



OPMI VARIO 700
Focusing on the Essentials



We make it visible.



// DYNAMIC MICROSCOPY
MADE BY CARL ZEISS

OPMI VARIO 700

Focusing on the Essentials

Combining state-of-the-art optics with a host of innovations, OPMI® VARIO 700 seamlessly integrates into the operating room environment. Physicians from multiple specialties provided valuable input in fine-tuning every aspect of its unique design. The result is a multidisciplinary surgical microscope that ideally complements how surgeons operate, positively impacting virtually every facet of the OR workflow.

■ Visual Clarity

High-end ZEISS optics, xenon illumination and the integrated high-definition video chain allow surgeons to see more clearly and operate with greater confidence.

■ Efficiency

Superior system ergonomics and automated functions improve surgeon comfort and streamline surgical workflow from pre-op to post-op. OPMI VARIO 700 can be configured to optimally meet current needs – and easily scaled up, as needs grow.

■ Beyond Visualization

More than just a surgical microscope, OPMI VARIO 700 can be integrated with current and future ZEISS Surgical Workplace solutions to offer surgeons an improved OR experience.



Optics

A visible difference

OPMI VARIO 700 features the latest Varioskop® with apochromatic optics, which provides outstanding optical clarity, detail resolution and excellent color reproduction. Automated focus with SpeedFokus™ ensures optimal visualization over a 200 - 500mm working range.

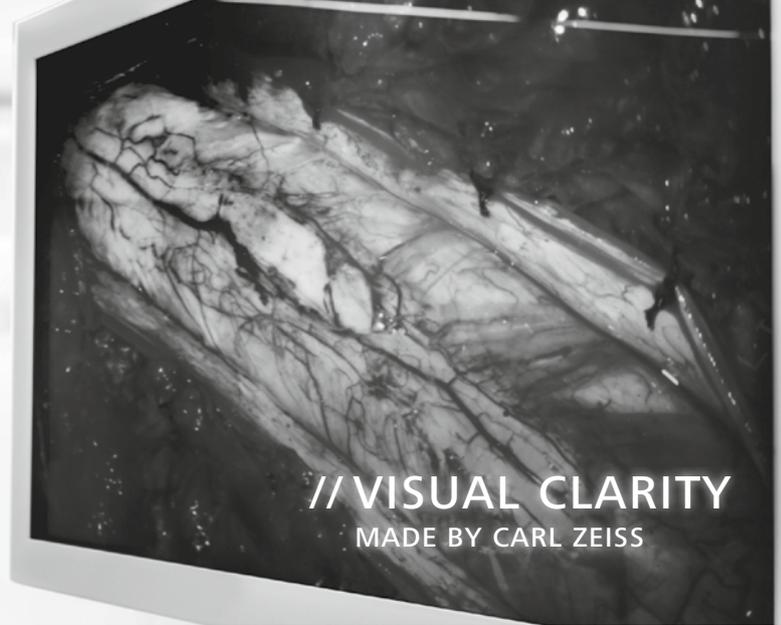
Ultra-bright illumination

With the optional 300 W xenon light source, even deep surgical channels are brightly illuminated. In case of a lamp exchange required during surgery, an equivalent second light source is automatically available. Moreover, the Automatic Iris Control™ limits illumination to the field of interest while the Focus Light Link™ function automatically controls brightness according to the working distance, both in the aim of preventing inadvertent light exposure.

Instant magnification

The PROMAG™ functionality integrated in the Foldable Tube f170/f260 offers surgeons an additional 50% magnification. With a quick turn of a dial, surgeons can choose between maximum magnification and maximum field of view.

OPMI VARIO 700 – See more and operate with greater confidence.



Video

Fully integrated video chain in HD

Incorporating a fully integrated, 3-chip HD video camera and an HD recording system, OPMI VARIO 700 enables surgeons to capture razor-sharp surgical views without the need for external cameras or space-consuming video towers. The automated Video SpeedFokus™ generates crystal-clear images for the surgical staff, independently of the surgeon's view. HD images and HD videos can be easily displayed on the attached 22" HD monitor. Furthermore, HD DigiZoom allows for live video magnification via the integrated touchscreen user interface.

Image & video recording

For patient record keeping, presentations, publication or review at a later time, the video data can be recorded with the integrated HD recorder and transferred to a USB storage medium or to the local network (LAN) of the hospital. Optionally, the complete video chain is also available in standard definition.

OPMI VARIO 700 – Making documentation simple.



Defocused images on the monitor or on the recorded video file are a thing of the past with Video SpeedFokus.



Recording and data transfer is simplified via USB stick or the system's networking feature directly to the hospital network.

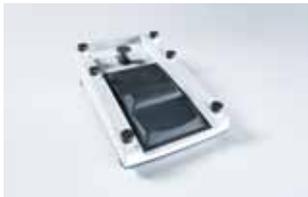


Image and video data are available at all times for presentations and publications.

// EFFICIENCY
MADE BY CARL ZEISS



Even in extreme positions, the Foldable Tube f170/f260 ensures a comfortable working position.



The wireless foot control can be freely positioned in the OR – without the hindrance of cables. It can be used to control multiple microscope functions freeing the surgeon's hands to perform the procedure.



AutoDrape saves considerable time in the OR preparation for surgery: the drape clings tightly to the system in a matter of seconds – without compromising the mobility of OPMI VARIO 700.

Streamlined for Efficiency

Enhancing surgical workflow

OPMI VARIO 700 raises the bar in OR efficiency with innovative product enhancements never seen before in this product class. AutoBalance™ quickly ensures system readiness in the operating theater with any surgical configuration – simply and effectively at the touch of a button. The AutoDrape® function facilitates the draping process by automatically evacuating the air inside the drape minimizing draping slack and optimizing system movement. The intuitive touch screen interface accelerates preoperative setup by enabling easy access to all microscope functions and storage of custom profiles for each user. With its cable-integrated design, OPMI VARIO 700 also simplifies post-operative maintenance.

Effortless positioning

Repositioning the microscope couldn't be easier with the ergonomic handgrip design and friction-free electromagnetic clutches. The unhindered mobility of the compact microscope head and extensive reach of the suspension arm greatly expand the system's effective work area, while also providing tremendous flexibility in the OR environment – whether large or small.

A picture of convenience

The patented multi-link design and rotating adaptor of the Foldable Tube f170/f260 makes it easy to provide a customized fit based on personal preference or surgical needs. The programmable handgrips, overhead display and optional wireless foot control create a surgical cockpit that places all essential microscope functions within reach, provides intraoperative data in real-time and allows surgery to be performed in total comfort.

OPMI VARIO 700 – A new paradigm in comfort and efficiency.



Versatility without Compromise

A unique value

Combining superior optics with highly advanced technologies at its price range, OPMI VARIO 700 represents a unique value. Its fast pre-operative setup and other workflow-conducive features further enhance its attractiveness.

Cutting-edge today ... and tomorrow

With its modular design and scalability with a wide array of optional accessories, OPMI VARIO 700 can be optimally configured for today's clinical needs – and those of tomorrow, as needs change.

Tremendous versatility

Equally well suited for spine, ENT, plastic & reconstructive and neurosurgery, OPMI VARIO 700 offers unsurpassed clinical versatility. The system can be reconfigured for any surgical discipline quickly and simply.

OPMI VARIO 700 – A system designed with foresight.

A sound investment:

- ✓ **Practical:** *meets the needs of four surgical specialties to ensure high utilization*
- ✓ **Modular design:** *covers a broad range of price and performance needs*
- ✓ **Scalable:** *supplementary functions can be added at any time*
- ✓ **Investment security:** *compatibility with existing and future ZEISS Surgical Workplace solutions*

»I used OPMI VARIO 700 for a thoracic surgery and it was perfect. Especially the small microscope head allowed a long working distance.«

*Richard Assaker, MD, PhD, Clinic for Neurosurgery,
Hôpital Roger Salengro, Lille, France*



Spine Surgery

A modern microscope for spine surgery must fulfill four criteria: excellent visual clarity over long working distances, an extended reach to accommodate large surgical workspaces, comfortable positioning flexibility for both surgeon and assistant in face-to-face configurations, and fast OR setup. OPMI VARIO 700 excels in all of these areas.



See more

OPMI VARIO 700 is equipped with ZEISS apochromatic optics that provide users unmatched visual clarity, sharpness of detail and color fidelity. Its 180 W (optionally, 300 W) xenon light source illuminates even the deepest lying surgical fields.



Extraordinary positioning flexibility

With a working distance of up to 500 mm and an extensive reach, OPMI VARIO 700 offers surgeons extraordinary positioning flexibility for accessing the desired field of view.

Ergonomic system adjustment

The patented multi-link design and the integrated rotating adaptor of the Foldable Tube f170/f260 allow surgeons and assistants to precisely adjust the working position of the system to provide optimal ergonomics throughout the surgery.

Fast system setup

The features AutoBalance and AutoDrape ensure fast system readiness, saving valuable OR time. While AutoBalance correctly positions the microscope at the push of a button, AutoDrape automatically removes the air from the drape.

OPMI VARIO 700 – Ideally suited for spine surgery.



The Foldable Tube f170/f260 provides a degree of positioning flexibility not possible with previous designs, ensuring that both surgeon and assistant can achieve a personalized fit.

»One of the most important aspects of the microscope is the fully integrated HD camera. No cables at all. No distraction and no damage. With its long arm, it is very useful in small ORs as you just need to position the microscope only once and still reach different positions, for example, the left or right ear.«

Joachim Hornung, MD, Department of Otorhinolaryngology, Head and Neck Surgery, University of Erlangen-Nuremberg, FAU Medical School, Erlangen, Germany



Ear, Nose & Throat Surgery

ENT surgery is unique in its sheer variety of procedures and the need to frequently reposition the microscope during surgery to establish the proper line of sight to the surgical field. Numerous ENT surgeons were consulted during the development of OPMI VARIO 700 – and it shows.



Superb optics

The unsurpassed visual clarity and large depth of field at several working distances provided by the system's apochromatic optics are particularly helpful when performing tympanoplasty. Thanks to the xenon light source, the surgical field is always optimally illuminated, even in deep channels during laryngeal procedures.



Precise, easy positioning

Equipped with handgrip-controlled electromagnetic clutches and a compact microscope head, positioning OPMI VARIO 700 is as precise as it is effortless, even with attached accessories. With the AutoBalance function, the system is easily balanced within seconds during the surgery – and remains perfectly balanced over the entire range of motion.

Laser compatibility

OPMI VARIO 700 provides an interface for easy integration of conventional laser micromanipulators. A focus lock feature ensures that the focal position of the laser and the microscope are precisely aligned.

Operate in comfort

The system's Foldable Tube f170/f260 allows personalized positioning, even at extreme microscope angles, as required in transoral laser microsurgery. With its unprecedented long reach, the system provides the flexibility needed to easily accommodate cases like bilateral ear treatments, without repositioning the entire system.

Image guided surgery in ENT

OPMI VARIO 700 provides an interface for connection of navigation systems thus providing surgeons with crucial information required during demanding surgical procedures.

OPMI VARIO 700 – Ideally suited for ear, nose and throat surgery.



OPMI VARIO 700 fits perfectly into small ORs ...



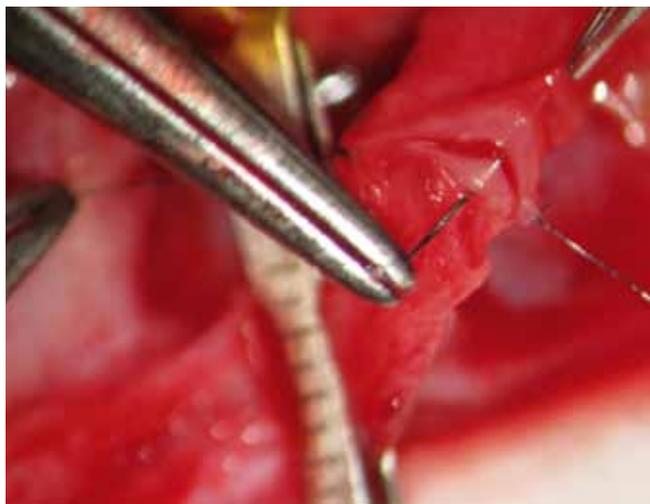
... and saves space in the hallway.

»What I like most is the brilliance and the 3D depth of the images. But the flexible tube is amazing too. You don't have to strain your back during the surgery. You can stay clear and comfortable as the tube adapts to your movement and position. In general, it was fun working with OPMI VARIO 700 and I felt comfortable with it.«

Christian Busch, MD, Dermatology Clinic, Eberhard-Karls-University, Tübingen, Germany

Plastic & Reconstructive Surgery

Highest quality optics are crucial for identifying fine anatomical details in plastic & reconstructive surgery.



Outstanding visual clarity

The integrated apochromatic optics of OPMI VARIO 700 deliver outstanding visual clarity, detail resolution and color fidelity. Maximum magnification is crucial for performing delicate anastomoses. The integrated PROMAG™ functionality enhances magnification by an additional 50%, thus safely and reliably supporting complex procedures involving fine vessels and nerves.



Fine movement

Equipped with an optional XY coupler, OPMI VARIO 700 enables fine movement in the XY plane. The XY coupler offers excellent support when working at high magnifications as required during micro-vascular reconstruction.

Precise positioning, nice and easy

Its handgrip-controlled electromagnetic clutches and compact microscope head enable precise system positioning. When needing both hands to perform a procedure, users can also adjust primary system functions with the wireless foot control. OPMI VARIO 700 features an industry-leading suspension arm reach, easily accommodating face-to-face working positions.

Ergonomic working positions

The patented multi-link design and the integrated rotating adaptor of the foldable tube allow users to precisely adjust their preferred working position for optimal ergonomics throughout the surgery.

OPMI VARIO 700 – Ideally suited for plastic & reconstructive surgery.



For precise movement in the XY plane: the OPMI head travels into the desired position in a matter of seconds.

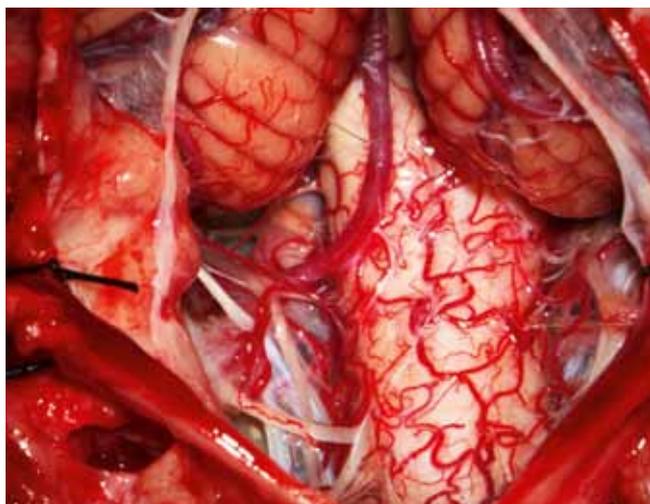


Gain an additional 50% magnification with the PROMAG function by simply turning its ergonomically designed dial.



Neurosurgery

Over 60% of all neurosurgeries worldwide are performed on ZEISS microscopes – and for good reason. OPMI VARIO 700 is ideally suited for the high demands of neurosurgery.



A sight to behold

Incorporating ZEISS apochromatic optics, OPMI VARIO 700 delivers exceptional visual clarity, detail resolution and color fidelity. The system's xenon light source offers superb illumination, even for deep lying surgical fields. Whether equipped with the stereo co-observer tube or the integrated high-definition video, assistants and OR staff are provided with spectacular images during the operation.

»OPMI VARIO 700 is very compact as well as mobile. There are more ergonomic positions possible.«

Günther Feigl, MD, Clinic for Neurosurgery, Tübingen University Clinic, Tübingen, Germany

Effortless positioning

The handgrip-controlled electromagnetic clutches and compact microscope head of OPMI VARIO 700 allow for effortless yet highly precise system positioning. If necessary, primary system function adjustments can also be made via the wireless foot control.

Comfortable operating experience

With its patented multi-link design and the integrated rotating adaptor of the Foldable Tube f170/f260, OPMI VARIO 700 allows for very personalized working position adjustments. The superb ergonomics of the system make for a comfortable operating experience during long surgical procedures, enhancing concentration.

Image guidance in neurosurgery

Seamless integration of neuro navigation platforms to the OPMI VARIO 700 system enables surgeons to expand imaging capabilities.

OPMI VARIO 700 – Ideally suited for neurosurgery.



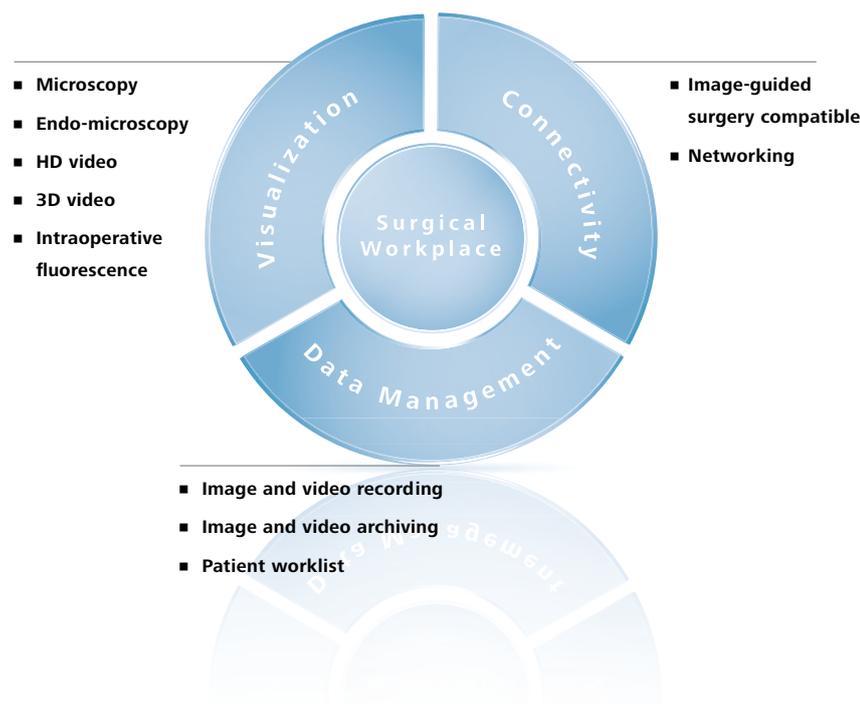
Assist comfortably and reduce fatigue in long procedures – with the ergonomically-designed stereo co-observation tube.

// BEYOND VISUALIZATION

MADE BY CARL ZEISS

A Shared Vision

Imagine the ideal operating environment. Essential information readily available whenever and wherever it is needed. Minimized setup times. Intuitive system operation. Reliable system performance. Everything working in unison to empower surgeons to perform at their best.



With the Surgical Workplace from Carl Zeiss, this vision will become a reality. Combining visualization, connectivity and data management solutions in a single suite, the Surgical Workplace will enable surgeons to see more clearly and operate more efficiently in pursuit of better patient outcomes.

As an integral part of the ZEISS Surgical Workplace, OPMI VARIO 700 represents a decisive step towards a comprehensive operating room.

Image guided surgery

The integrated navigation interface of OPMI VARIO 700 allows fast and easy connection to navigation systems.



Technical Data

Floor stand system

Electrical data

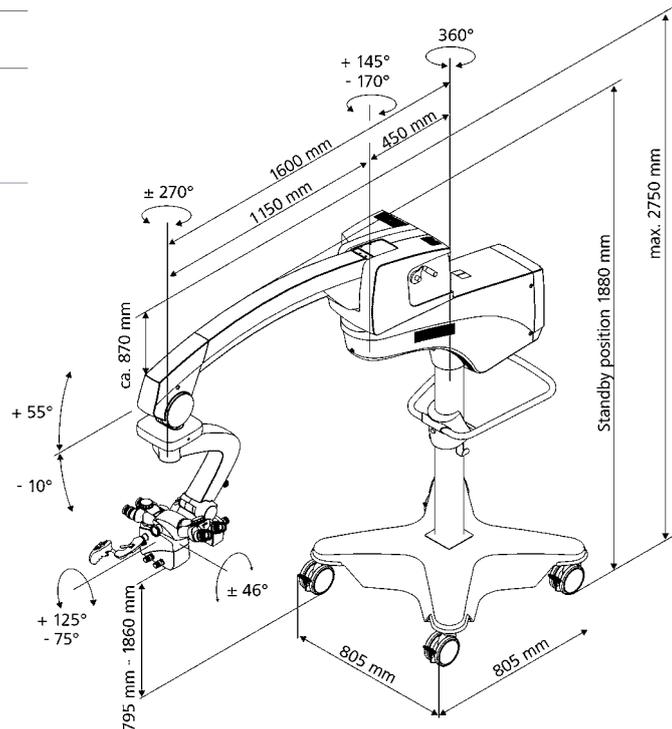
Rated voltage
 115 VAC (100 - 125 VAC)
 230 VAC (220 - 240 VAC)

Current consumption
 115 VAC max. 10 A
 230 VAC max. 5 A

Rated frequency
 50-60 Hz

Weight

Total weight: approx. 275 kg
 Maximum admissible load
 (accessories) on microscope
 head may not exceed 7 kg
 Weight of transport container:
 approx. 220 kg



OPMI VARIO 700

Standard and Optional Features



reddot design award
winner 2010

OPMI VARIO 700

Apochromatic optics	Motorized focus; working distance 200 - 500 mm	●
	Motorized zoom; 1:6 zoom ratio	●
	10 x magnetic widefield eyepiece with integrated eyecups	●
	12.5 x magnetic widefield eyepiece with integrated eyecups	○
	SpeedFokus for automatic focusing (only with integrated video camera)	○
Illumination	Superlux® 180 W xenon light source	●
	Superlux 300 W xenon light source with automatic lamp exchange	○
	Automatic Iris Control for adjusting the illumination to the field of view	●
	Focus Light Link: working distance controlled light intensity	●
	Display of remaining lamp life time	●
System setup	Manual balance with guidance via user interface	●
	AutoBalance	○
	AutoDrape – automatic air evacuation out of the drape	○
General video	Integrated 22" digital display	○
	Video SpeedFokus – automated video focus	○
	Adaptation of consumer (SLR) photo / video camera	○
Standard-definition video:	Integrated 3-CCD SD video camera	○
	Integrated image and video recording on USB-media or shared directory	○
High-definition video	Integrated 3-CCD HD video camera including HD DigiZoom	○
	Integrated image and video recording on USB-media or shared directory	○
Connectivity / Data management	Navigation interface for image guided surgery	○
	Video-in for external SD video sources	○
System operation	Multifunctional programmable handgrips	●
	Magnetic clutches for all system axes	●
	Central user interface	●
	Overhead display for showing important system parameters	●
	XY drive* (variable speed)	○
	Wired foot control panel	○
	Wireless foot control panel	○
Accessories	180° tiltable tube, focal length f=170mm	●
	180° tiltable tube, focal length f=200mm	○
	Foldable Tube f170/f260, including PROMAG function for additional 50% magnification and integrated rotate function	○
	Straight tube, focal length f=170mm	○
	Stereo co-observer	○
	Stereo bridge for face-to-face operation	○
	Interface for micromanipulator	○

● Standard ○ Option

*All options can be retrofitted on site on the customer's premises (exception: XY drive).

Image courtesy of:

Michael Buchfelder, MD, PhD, Neurosurgery Department, Erlangen University Hospital, Erlangen, Germany (p. 5, 8, 14)

Joachim Hornung, MD, Department of Otorhinolaryngology, Head and Neck Surgery, University of Erlangen-Nuremberg, FAU Medical School, Erlangen, Germany (p. 10)

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