

From Eye to Insight

Leica
MICROSYSTEMS



Proveo 8x
3D Digital Microscope

MULTIPLY YOUR POSSIBILITIES



Proveo 8x

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Introducing Proveo 8x, a 3D digital microscope for ophthalmology. Experience exceptional 3D 4K visualization with real-time data integration in a single cockpit-view. This digital ecosystem reveals enhanced visual information, guides real-time surgical decisions and offers multiple viewing possibilities for a smooth and comfortable surgical experience.



REAL-TIME 3D VISUALIZATION **MULTIPLIED**

- > Experience exceptional 3D imaging powered by Leica camera technology
- > Gain insight with EnFocus intraoperative OCT & ScenePro color enhancement software

See pages 04-07

COMFORT & FOCUS **MULTIPLIED**

- > Work comfortably with your preferred 3D monitor(s) setup
- > Access intraoperative OCT and phaco system information right in front of your eyes

See pages 08-09



ACCESS TO THE DIGITAL FUTURE
MULTIPLIED

- > Multiply your visualization possibilities with binocular-based or 3D heads-up surgery
- > Reimagine how you see, move and collaborate with the MyVeo headset

See pages 10-11

WORKFLOW EFFICIENCY
MULTIPLIED

- > Adjust Proveo 8x to your needs with versatile accessories
- > Personalize your settings and enjoy preset surgical steps for a smooth procedure

See pages 12-14



REAL-TIME 3D VISUALIZATION **MULTIPLIED**

Take your 3D experience to another level

Proveo 8x combines optical microscope excellence with advanced **3D 4K Leica camera technology**. Benefit from real-time 3D visualization of detailed structures, empowering you to make well-informed surgical decisions for both anterior and posterior segment surgeries.



The Proveo 8x is designed from the ground up with the surgeon's needs in mind. The depth of field in the 3D image is truly amazing. The colors are remarkably natural, comparable to what I see through the eyepieces.

Gavin Tan

Associate Professor, Head and Senior Consultant of the Surgical Retina Department, Singapore National Eye Centre



Exceptional 3D real-time imaging with Leica camera: See great details from shadow to light

At the core of Proveo 8x is its exclusive high-sensitivity native 4K Leica medical camera. It delivers accurate colors and texture representation, as well as depth resolution — regardless of your viewing options.



No perceivable latency

You can move your instruments smoothly without disturbing delays on the monitor.¹



Exceptional depth of field

Experience focused and crisp 3D images captured by two native 4K Leica cameras with great depth of field controls.²



Up to 30% higher resolution

Make precise incisions and placements even in low light conditions, thanks to the high-resolution 3D camera.³



Instant light adaptation

Respond effectively to rapid changes in lighting, ensuring consistent illumination without overexposure or underexposure.

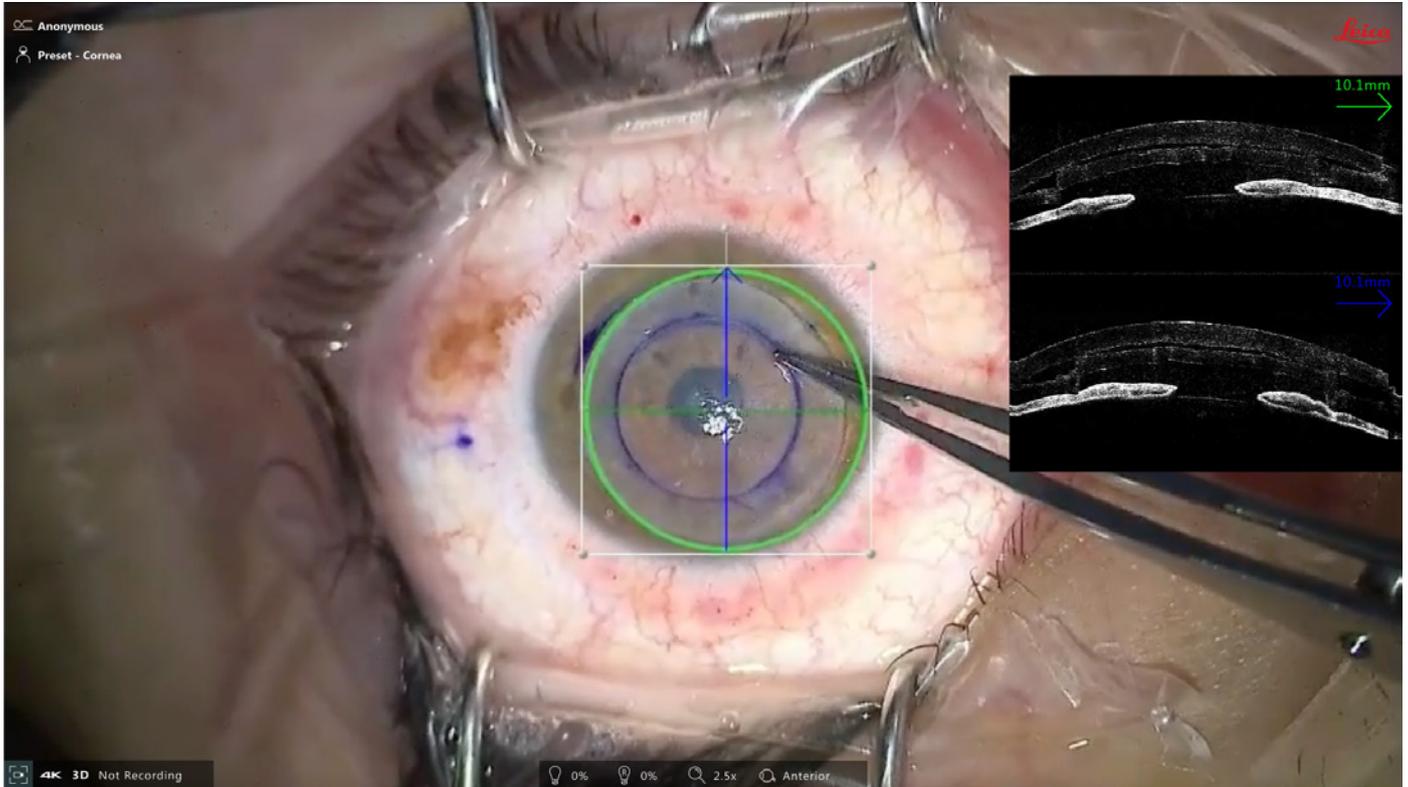
¹ Proveo 8x reaches as low as 16ms latency. Latency may vary with different visualization options.

² Qualification is based on a comparison with other products in the Leica portfolio.

³ Compared to digital microscopes, data on file.

■ EnFocus intraoperative OCT imaging system

EnFocus intraoperative OCT allows you to see what lies underneath the surface. It gives you additional real-time information for a complete understanding of how subsurface tissue reacts to your surgical maneuvers. With Proveo 8x, you can choose to integrate intraoperative OCT or upgrade it later.

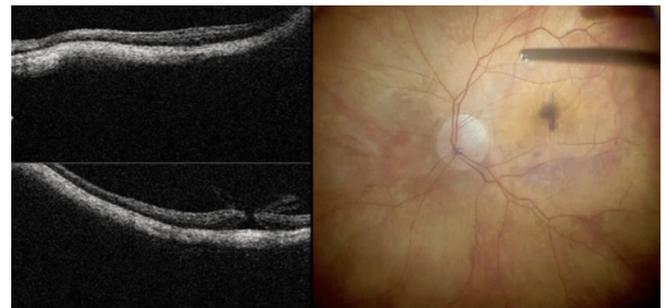


Greater insight

- > Identify issues more clearly with an axial resolution of $4\ \mu\text{m}$ in tissue with the patented Leica spectrometer design.
- > Observe the entire surgical field from the center to the periphery at all magnification levels thanks to a 20 x 20 mm lateral field of view.

Immediate confirmation

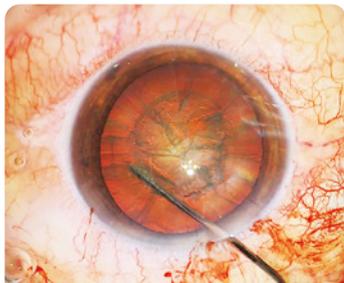
- > Receive immediate feedback at each step such as verifying adherence of donor tissue in DMEK or DSAEK surgery.
- > Use on-screen live measurements for additional confirmation such as cornea thickness and needle depth during DALK.



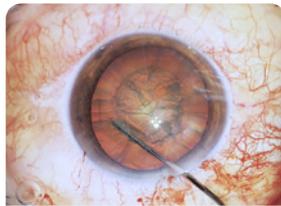
Customize your OCT view with split screen mode

■ ScenePro digital color enhancement software

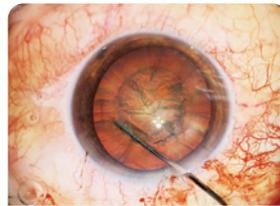
Gain real-time insight into detailed structures for more targeted and well-informed surgical decisions. The Proveo 8x offers various color, temperature and contrast filters to multiply your insights instantly. You can even customize these filter settings.



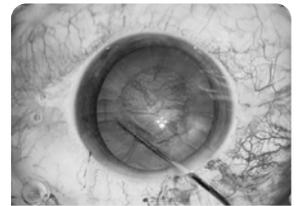
(↔) Live surgical image



❄ Anterior Cold



☯ Anterior High Contrast



▣ Monochrome



Anterior mode filters



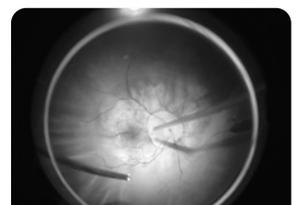
(↔) Live surgical image



🟢 Posterior Green



🟡 Posterior Blue



🚫 Posterior Red-free



Posterior mode filters

Examples of software-generated images for illustrative purposes only.
Additional ScenePro filters: Anterior Warm, Posterior Warm, Posterior Cold, and Posterior Vitrectomy.

PROVEO | 8x



COMFORT & FOCUS MULTIPLIED

Work comfortably with your preferred visualization setup

The unique C-arm design of Proveo 8x ensures an unobstructed view of the 3D display. When you are performing heads-up surgery, either in a superior or temporal approach, you will experience reduced neck strain.

■ 3D monitors for flexible positioning

Choose either the 55" or 32" monitor depending on your OR needs for 3D heads-up surgery. If you work in a temporal position, the smaller 32" monitor can be quickly adjusted to support your workflow efficiency.

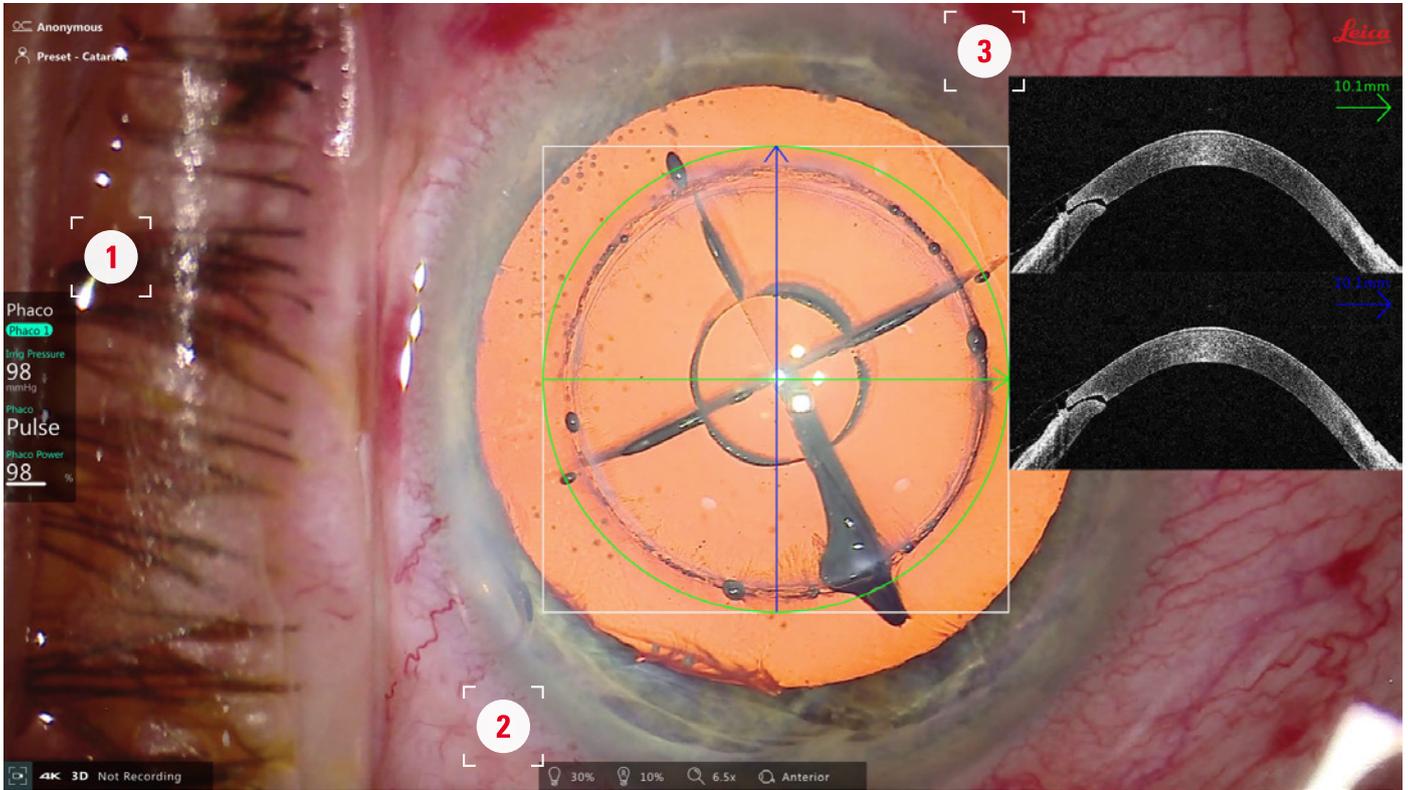
■ Working in a small OR?

The base of the 32" Flexarm-monitor is easily positioned under the operating table to provide a closer surgical view (see right image).



■ Experience a surgical cockpit view with seamless data integration

Proveo 8x provides a seamless surgical cockpit view, allowing you to stay focused on a single screen or with the MyVeo surgical headset by integrating data from multiple systems into one cohesive display. It overlays key phaco system* parameters and offers real-time intraoperative OCT confirmation right in your line of sight - eliminating your need to check multiple screens.



Software-generated images for illustrative purposes only.

1

Real-time data overlay from the phaco system to support your surgical decisions.

2

Key microscope settings at a glance for easy checking, such as main illumination and magnification levels.

3

Intraoperative OCT provides additional real-time information to support you in making immediate confirmations.

* Proveo 8x is compatible with the EVA NEXUS™ phaco system from DORC.

Binocular-based

3D heads-up



ACCESS TO THE DIGITAL FUTURE
MULTIPLIED

Multiply your visualization possibilities

Explore a new era of surgical imaging with flexible viewing options. Choose from binoculars, 3D monitors, or the MyVevo surgical headset, and transition to digital visualization at your own pace.

Binocular-based configuration



3D configuration



■ Binocular-based or 3D heads-up surgery: The choice is yours

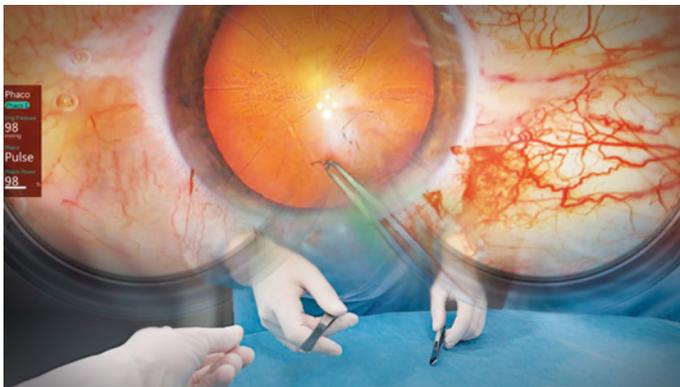
Proveo 8x is a modular microscope with interchangeable viewing options. You can even switch from one configuration to another without having to replace your microscope. This allows you to be flexible and adapt your Proveo 8x to your needs and any future developments.

The MyVeo headset



Reimagine how you see, move, and collaborate with the MyVeo headset

MyVeo, the all-in-one-surgical visualization headset, provides a live 3D view directly in front of your eyes. It frees you from oculars or monitors, and enhances your teaching and learning experience.



Large unobstructed peripheral view

■ MyVeo benefits for you and your team

- > Work comfortably in an upright posture.
- > Peripheral view - observe the patient, your hands, the instruments and your colleagues simultaneously while the surgical image is displayed on the headset.
- > Share the same live 3D view as the main surgeon.
- > Use up to three headsets simultaneously.
- > Stay focused with a single-integrated view with seamless data integration from the phaco system and intraoperative OCT.



**WORKFLOW EFFICIENCY
MULTIPLIED**

Supporting you step by step through your procedures

Typical ophthalmic surgeries are divided into phases, each requiring specific levels of light, focus, and magnification. With the Combination Mode of Proveo 8x, you can pre-define and program your required settings for each step of both anterior and posterior procedures.

Work without interruptions with Combination Mode



Program up to 5 steps of your surgical procedures

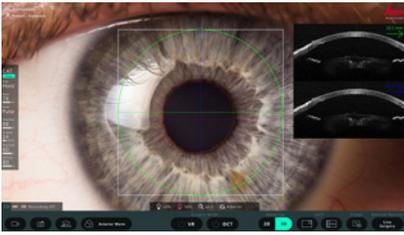


Choose specific levels of light, focus and magnifications



Save individual settings for all surgeons

■ Simple to start, fast to finish



The image composition serves only to illustrate the user interface.

Intuitive touch screen user interface

Display your live microscope and intraoperative OCT images on the 27" 4K microscope monitor, and select, modify, and load your preferences through the intuitive touch screen user interface.

Easy auto-reset at the end of surgery

You simply move the swing arm up and all microscope functions automatically reset, bringing the recorder to a stop. You are now ready for the next surgery.



Comfortably operate the wireless footswitch

You can effortlessly program the wireless footswitch with key microscope and OCT functions and avoid unnecessary interruption during surgery and maintain a comfortable working posture.

■ Adjustable for your needs



Wide-angle viewing systems by OCULUS

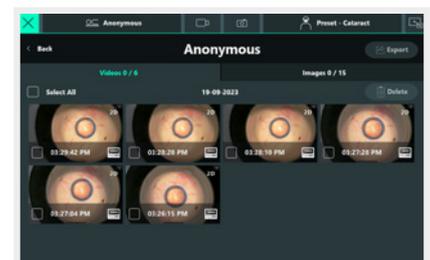
Observe the fundus during vitreous surgery with the contact-free, wide-angle observation systems:

- > BIOM® 5 m/5ml with manual focus
- > BIOM® 5 c/5cl with synchronized focus
- > BIOM® ready single-use



RUV800 wide-angle viewing system

With its integrated inverter, RUV800 provides an upright view of the retina to the surgeon, assistant, and the camera.



Built-in imaging & documentation system

- > Record videos and images in 2D or 3D 4K quality, utilizing the high compression 4 TB storage space.
- > Quickly store images and export via USB, and benefit from optimized data processing and connectivity for PACS and DICOM.



■ Always illuminated to enhance your view

Stable and bright red-reflex for smooth cataract surgery

CoAx4 illumination technology with four individual beam paths provides a consistent and brilliant red reflex especially during critical phases like phacoemulsification.

See more with less light

Optichrome premium optics by Leica Microsystems provide a high degree of light transmission. Even when working with low light you get high contrast, high resolution and natural colors.



**Up to 40% more uptime,
during repair time***

RemoteCare: Smart monitoring and cloud-based service

RemoteCare harnesses the power of connected devices with real-time system data to increase uptime and performance for your Proveo 8x. Designed with industry-leading security standards, RemoteCare detects system anomalies and alerts our Service team to proactively solve problems before they become critical. Plus, as a PremiumCare service contract holder, you can expect up to 40% more uptime during repair time for your Proveo 8x.

*On average, entitled systems experience 40% more uptime during repair time.

TECHNICAL SPECIFICATIONS

MODULAR CONFIGURATION OPTIONS

Proveo 8x 2D 4K IVC (Binocular-based configuration)	Optics carrier with integrated 2D 4K camera, integrated inverters, and binocular tubes for the main surgeon and the side assistant. Upgradeable to 3D.
Proveo 8x 3D 4K IVC (3D configuration)	Optics carrier with integrated 3D 4K camera, integrated inverters, and main surgeon binoculars for heads-up surgery and hybrid use. Compatible with MyVeo. Stereo attachment for second observer.

MONITORS FOR 3D-SURGERY AND OBSERVATION

32" 3D 4K cart-mounted monitor	Heads-up display for superior and temporal working positions <ul style="list-style-type: none"> - Flexarm allows for convenient positioning even over the OR bed - Viewing distance: 690-1380 mm - Models: Eizo LCD or Sony LCD
55" 3D 4K cart-mounted monitor	Heads-up display for superior and temporal working positions <ul style="list-style-type: none"> - Viewing distance: 1000-2000 mm - Models: FSN OLED or Sony LCD

MICROSCOPE FLOOR STAND

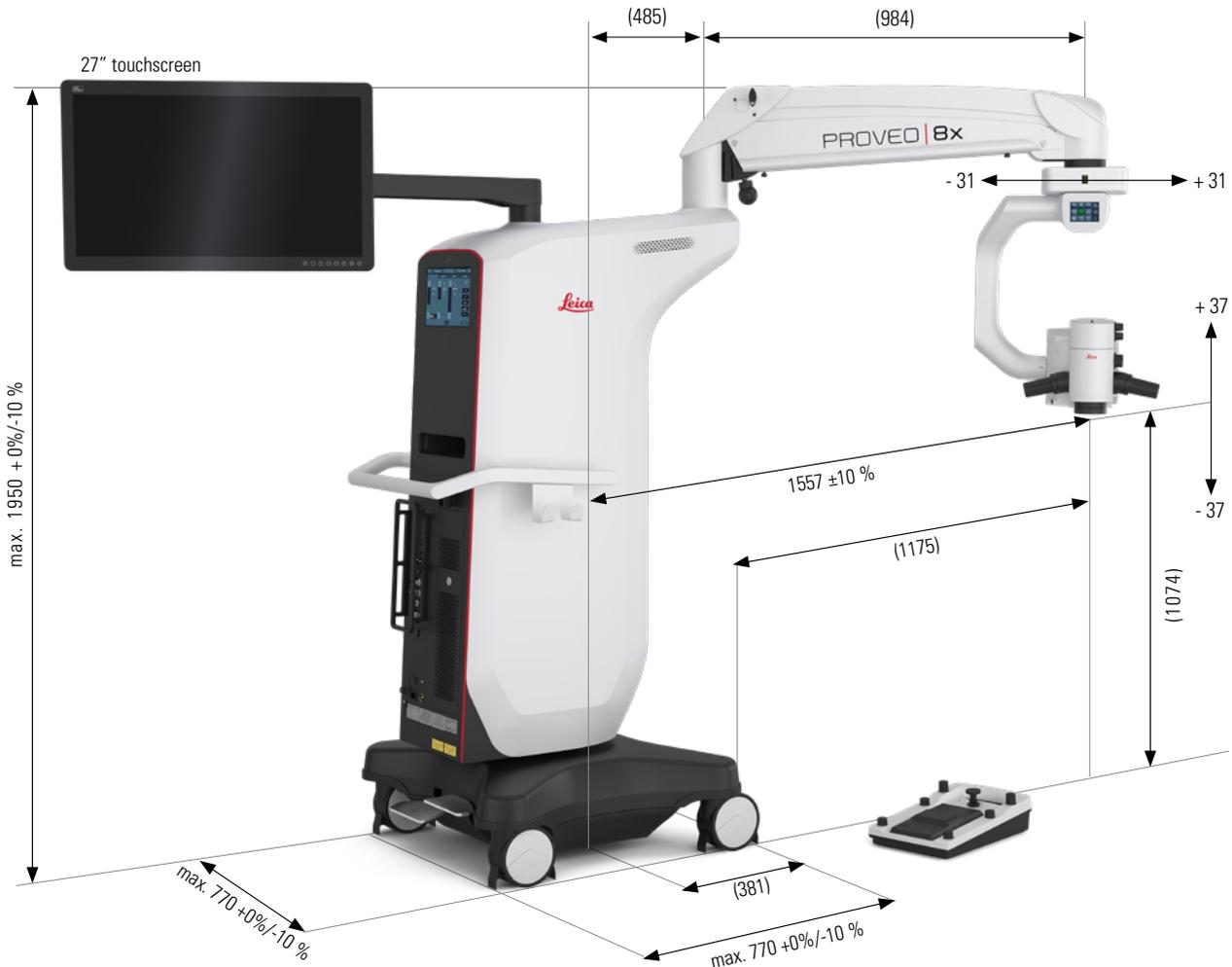
Power connection	- 1300 VA - 100–240 V~ 50/60 Hz
Protection class	Class 1
Material	- Use of RoHS conform materials - The Proveo 8x microscope is coated with a white paint which provides an antibacterial effect on surfaces
Base	770 × 770 mm with four 360° rotating castors with a diameter of 150 mm each, one parking brake
Weight	Approx. 380 kg without load
Load of optics carrier	Max. 8.0 kg from microscope dovetail ring interface
Max. height	1950 mm in parking position
Integrated imaging & documentation system	Built-in 2D/3D Leica Recording System: <ul style="list-style-type: none"> - Record in 2D or 3D quality utilizing a high-compression 4 TB storage space - Quickly store images and export via USB - Optimized data processing and connectivity for PACS and DICOM
Cybersecurity	Increased cybersecurity with secured patient and user data. <ul style="list-style-type: none"> - MDS2 Medical Device Security - International standards, e.g., ANSI/UL

RemoteCare	Designed with industry-leading security standards, RemoteCare detects system anomalies and alerts our Service team to proactively solve problems before they become critical.
Compatibility	- EnFocus OCT-system by Leica - Compatibility with EVA NEXUS phaco system of DORC (a Zeiss company) - Cassini Guidance System for toric IOL placement by Cassini Technologies

OPTICS AND ILLUMINATION

OptiChrome optics	For high contrast, high resolution, natural colors without chromatic aberrations
Magnification	6:1 zoom, motorized magnification factor
Total magnification	4.1× to 24.5× with 10× eyepiece 5.1× to 30.7× with 12.5× eyepiece
Fine focus	Available for assistant and 2D 4K camera
Focus range	75 mm
Objective / working distance	OptiChrome WD 175 mm/f = 200 mm WD 200 mm/f = 225 mm WD 225 mm/f = 250 mm <small>WD: Working distance f: Focal length</small>
Eyepieces	Wide-field eyepieces for persons wearing glasses 8.3×, 10× and 12.5× dioptric adjustment, ±5 diopter settings, adjustable eyecup
Illumination	Main light: <ul style="list-style-type: none"> - Integrated LED illumination system for intensive, uniform illumination of the field of view CoAx 4 coaxial illumination: <ul style="list-style-type: none"> - Integrated LED illumination unit for generating a clear and stable Red Reflex, decreasing stray light through the sclera and increasing the image contrast - Continuously adjustable brightness with halogen-like color temperature
Adjustable Iris	Diameter of CoAx 4 coaxial illumination can be adjusted from 4 to 23 mm
Keratoscope	Adapter available
Integrated laser filter for camera	For laser filters from 532 nm to 810 nm. Integrated in Proveo 8x 3D; optional for Proveo 8x 2D
Fixation light	Allows patient to focus on a target in order to keep the eye stable during cataract surgery
Fundus Viewing System	Compatible with BIOM® 5, BIOM® Ready, RUV800, and flat contact lens

Proveo 8x dimensions



Specifications in mm

Any description of EnFocus mentioned in this document refers to the registered medical device EnFocus 2300 Integrated OCT System.



Class I MyVeo surgical headset



Proveo 8x and EnFocus 2300 Integrated OCT System are class IIa medical devices



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