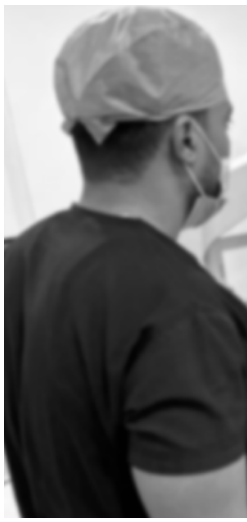
MediWorks

Elanus M

Ophthalmic Surgical Microscope SM660

See Everything in Details
Control As You Wish
Versatile System

Constantly optimize and strive for excellence



Origin

The mission of "making diagnosis and treatment smarter" brought us, a group of business partners craze for optical imaging technology together, and MediWorks positioned itself as "connecting the medical and technical communities" and officially became an active player in the field of ophthalmology.

A Clear Visualization

At the purpose of “saving more”, the continuous innovation in the processes of manufacturing, optical technologies, algorithms, and AI prepares us for the challenges in precision diagnosis and surgical procedures, the need for smarter products, demanding delay requirements, cloud computing, and distributed storage. These drive a clear visualization of our vision: " Stay innovative, develop precise and intelligent medical optical products, and serve global customers."

Future Goals

The brand promise of "Details make the difference" prompted us to build our corporate image. Serving clients from more than 100 countries and regions worldwide, we are committed to meeting our customer’s growing and diverse needs. We believe there is a far-reaching ultimate purpose of innovation ahead. Together, let us create a smarter future and improve the lives of billions.

Elanus M

Ophthalmic Surgical Microscope SM660

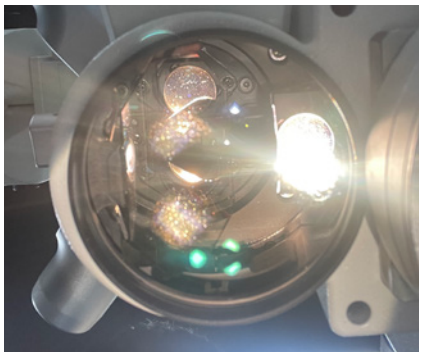
A standard surgical microscope specifically designed for ophthalmic surgeries

The best partner for your surgical life

Elanus M Ophthalmic surgical microscopes focus on details, continuously improve performance, and add a case management system, dedicated to helping ophthalmic surgeons optimize surgical solutions.

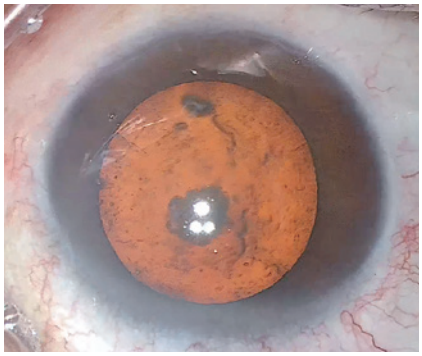
See Everything in Detail

Cutting-edge optic design
Adjustable bright and stable red reflex
Wider field of view
Independent assistant microscope
Motorized zoom system



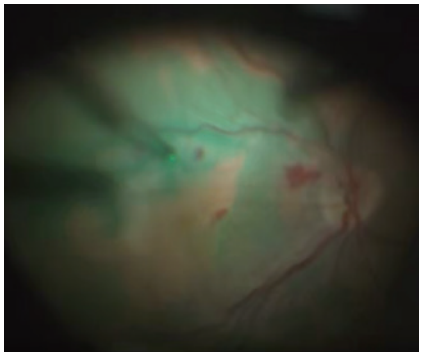
Control As You Wish

Electromagnetic locking
Multi-functional display
4K high resolution video
Personalized Customization
Case management system



Versatile System

Suitable for anterior segment surgery
Posterior segment surgery of the eye can be performed in combination with “MarveLens”

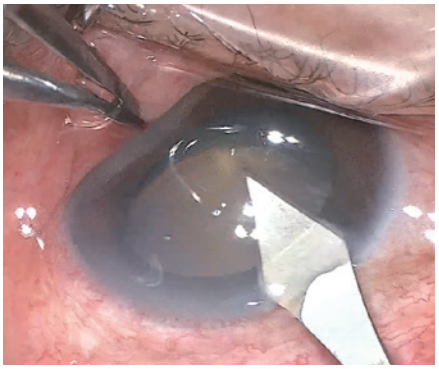


Cutting-edge Optic Design · Exquisitely crafted

" Exquisitely crafted "
creates a superior surgical visual experience

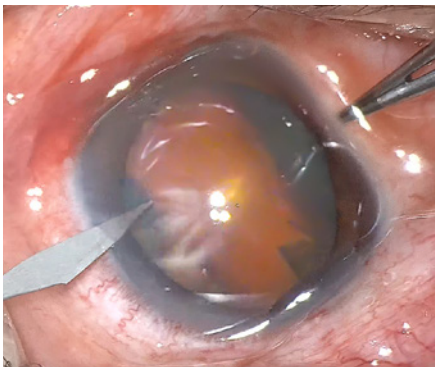
Design

The achromatic design not only corrects the chromatic aberration of red, green and blue light, but also corrects the spherical aberration of red and blue light. Thanks to the perfect correction of various aberrations, the microscope has a high resolution and better image quality. [1]



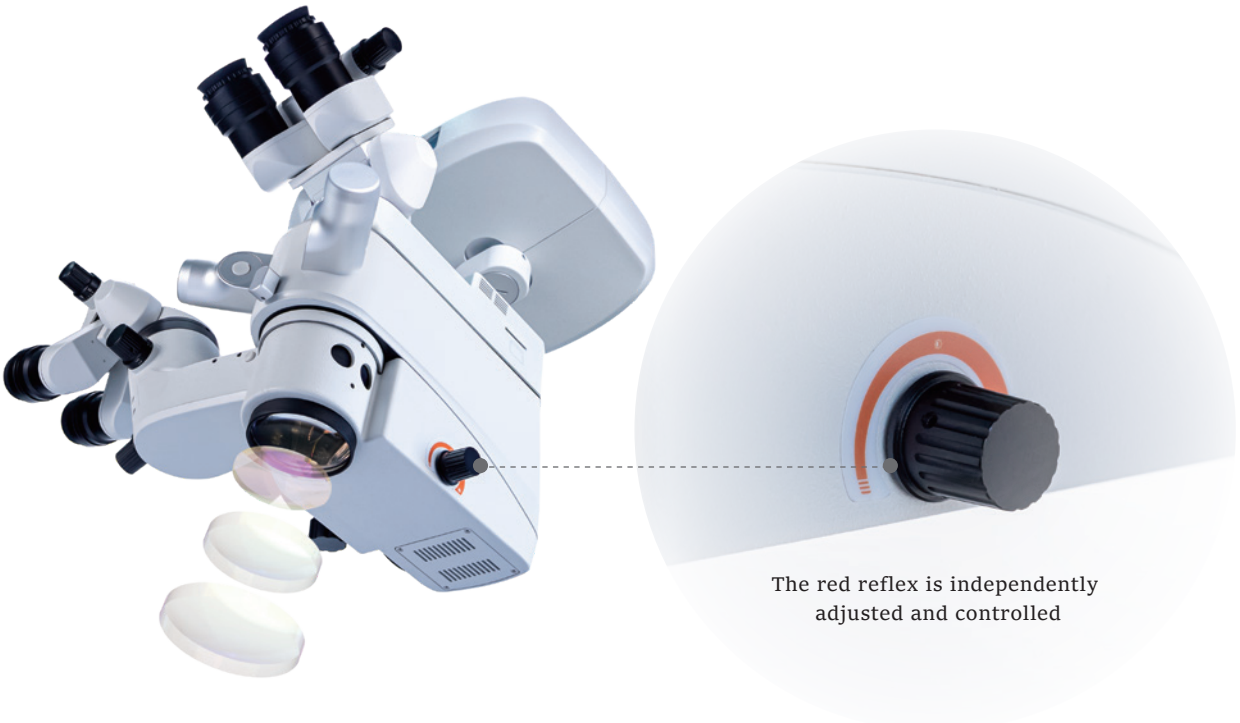
Processing

Selected ultra-high precision optical lens groups, leading in basic processing accuracy of the lens groups in the industry. The high precision of the processing ensures the performance of the optical design.



Bright and Stable Red Reflex

Red reflex brightness adjustment is independent of stereo illumination adjustment. The red reflex produced by the uniquely designed multi-directional stereoscopic coaxial illumination allows the surgeon to clearly see the boundaries of the capsule and the fine structure of the lens even in the weak light, thus easily performing capsulorhexis, stable aspiration of the residual cortex and steady polishing of the posterior capsule. The multi-directional red reflex easily overcomes problems such as insufficient illumination due to misalignment of the eye during surgery.



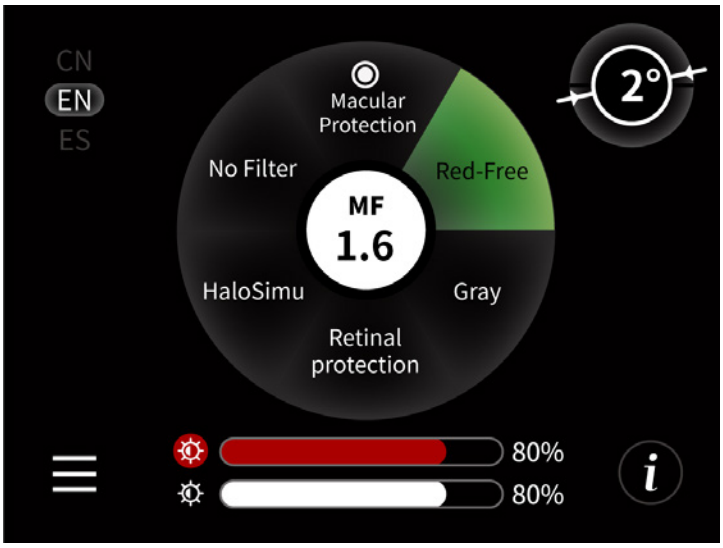
The red reflex is independently adjusted and controlled

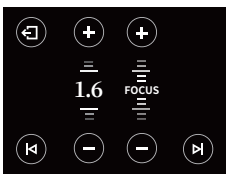
Rotatable coaxial independent assistant microscope

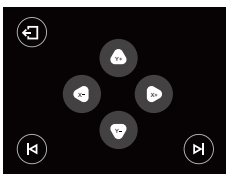
- Using the same optical path as the objective lens, the DOF is synchronized with the objective lens, and the focus can be fine-tuned separately to maintain clarity;
- Eyepiece magnification up to 26.3X provides a bright, wide and clear field of view.
- The focus of the assistant microscope is separated from that of the primary microscope and can be adjusted independently for the best view.
- In cases where frequent switching of surgical positions is required, such as temporal incision cataract surgery, simply rotate the assistant microscope to the desired side, making it easy to move and eliminating the risk of optical correction and hardware damage due to repeated installation/removal of the equipment, thus facilitating the surgery.

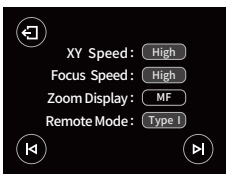
Multifunctional display

- The parameter Settings are clear at a glance.
- Touch-screen adjustment of magnification and X-Y-Z axis.
- Supports X-Y-Z axis fine-tuning speed, ZOOM display, and foot-controller mode as you want.
- Multiple filters can be chosen.









Optimized Design

The electromagnetic lock system offers a more comprehensive and detailed control experience

Auto Power-off Protection

The SM660 will automatically enter the powered-off state when the secondary arm is raised to a certain height. It will greatly facilitate surgeon ’s operation and extend the lifespan of LED.

360°

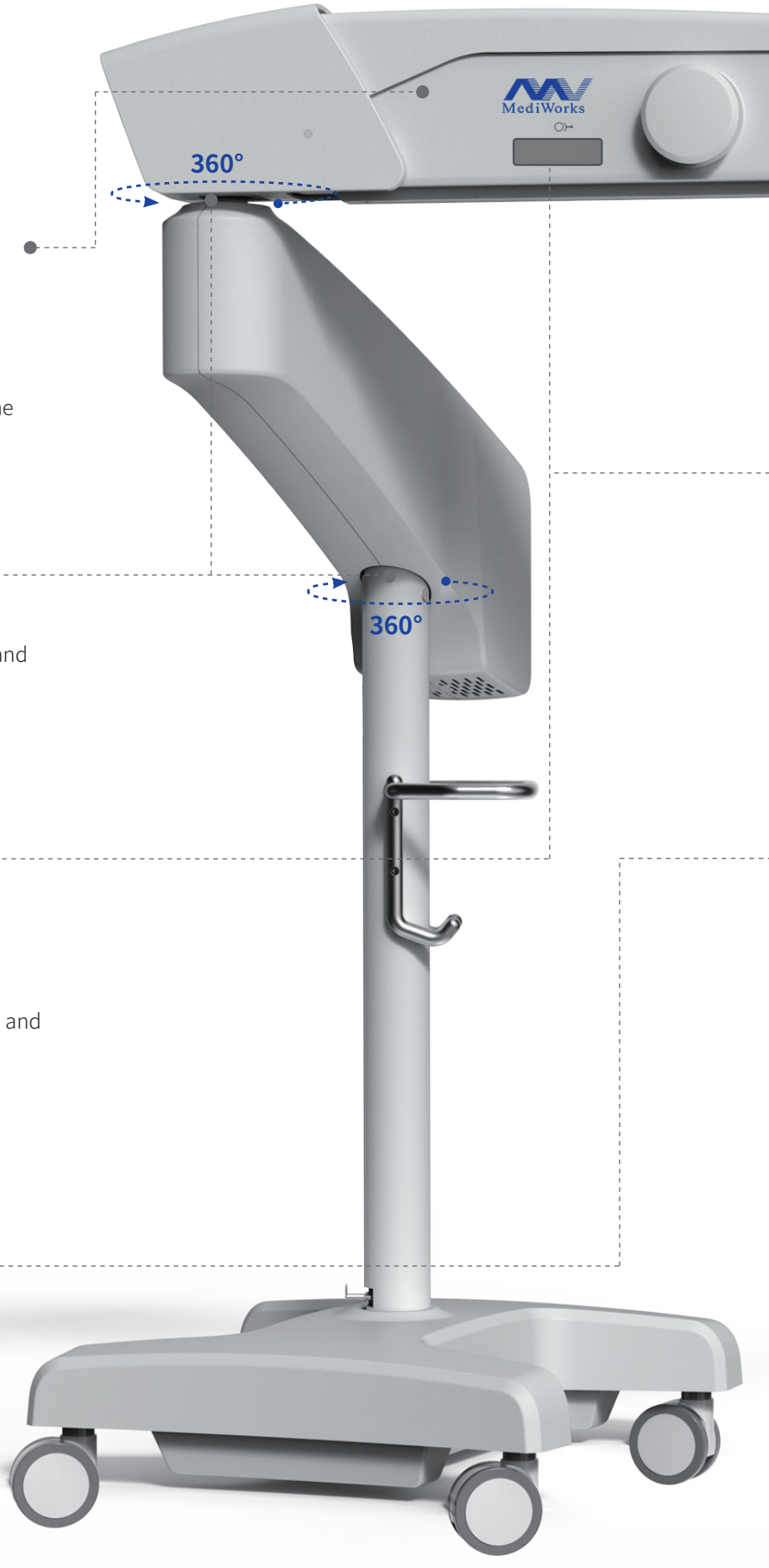
The large and small cross arms rotate 360°, and the electromagnetic lock is locked.

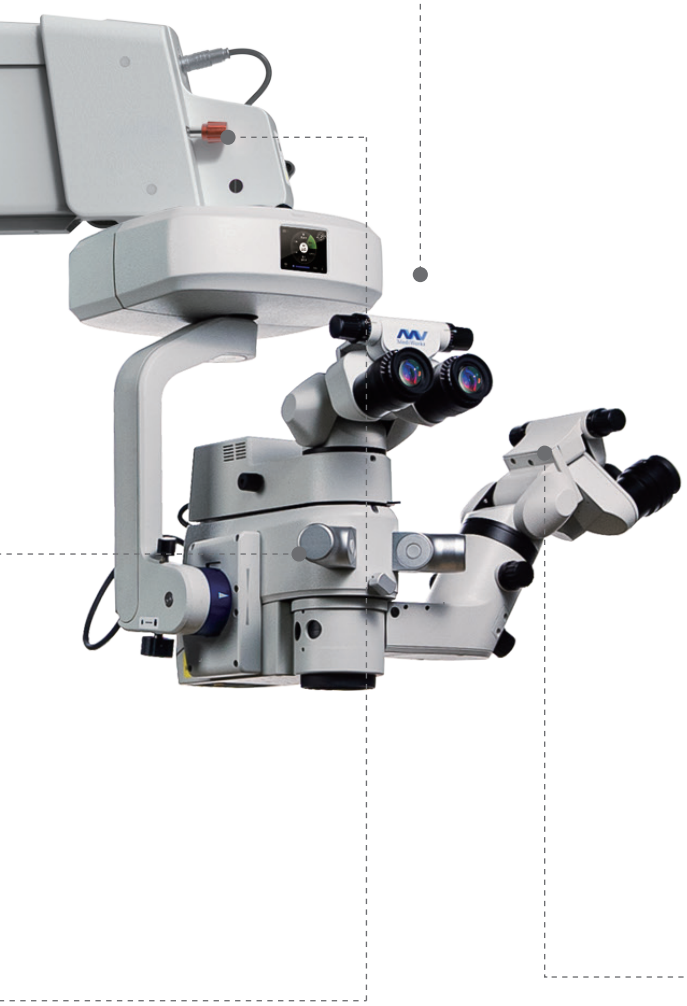
Electromagnetic Locking System

Hover at any position to keep the primary microscope always balanced.
Adjust the placement thrust to less than 10N and experience a brand-new, comfortable and smooth operation.
Ensure a stable surgical field of view.

Security Guarantee

Built-in backup power supply, easy bulb exchange and security lock on secondary arm ensure safe surgery.



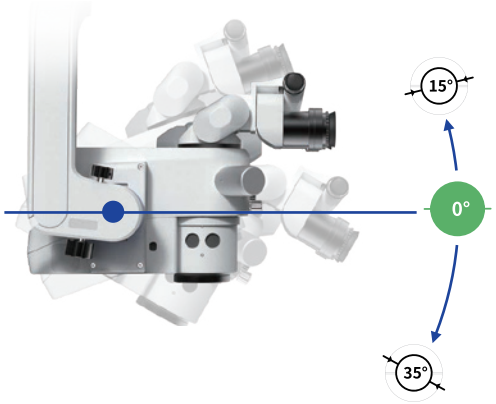


X-Y-Z Axis Fine Adjustment

Accurate lateral and longitudinal X-Y-Z axis movements for precise positioning during surgeries.

Adjustable Balance System

The inclination of microscope head can be easily adjusted upwards and downwards while keeping balance. The inclination degree ranged from 15° upwards to 35° downwards will be shown on the “Status Display”.



180°

The binocular tubes of surgeon's microscope and assistant's microscope can be smoothly adjusted from 0°to 180°.

Wireless Foot Control Panel

The foot control panel can totally control 14 Functions. Combined with personalized Settings, you can easily control the light source switch, magnification, focal length, X-Y coupling and filter switching according to your personal surgical habits. Let your eyes not leave the surgical field during the operation, making the surgical operation more convenient and smoother.

4K High Resolution Video

4K digital module with high-resolution digital output, high signal-to-noise ratio, high sensitivity;

Personalized Customization & case management system;

The integrated 4K 60FPS module does not require an additional beam splitter, nor does it need to add extra optical path and height.

The digital display can be independently focused. When zooming to 2.4, the both eyes can observe the image and the digital module image simultaneously clearly, making it easier to observe the posterior pole.

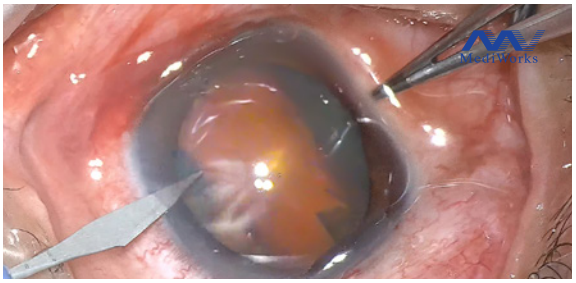
Eyepiece Projection

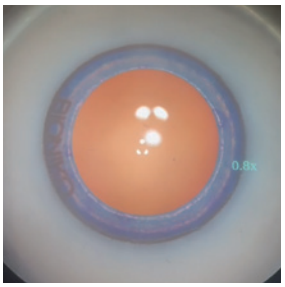
When the current parameters of the intraoperative microscope are switched, they are projected onto one side of the eyepiece.

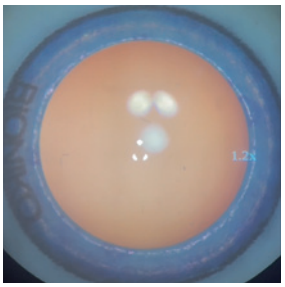
The optimized background light source makes the layer undisturbed and more natural.

The posterior surgery is automatically closed to prevent interference with the operation.

The preview interface displays information such as the current magnification of the surgery.



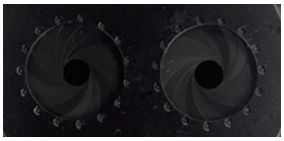


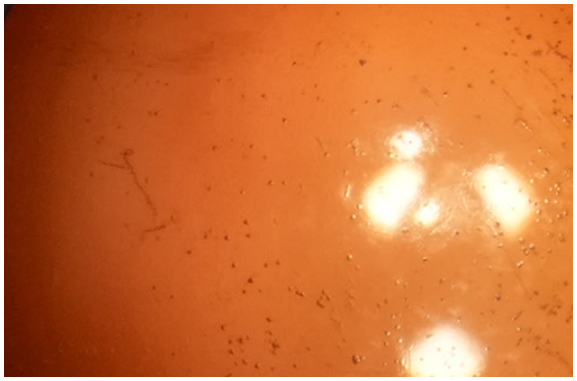


Enhanced Depth Of Field

Integrated with the 4K high resolution video;

Adjustable aperture, precise control of surgical positioning and details to meet the surgeon’s different requirements for brightness and depth of field.



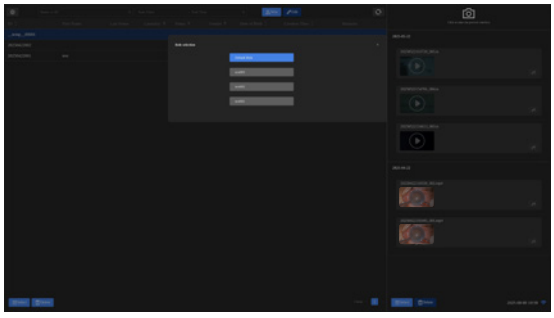


Personalized Customization

Personalized parameter Settings can create new foot control functions and distribution habits for surgeons, etc.

Existing users can also make changes to the Settings as needed.

Upon startup, you can choose the default role mode or the existing customer Settings, which is convenient for surgeons from different departments to have a comfortable surgical experience when operating the microscope, and thus complete the corresponding different types of surgeries more smoothly.



Case Management System

Optimization of surgical procedures

Assist in surgical planning, intraoperative record-keeping, and postoperative summary to enhance the efficiency and quality of surgeries.

Improve the quality of surgeries

Precise recording, postoperative review, and experience sharing promote technical improvement.

Image data integration

Seamlessly connect and manage high-definition images and video clips captured by surgical microscopes.

Knowledge accumulation and sharing

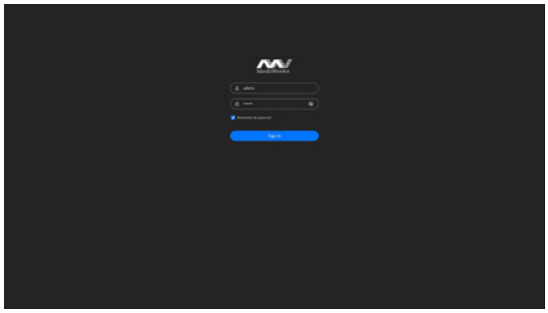
Establish a searchable case database to facilitate experience summary, teaching training and scientific research analysis.

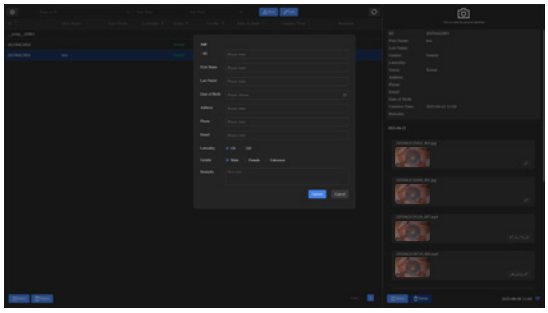
Quality improvement and traceability

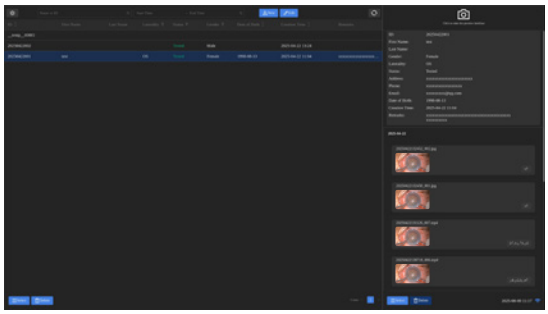
Support postoperative review, complication analysis, and surgical outcome evaluation to promote continuous improvement.

Ensure medical safety

Complete records are traceable, supporting quality management and risk control.







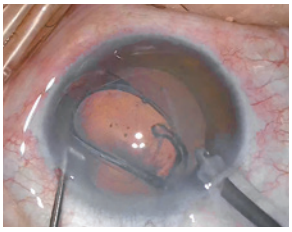
Clinical applications

Anterior segment surgery

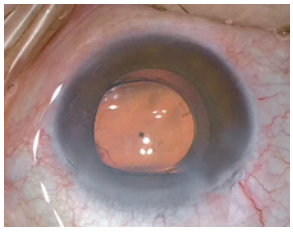
Phacoemulsification combined with intraocular lens implantation for cataract surgery, glaucoma surgery, ICL surgery, pterygium surgery, ocular trauma surgery.

Posterior segment surgery and anterior-posterior combined surgery

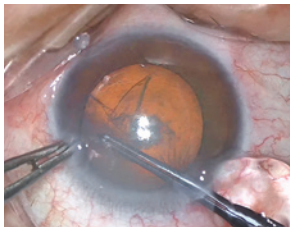
MarveLens non-contact wide-angle fundus viewing system is required)
Retinal detachment surgery, vitreous hemorrhage surgery, proliferative diabetic retinopathy surgery, macular hole and anterior membrane surgery, ocular trauma surgery, endophthalmitis surgery, etc.



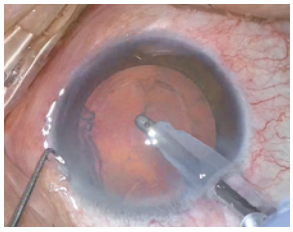
Implantation of intraocular lens



Adjustment of intraocular lens position



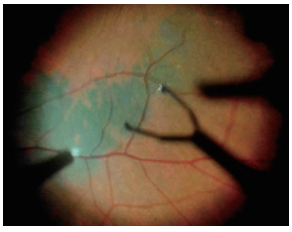
Performing capsulorhexis



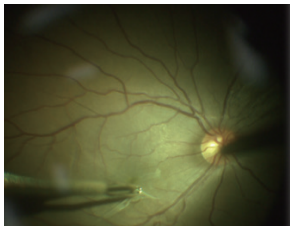
The nucleus and the residual cortex aspiration

Observe the retina in more detail

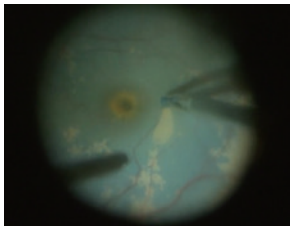
The MarveLens non-contact wide-angle fundus viewing system provides a clear and detailed view of the retina.
The convenient and secure zoom system allows the surgeon to focus more on the area of interest. Equipped with three aspheric fundus lenses, users have more options for areas and magnification.



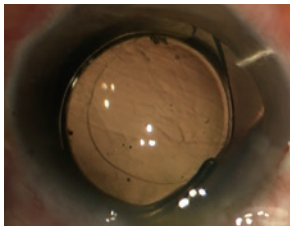
Inner limiting membrane staining



Posterior vitreous detachment



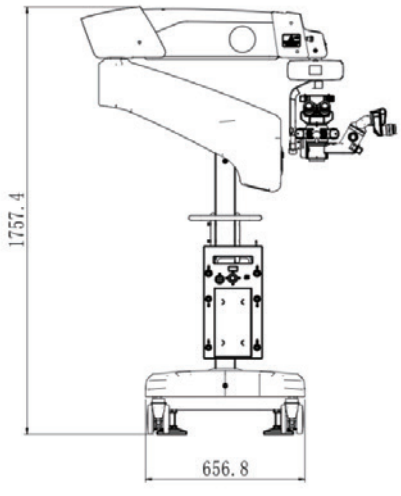
Inner limiting membrane peeling

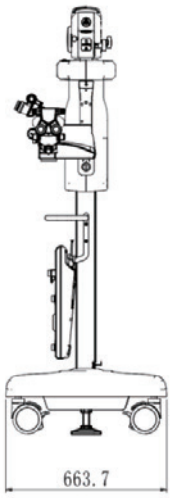


Implantation of IOL in combined surgery

Specifications

Surgical Microscope	Motorized zoom system with apochromatic lens, zoom ratio 1 : 6	
	Magnification factor γ = 0.4-2.4	
	Focusing: electric, focus range: 50 mm	
	Binocular tube: 0 - 180°, tiltable tube f = 170 mm	
	Wide-angle eyepiece 12.5x	
	Assistant microscope manual magnification change: 5 steps	
Illumination	Coaxial Illumination: MCSI- red reflex and full-field illumination	
	Light Source: LED illumination	
	One-touch automatic bulb exchange	
	Black dot filter(macular protection)	
	25% gray filter	
	Red-free filter	
	Blue blocking filter(retinal protection)	
	Simulated halogen filter	
	Aperture diameter: 50mm	
X-Y Coupling	Movement range: max. 65mm x 65mm	
	Automatic centering by pressing the reset button/standby position	
Suspension System	Floor stand	
	Maximum load capacity: 15kg (complete equipment, including accessories)	
	Electromagnetic locking system	
	Maximum extension radius of spring arm: 1270mm, 360° rotation	
	Universal casters	
Foot Control Panel	14 functions	
Weights and Measurements	Microscope Weight: 200kg	
	Package Weight: 320kg	
	Microscope Dimension: 1300 mm x 664 mm x 1760 mm (L/W/H)	
	Package Dimension: 1035 mm x 835 mm x 2005 mm (L/W/H)	
4K Video System	Resolution: 3840x2160	
	Software: personalized customization & case management system	
MarveLens	Mechanical data	Rotation angle, aspheric lens turret and holder: 0° – 360°
	Existing aspheric lenses	130°-100°, 115°-95°, 55°-45°
	Inverter	600A StereOptic inverter(manual)
	Laser Filter	532nm filter intergrated in the inverter





References
[1].Data on file

Notes：
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