

From Eye to Insight

Leica
MICROSYSTEMS

A Paradigm Shift in Vision, Comfort, and Flexibility

M720 OH5

Premium Surgical Microscope
for Microsurgery





A Paradigm Shift

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



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 M720 OH5 microscope, Leica Microsystems writes a revolutionary new chapter in microscope innovation. At the heart of the innovation: Horizontal Optics Technology.

see better
work better
feel better



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

COMFORT THROUGH ERGONOMIC DESIGN

see better
work better
feel better

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, work precisely, and benefit 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.



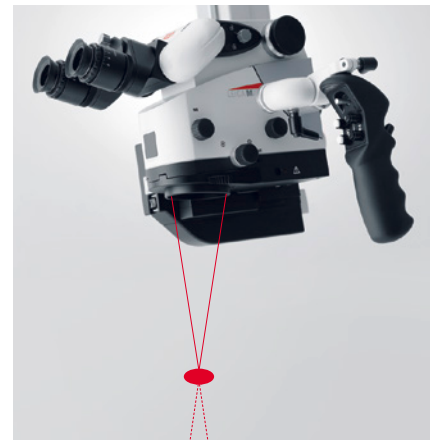
Butterfly Binoculars

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 FOR BRILLIANT IMAGES

The M720 OH5 microscope 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.

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.

Small Angle Illumination (SAI)

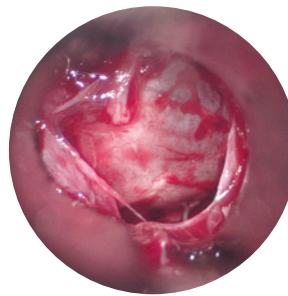
SAI distributes light more evenly, and reduces shadows in the surgical field, providing:

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

Conventional microscope illumination,



Leica Microscope with SAI



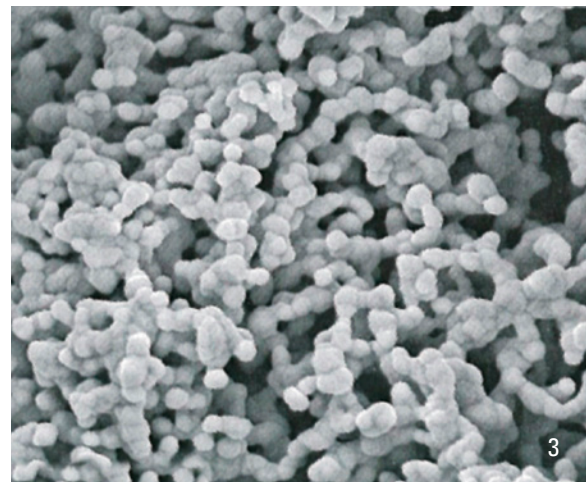
e.g. transsphenoidal surgery, general illustration



1



2



3

SAFETY WITHOUT COMPROMISE

The M720 OH5 microscope offers innovative illumination solutions to support patient safety.

Dual independent light sources [1]:

The M720 OH5 microscope 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 immediately reboots.

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.

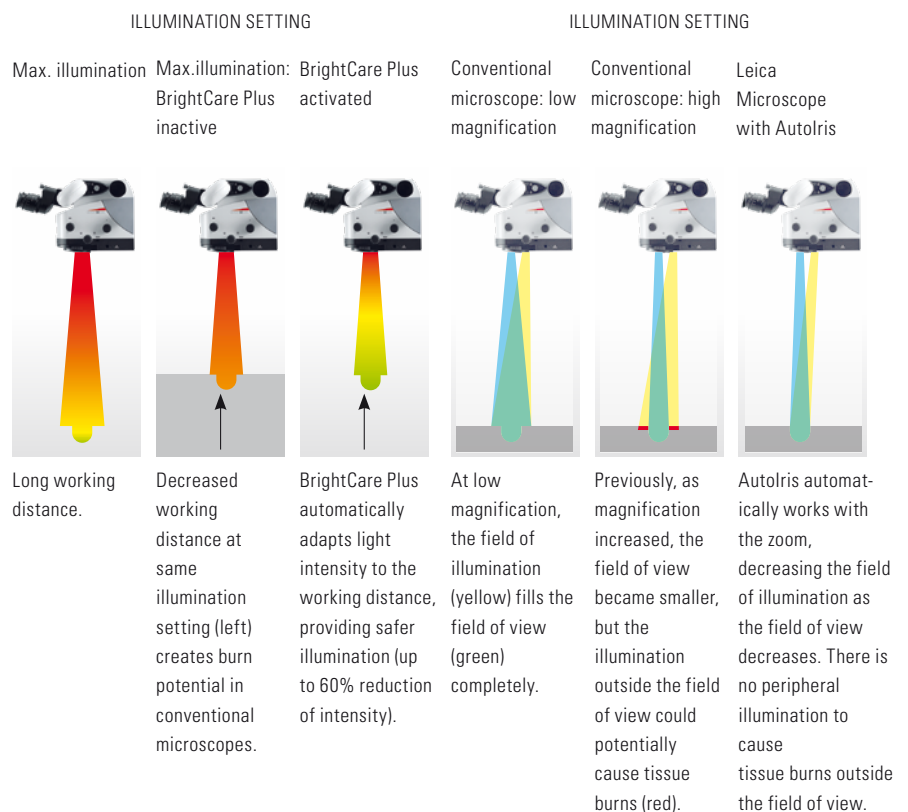
Antimicrobial surface coating [3]: Leica's AgProtect limits user exposure to surface pathogens. This nano silver coating covers the microscope's outside surfaces and penetrates the membranes of microbes to prevent replication.

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.





Surgical fluorescence

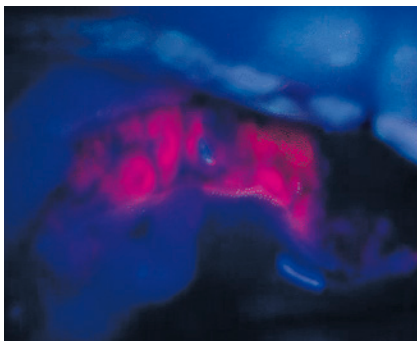
The study of fluorescence microscopy has a long tradition at Leica Microsystems, dating back to the beginning of the 20th century. An indispensable component in biological research, fluorescence science is now an integral part of the surgical workflow to improve the patient's quality of life.

INVISIBLE BECOMES VISIBLE: INTRAOPERATIVE FLUORESCENCE

Fluorescence technologies provide intraoperative information to the surgeon and OR team, directly through the microscope eyepieces or on a monitor. Switching between white light and fluorescence mode requires only the push of a button on the hand grip or foot control. The M720 OH5 microscope is well prepared for new and future types of surgical fluorescence, with a selectable third fluorescence mode.

Oncological Fluorescence

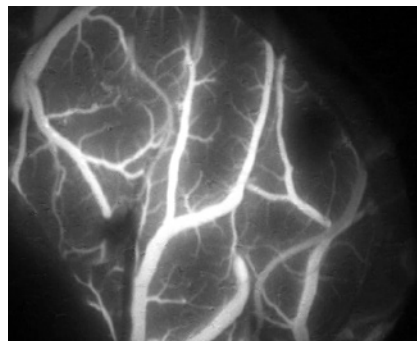
The FL400 fluorescence module is used with the active substance 5-ALA to enable differentiation of tumor tissue from healthy brain tissue.



Blue-violet light mode

Vascular Fluorescence

The 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.



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 M720 OH5 microscope 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.

3D Documentation System

The TrueVision 3D Surgical* system combines 3D visualization and guidance software applications designed to aid accuracy and efficiency, which supports surgeons in their goal of providing the best possible patient outcome.

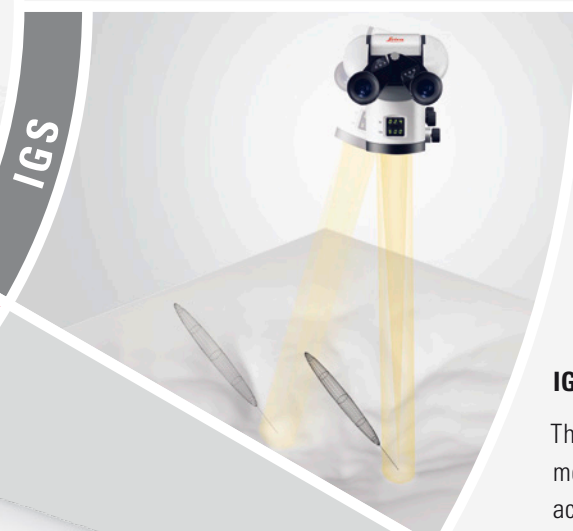
HD Documentation Systems

The Med X Change HDMD® 1080p 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.



VIEWING FOR THE WHOLE OR TEAM

The 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 Integration

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



DI C700

The 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.

POSITIONING FLEXIBILITY TO SUIT SURGEON AND OR STAFF

The M720 OH5 stand, designed by our partner Mitaka, provides ultimate positioning flexibility with high overhead clearance and long reach. Superior reach together with a compact footprint, give the surgeon positioning flexibility to place the microscope wherever it is most beneficial for the surgery. Alternatively, the OHC5 ceiling mount option optimizes performance in space-restricted ORs.





OH5 stand designed by Mitaka

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



SUPERIOR MANEUVERABILITY

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

Optics Carrier Tilt [1]: The improved inclination angle combined with a compact optical system enables the surgeon to achieve a comfortable posture and provides flexibility for transsphenoidal and posterior fossa cases.

Optics Carrier Lateral Movement [2]: With a wide range of lateral movement, 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 hands-free.

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 wired or wireless footswitches.



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.



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

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

LEICA M720 MICROSCOPE

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

Compact dimensions	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
Surface coating	Covered with antimicrobial coating (AgProtect)

OPTICAL DATA

Magnification range	1.5× to 17.0× with 10× eyepiece
Field of view	12.5 mm to 143 mm with 10× eyepiece

MICROSCOPE CARRIER

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

ACCESSORIES (OPTIONAL)

Second observer	Stereo attachment to beam splitter for second observer
Binocular tube	Variable angle 30° to 150° for second observer
Video adapter	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
Autofocus	The Leica Video-Analysis Autofocus gives the surgeon more precision and greater control by means of keeping the image crisp and clear.
Image injection	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
Asepsis	Sterilizable protective glass cover for the objective, sterilizable components for all drive knobs, commercially available drapes (specifically designed for the Leica M720)
Laser	Laser micromanipulator available from 3rd party

IGS

Interface / Compatibility	Open architecture for IGS systems
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FLUORESCENCE* (OPTIONAL)

Vascular fluorescence	Optional Leica FL800 is available in the USA, EU, and most other countries
Oncological fluorescence	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

Type	Overhead floor stand with six electromagnetic brakes
Base	720 mm × 720 mm with four 360° rotatable casters of 130 mm diameter each; one central single step foot brake
Balancing	“No brake release” Auto-balance One button / two pushes for complete, automatic balancing of stand and optics
Intraoperative re-balancing	AC/BC button for automatic intraoperative re-balancing of AC axis and BC axis
Swing arm	Patented advanced movement system for perfect balance in six axes, vibration-dissipating technology
Floor stand control unit	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.
Light source	400-Watt dual xenon arc-lamp illumination system and built-in, automatic (after notice), lamp quick changer

Controls	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)
Integration of documentation	Prepared for integration of video and digital recording systems. Open architecture
Connectors	Numerous built-in connectors for video, IGS, and control data transfer 12 Volt DC, 19 Volt DC, and AC connections
Carrier for monitor	700 mm long Flexible arm with 4 axes for rotation and inclination to carry optional video monitor
Materials	All-solid metal construction
Surface coating	Covered with antimicrobial coating (AgProtect)
Range cantilever	Max. 1925 mm
Load	Min. 8.0 kg and max. 11.7 kg of accessories to the microscope
Weight	Approx. 310 kg as a fully configured system
Storage dimensions	1945 mm (height) × 1395 mm (width) × 830 mm (depth)

AMBIENT CONDITIONS

In use	+10° C to +40° C (+50° F to +104° F) 30 % to 95 % relative humidity 500 mbar to 1060 mbar atmospheric pressure
Storage	–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 standard ISO 13485 relating to quality management, quality assurance and environmental management.



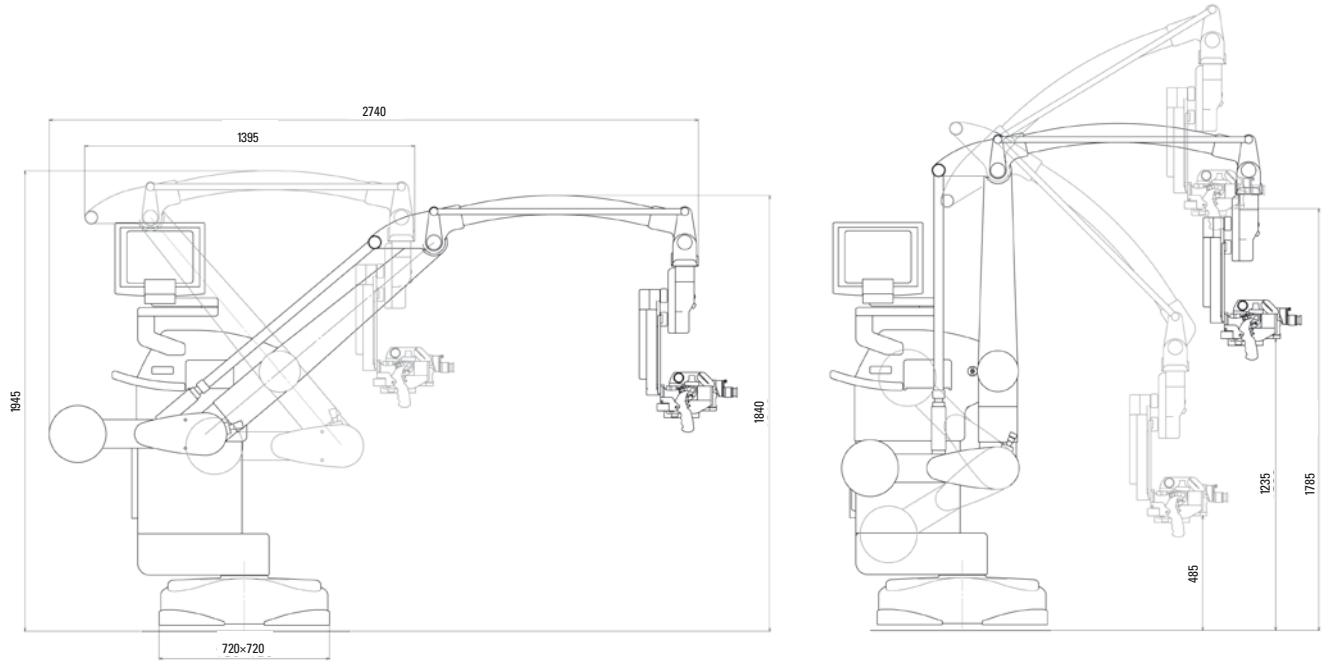
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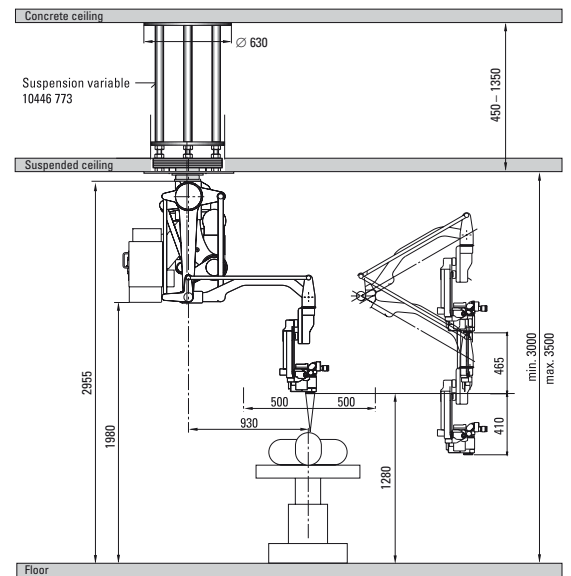
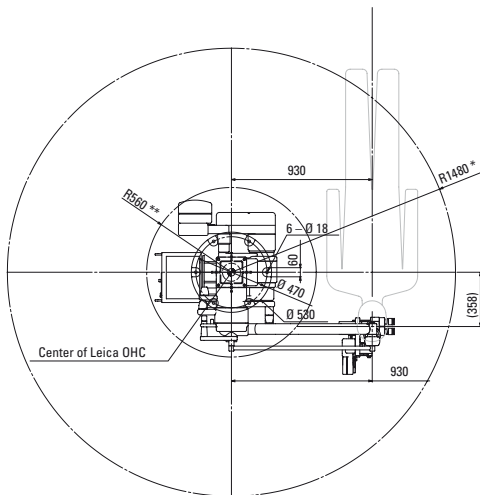
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> Mitaka is a trademark of Mitaka Kohki Co., Ltd.

M720 OH5



M720 OHC5



A close-up photograph of a white cylindrical object, likely a microscope stand component. A prominent red diagonal stripe runs across the surface. The text 'LEICA OH5' is printed in a light grey, sans-serif font, positioned below the red stripe. The lighting creates soft shadows and highlights the smooth texture of the material.

LEICA OH5

OH5 stand designed by Mitaka



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FLEXIBILITY

Leica Microsystems (Schweiz) AG · Max Schmidheiny Strasse 201 · CH-9435 Heerbrugg
T +41 71 726 3333 · F +41 71 726 3399

www.leica-microsystems.com

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