -15 %), 120 V (+10 % / -15 %), 220 V (+10 % / -15 %), 240 V (+10 % / -15 %)
<b>Safety class</b>	Class I

### LEICA M720 MICROSCOPE

<b>Magnification</b>	APO OptiChrome™-6:1 zoom, motorized Revolutionary new optical concept with horizontal zoom for maximum compactness of the microscope
<b>Focus</b>	Motorized via multifocal lens, with manual adjustment
<b>Eyepieces</b>	Widefield eyepieces for eyeglass wearers, 10× for main surgeon and opposite assistant, 12.5× for lateral assistant, dioptric settings ±5 with adjustable eye cup
<b>Objective</b>	APO OptiChrome™ multifocal lens 200 mm to 500 mm variable working distance through motorized function, with manual override
<b>Illumination</b>	Continuously adjustable illumination field diameter with gaussian-shaped light distribution; continuously adjustable brightness at a constant color temperature
<b>Main light source</b>	High-performance 400 Watt xenon arc-lamp through fiber optic
<b>Emergency lamp</b>	400-Watt xenon arc-lamp on a separate electrical system
<b>AutoIris™</b>	Built-in, automatic, zoom-synchronized illumination field diameter, with manual override and reset feature
<b>BrightCare Plus</b>	Safety feature for the working distance-synchronized light control
<b>SpeedSpot™</b>	Dual laser focusing device for fast, precise microscope positioning
<b>Binocular tubes</b>	Binocular tubes feature flexible butterfly ergonomic height adjustment for optimal body position at the microscope; 115° variable angle: 0° to 115° range for main surgeon, -55° to +60° for opposite assistant
<b>ErgoLock™</b>	Built-in locking device to hold main surgeon's binocular tube fixed in five predefined angles: 10°, 35°, 65°, 90°, and 115°

<b>Compact dimensions</b>	Only 72 mm minimal height from the main surgeon's binocular to the objective, with the microscope in a horizontal position Only 232 mm minimal length from the main surgeon's binocular to the objective, with the microscope in posterior fossa seated patient position
<b>Surface coating</b>	Covered with antimicrobial coating (AgProtect™)

### OPTICAL DATA

<b>Magnification range</b>	1.5× to 17.0× with 10× eyepiece
<b>Field of view</b>	12.5 mm to 143 mm with 10× eyepiece

### MICROSCOPE CARRIER

<b>Rotation of optics</b>	540°
<b>Lateral tilt</b>	50° to left / 50° to right
<b>Inclination tilt</b>	-30° to +150°
<b>XY speed</b>	Zoom-correlated XY speed
<b>Balancing</b>	A, B, C, and D axes are fully automatic, each can be manually balanced
<b>Intraoperative balancing</b>	AC/BC button for automatic intraoperative re-balancing of the A and C axes, and for re-balancing the B and D axes
<b>Brakes</b>	One brake for A/B axis, one brake for C axis
<b>Indicator</b>	LED for fluorescence mode status, LED for video recording status

**ACCESSORIES (OPTIONAL)**

<b>Second observer</b>	Stereo attachment to beam splitter for second observer
<b>Binocular tube</b>	Variable angle 30° to 150° for second observer
<b>Video adapter</b>	Leica Manual Video Adapter (MVA), 55 mm, 70 mm, 107 mm focal length, c-mount, with fine focus Leica Remote Video Adapter (RVA), 55 mm, 70 mm, 107 mm focal length, c-mount, with fine focus Leica Zoom Video Adapter (ZVA), 3:1 zoom, 35 mm to 100 mm focal length, c-mount, with fine focus Leica NIR Dual Video Adapter (DVA), 60.5 mm, 79.5 mm focal length, c-mount, with fine focus
<b>Autofocus</b>	The Leica Video-Analysis Autofocus gives the surgeon more precision and greater control by means of keeping the image crisp and clear.
<b>Image injection</b>	Leica DI C700 high-resolution, true color dual imaging module for correlated and non correlated data display, resolution 1024 × 768 pixels, color depth 24 bit, gray scale 256, contrast >= 1:300, color temperature 2500° – 9000° K
<b>Asepsis</b>	Sterilizable protective glass cover for the objective, sterilizable components for all drive knobs, commercially available drapes (specifically designed for the Leica M720)
<b>Laser</b>	Laser micromanipulator available from 3rd party
<b>IGS</b>	
<b>Interface / Compatibility</b>	Open architecture for IGS systems

**FLUORESCENCE\* (OPTIONAL)**

<b>Vascular fluorescence</b>	Optional Leica FL800 is available in the USA, EU, and most other countries
<b>Oncological fluorescence</b>	Optional Leica FL400 is available in the EU, and some other countries

\* Please check the status of regulatory approval for your country with your local Leica Microsystems representative.

**LEICA OH5 FLOOR STAND**

<b>Type</b>	Floor stand with six electromagnetic brakes
<b>Base</b>	720 mm × 720 mm with four 360° rotatable casters of 130 mm diameter each; one central single step foot brake
<b>Balancing</b>	“No brake release” Auto-balance One button / two pushes for complete, automatic balancing of stand and optics
<b>Intraoperative re-balancing</b>	AC/BC button for automatic intraoperative re-balancing of AC axis and BC axis
<b>Swing arm</b>	Patented advanced movement system for perfect balance in six axes, vibration-dissipating technology
<b>Floor stand control unit</b>	New generation touch panel technology. The latest electronics control for the continuous operation of all motorized functions and illumination intensity. Data displayed via LCD. Built-in BrightCare Plus technology for working distance synchronized illumination control. ISUS™ Intelligent Setup System, menu selection based on unique software for user-specific configuration, with built-in electronic auto-diagnosis and user support. Software-independent hard keys for illumination and autobalancing; indicator for main / backup illumination and fluorescence mode. Open architecture for future software developments.
<b>Light source</b>	400-Watt dual xenon arc-lamp illumination system and built-in, automatic (after notice), lamp quick changer

<b>Controls</b>	10-function pistol grips for zoom, focus, all-free release of six brakes. Side button to control three user-defined brakes, motorized lateral tilt and inclination (XY), and Leica DI C700 functions. Except for the all-free button, all functions are freely programmable. Mouth switch for three brakes (XYZ) (optional) 12-function foot pedal with controls arranged longitudinally or transversely, 16-function foot pedal with controls arranged transversely, wired or wireless (optional) Hand switch (optional)
<b>Integration of documentation</b>	Prepared for integration of video and digital recording systems. Open architecture
<b>Connectors</b>	Numerous built-in connectors for video, IGS, and control data transfer 12 Volt DC, 19 Volt DC, and AC connections
<b>Carrier for monitor</b>	700 mm long Flexible arm with 4 axes for rotation and inclination to carry optional video monitor
<b>Materials</b>	All-solid metal construction
<b>Surface coating</b>	Covered with antimicrobial coating (AgProtect™)
<b>Range cantilever</b>	Max. 1925 mm
<b>Load</b>	Min. 8.0 kg and max. 11.7 kg of accessories to the microscope
<b>Weight</b>	Approx. 310 kg as a fully configured system
<b>Storage dimensions</b>	1945 mm (height) × 1395 mm (width) × 830 mm (depth)

**AMBIENT CONDITIONS**

<b>In use</b>	+10° C to +40° C (+50° F to +104° F) 30 % to 95 % relative humidity 500 mbar to 1060 mbar atmospheric pressure
<b>Storage</b>	–40° C to +70° C (–40° F to +158° F) 10 % to 100 % relative humidity 500 mbar to 1060 mbar atmospheric pressure

**LIMITATIONS OF USE**

The Leica M720 OH5 surgical microscope may be used only in closed rooms and must be placed on a solid floor. It may not be used in Ophthalmology.

**CONFORMITY**

Council Directive 93/42/EEC on Medical Devices (MDD) and its amendments. Classification: Class I, in compliance with Annex IX, rule 1 and 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.



- › Apple is a trademark of Apple Inc., registered in the U.S. and other countries.
- › HDMD and Med X Change are trademarks of Med X Change Inc., registered in the U.S. and other countries.
- › METRx is a trademark of Medtronic Inc., registered in the U.S. and other countries.
- › TrueVision is a trademark of TrueVision 3D Surgical Inc., registered in the U.S. and other countries.





LEICA OH5



A Paradigm Shift  
in **Vision, Comfort,**  
and **Flexibility**

The fruitful collaboration “with the user, for the user” has always been the foundation of Leica Microsystems’ innovative strength. On this basis, we have developed our five corporate values: Pioneering, High-end Quality, Team Spirit, Dedication to Science, and Continuous Improvement.

**MEDICAL DIVISION**

What does a surgeon expect from an outstanding surgical microscope? Sharp, clear images, and a modular system aligned with the surgeon and OR staff needs.

**Innovations for your practice**

From the first surgical microscope with widefield optics in the 1980s to the first microscopes with Horizontal Optics and with LED illumination, Leica Microsystems has been at the forefront of innovation in the development of surgical microscopes.

HD video, fluorescence and retinal viewing systems also demonstrate the continued innovative nature of the Leica team. We strive to provide the surgeon with leading edge technology to enhance performance, surgeon comfort, and patient outcomes.

Leica Microsystems – an international company with a strong network of worldwide customer services:

Active worldwide	Tel.	Fax
USA · Buffalo Grove/Illinois	+1 800 248 0123	+1 847 405 0164
Canada · Concord/Ontario	+1 800 248 0123	+1 847 405 0164
Australia · North Ryde/NSW	+61 2 8870 3500	+61 2 9878 1055
Austria · Vienna	+43 1 486 80 50 0	+43 1 486 80 50 30
Belgium · Diegem	+32 2 790 98 50	+32 2 790 98 68
Denmark · Ballerup	+45 4454 0101	+45 4454 0111
France · Nanterre Cedex	+33 811 000 664	+33 1 56 05 23 23
Germany · Wetzlar	+49 64 41 29 40 00	+49 64 41 29 41 55
Italy · Milan	+39 02 574 861	+39 02 574 03392
Netherlands · Rijswijk	+31 70 4132 100	+31 70 4132 109
Portugal · Lisbon	+351 21 388 9112	+351 21 385 4668
Spain · Barcelona	+34 900 210 992	+34 93 494 95 40
Sweden · Kista	+46 8 625 45 45	+46 8 625 45 10
Switzerland · Heerbrugg	+41 71 726 34 34	+41 71 726 34 44
United Kingdom · Milton Keynes	+44 800 298 2344	+44 1908 246 312
China · Hong Kong	+852 2 564 6699	+852 2 564 4163
· Shanghai	+86 21 6387 6606	+86 21 6387 6698
Japan · Tokyo	+81 3 5421 2800	+81 3 5421 2896
Korea · Seoul	+82 2 514 65 43	+82 2 514 65 48
Singapore	+65 6779 7823	+65 6773 0628

