

# THE NEW DIMENSION

## FULLY DIGITAL VISUALIZATION



SEE) LUMA™

# SeeLuma™ – CHANGE THE WAY YOU LOOK

SeeLuma™ promises to transform the way ophthalmic surgery is performed. Its innovative digital and 3D technology have set new standards in surgical precision and are empowering healthcare professionals to deliver the best outcomes for their patients.

The world's first digital binoculars, intuitive user interfaces, and a design that allows surgeons to look straight at a heads-up monitor without having to twist their neck, make SeeLuma™ a game-changer in ophthalmic surgery.

SeeLuma™ has been developed to facilitate even the most complex surgical procedures, where surgeons will experience a whole new level of visualization.

We created SeeLuma™ with a single goal in mind: to change the way you look.

## Digital Binoculars

Use the fully-digital microscope like an analog microscope, with all the additional benefits of having a 3D system.

## Adaptive Glaucoma Focusing

Binoculars do not require repositioning when the microscope is tilted, due to a separate suspension arm, XYZ coupling enables intuitive focusing during MIGS.

## Assist Mode

Draw annotations and surgical information into the surgeon's cockpit.

## Optimized Ergonomics

The heads-up display option and the digital binoculars have been specifically designed for optimal posture.

## Intuitive user interface

The on-screen menu gives the surgeon direct control and comprehensive configuration options.



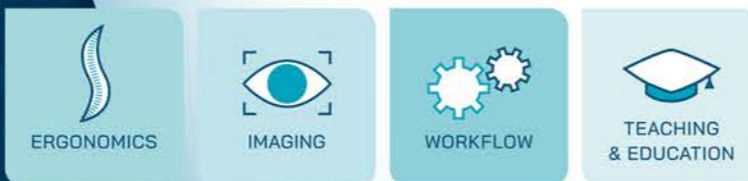
**Improved ergonomics**  
For a healthy back

**Adaptive Glaucoma Focusing**  
For efficient MIGS workflow

**Digital Binoculars**  
High visibility of relevant structures

**Digital Filters**  
High visibility of relevant structures

**Assist Mode**  
Live annotations for training



ERGONOMICS

IMAGING

WORKFLOW

TEACHING & EDUCATION



Scan, lean back and enjoy your private introduction video

SEE) LUMA™

BAUSCH+LOMB

Powered by HEIDELBERG ENGINEERING

# YOUR HEALTH IS OUR PRIORITY

Digital microscopy was supposed to solve the real ergonomics problem that exists in ophthalmic surgery, namely the ability to sit straight without exerting strain on the surgeon's neck and back. In reality, other digital microscopes force you to operate while looking sideways at a monitor to perform surgery. These shortcomings mean that over half of ophthalmic surgeons report job-related neck or back pain, with 15 % finding that this limits their work.<sup>1</sup>

SeeLuma™ addresses this challenge with its C-shaped suspension arm, which enables surgeons to view the 55" 3D 4K monitor straight ahead of them. The fully digital binoculars can be positioned freely, allowing you to take on an ergonomic posture and work with greater ease.



The digital binoculars are mounted to a separate suspension arm, giving the surgeon the flexibility to position themselves ergonomically.



The C-shaped suspension arm enables surgeons to view the heads-up surgical monitor straight ahead of them, allowing surgeons to sit straight, without exerting strain on their neck and back.



The digital binoculars stay in an ergonomic position, even when tilting the microscope head, for example during glaucoma surgery.



<sup>1</sup>Betsch et al. Ergonomics in the operating room: it doesn't hurt to think about it, but it may hurt not to! Can J Ophthalmol. 2020 Jun;55(3 Suppl 1):17-21

# PICTURE A BRIGHTER FUTURE FOR YOUR PATIENTS

SeeLuma™ is the result of decades of experience in the fields of visualization and diagnostic imaging, offering high image quality.

### 1. Premium image quality

SeeLuma's™ color reproduction, contrast, and resolution, along with a 9x depth of field enhancer, enable surgeons to confidently tackle complicated surgical cases, with cinematographic-quality visualization.

### 2. Complete control of imaging data

SeeLuma™ provides complete control over all imaging data, with advanced digital tools to highlight anatomical structures, display useful digital markers, and enable machine learning applications.

### 3. Multiple ways to observe and perform surgery

In addition to the 55" and stand-mounted 31" 3D 4K monitors, SeeLuma™ offers surgeons unique fully digital binoculars with all the advantages of monitor-based 3D surgery, including enhanced depth of field, lower illumination levels than in optical systems and the ability to use AssistMode.

Individual pupillary distance adjustment

Break release for ergonomic positioning

Adjustment of individual refraction

High resolution displays

## THE WORLD'S FIRST DIGITAL BINOCULARS

Operate without the need for 3D glasses or a large monitor, while benefiting from all the advantages of digital surgery, including an enhanced depth of field, less light toxicity and digital filters.



Experience optimised depth of field and image quality through the digital binoculars.



Tackle complicated surgical cases with a heads-up 4K 55" monitor.



Heads-up surgery with a space-saving 4K 31" monitor.

## SEE MORE, DO MORE

SeeLuma™ provides the tools to tackle even the most complex ophthalmic surgeries with confidence.

A seamlessly integrated OCULUS BIOM 5c viewing system displays the retina with a high level of detail and clarity, even in low light conditions. The combination of advanced red reflex illumination and optics that have been customized for the needs of fully digital imaging, shows fine anatomical structures, which can be further highlighted with the digital filter module.

Our visualization platform gives you ultimate control over the surgery: easily activate the built-in keratoscope and evaluate corneal curvature with the footswitch; choose from several digital filters to facilitate different procedures; or adjust the brightness of the image digitally to reduce light toxicity while maintaining high detail.

These features create the foundation for future image-guided surgical applications.



Compatibility with the BIOM 5 provides a high level of clarity with wide-angle viewing.



The fully integrated keratoscope provides a quick assessment of the corneal curvature.





WORKFLOW

# YOUR ULTIMATE SURGICAL COMPANION

Whether controlled by nurses on the e-rack or by the operating surgeon using the footswitch, SeeLuma™ provides a fully integrated system that enables seamless control of system parameters, ensuring an optimized workflow.

Take advantage of optimized workflows; the OCULUS BIOM 5c works harmoniously with SeeLuma™, automatically adapting parameters such as zoom, focus speed, white balance, image inversion, and footswitch layouts, allowing you to continue surgery without interruptions.

Surgery can be recorded in full 3D 4K resolution and processed in the integrated video editor, prior to being exported.



The integrated BIOM® 5 is highly valued by surgeons due to its ease of handling. It can be fully controlled by the microscope's footswitch.



The touchscreen user interface allows for an optimal workflow and intuitive control by the surgical team.



Intraoperative access to system functionality for the surgeon via the footswitch and an on-screen menu.



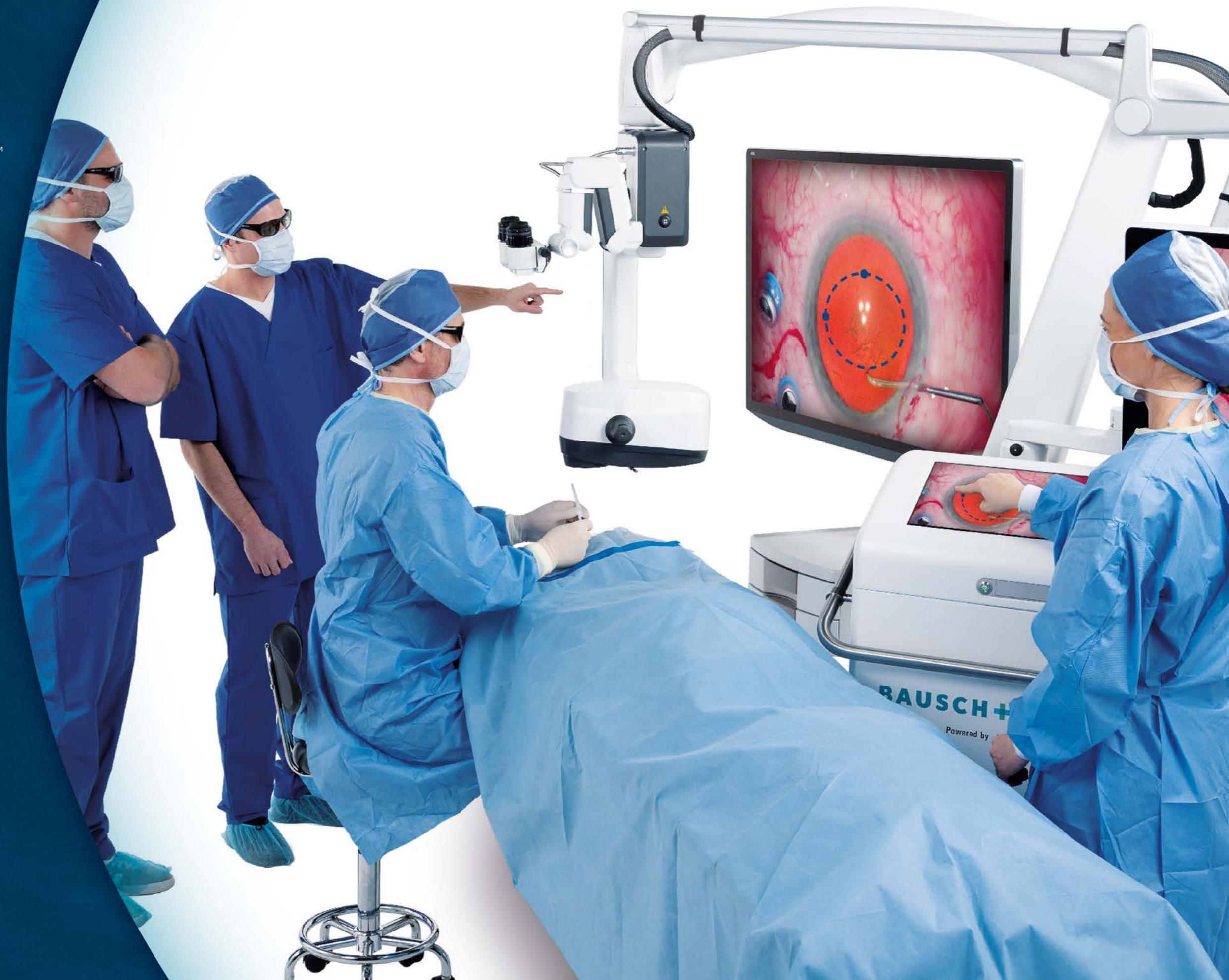
## LIGHTING THE WAY

The ideal classroom assistant, SeeLuma™ transforms the surgical experience inside and outside of the OR by creating an immersive surgical environment.

Surgeons can connect multiple wireless displays simultaneously, allowing trainees and stakeholders to follow and anticipate surgical steps as they occur, in-person and remotely.

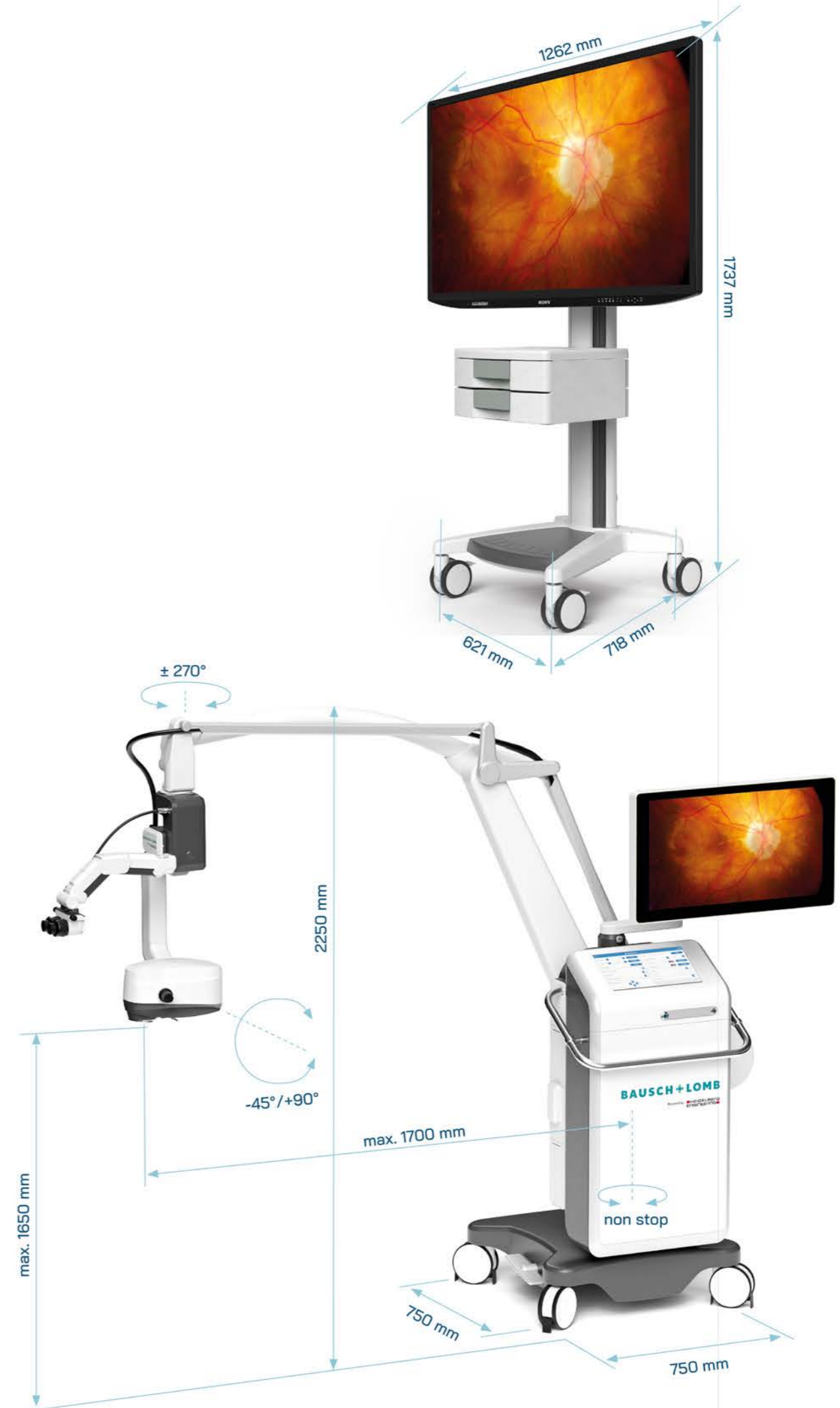
Offering real-time support via a touchscreen interface, the Assist-Mode feature allows users to make annotations or notes on the surgical image, enabling cutting-edge collaboration during live surgery.

Alongside Bausch + Lomb's successful Lifelong Learning educational program, SeeLuma™ highlights our dedication to the advancement of ophthalmology.



# SEE LUMA™

Display Options	Digital Binocular 55" 3D 4K monitor 31" 3D 4K monitor
Camera sensor resolution	2x 4K (3840 x 2160 pixels)
Working distance	200 mm
Focus range	90 mm (in 0° position)
Magnification	Motorized optical 6x zoom
Illumination	2x LED
Build-In Keratoscope	yes
Surgical Annotations	yes
Digital filters	yes
Physical filters	Retina protection filter (built-in) Retina protection plate (built-in) 532 nm laser filter (attachable)
Video Editing	yes
Display option for observers	55" / 31" 3D 4K monitors 4x wireless 2D/3D monitors, up to 4K resolution
Recording	4K-UHD (3840x2160), 60fps Full-HD (1920x1080), 60fps Full-HD (1920x1080), 30fps
Interfaces	1x HDMI optical output 2x HD-SDI in 2x HD-SDI out Wireless video transmitter USB 3.2 gen 2








SeeLuma™ will revolutionize ophthalmic surgery by addressing real ergonomic problems surgeons face while simultaneously providing advanced imaging capabilities and digital tools to tackle even the most complex cases with confidence.

With SeeLuma™, ophthalmologists can now immerse themselves in a new surgical experience that is destined to transform the field.

UM\_INT\_SeeLuma\_Brochure\_032023\_01

 @BauschSurgical

 Bausch + Lomb Surgical

 [www.bauschsurgical.eu](http://www.bauschsurgical.eu)

Please contact your local representative for more information on Bausch + Lomb products.

© 2023 Bausch + Lomb Corporation. All rights reserved

@/™ are trademarks of Bausch + Lomb Corporation or its affiliates.

All other brand/product names are trademarks of the respective owners.

**BAUSCH + LOMB**  
See better. Live better.