

# Focusing on the Essentials





# **OPMI® VARIO 700**

**An integral part of the ZEISS Surgical Workplace**





## 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.

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







# Dynamic Microscopy

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 video chain allow surgeons to see more clearly and operate with greater confidence.*

- **Streamlined for Efficiency**

*Superior system ergonomics and automated functions improve surgeon comfort and streamline surgical workflow from pre-op to post-op.*

- **Versatility without Compromise**

*As an uncompromising microscope for spine, ear, nose & throat, plastic & reconstructive and neurosurgery, 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.*





# Visual Clarity 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 - 500 mm working range.

## Ultra-bright illumination

With the optional 300 W xenon light source, even the deepest surgical channels are brightly illuminated. An equivalent second light source is automatically available, when a lamp exchange might be required. Moreover, the system's Automatic Iris Control™ automatically cones down the light to match the field of view, protecting surrounding tissue against unnecessary light exposure.

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



# Visual Clarity Video

## Fully integrated video chain

Incorporating a fully integrated 3CCD video camera and 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, independent of the surgeon's view. Images and videos can also be easily recorded on USB media for patient recordkeeping, presentations, publication or review at a later time.

## HD redefined

The optional integrated high-definition (HD) video camera – the first of its kind with apochromatic optics – delivers stunning views of the surgical field for co-observation and training purposes.

## OPMI VARIO 700 –

**Making documentation simple.**



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



*Data transfer is extremely simple via USB stick or the system's networking feature directly to the hospital network.*



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





# 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

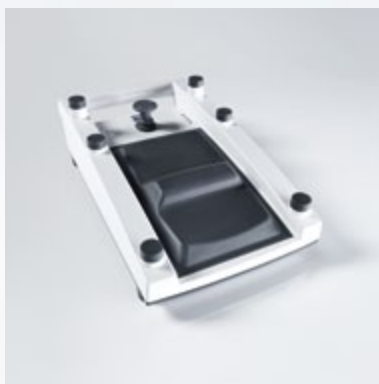
The programmable handgrips, overhead display and optional wireless foot control create a surgical cockpit that places all essential microscope functions within reach, provides intraoperative data in real-time and allows surgery to be performed in total comfort.

## OPMI VARIO 700 –

**A new paradigm in comfort and efficiency.**



*Ergonomic handgrip design facilitates system positioning throughout the procedure.*



*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.*



# 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.**

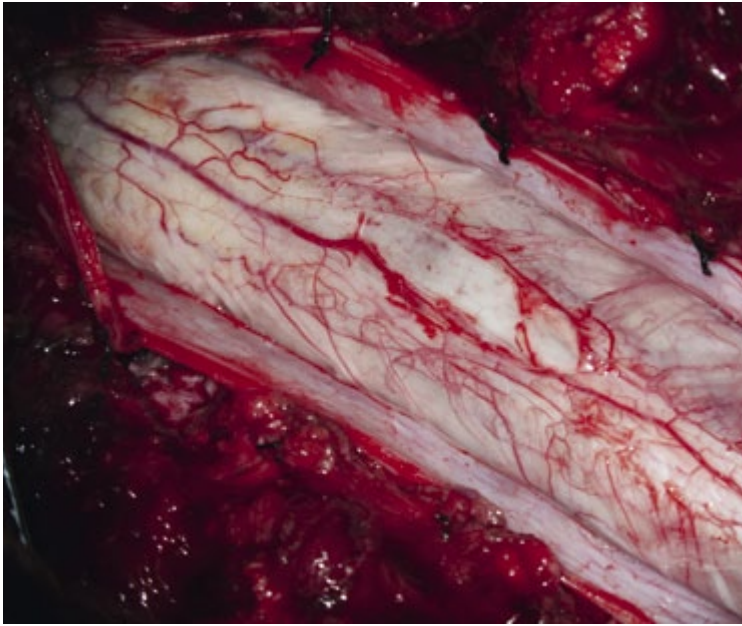
### A sound investment:

- ✓ **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



reddot design award  
winner 2010

# 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 with 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 more than 500 mm and an extensive reach, OPMI VARIO 700 offers surgeons extraordinary positioning flexibility for accessing the desired field of view.

## Fast system setup

The features AutoBalance and AutoDrape ensure fast system readiness thus 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.**



*OPMI VARIO 700 offers true overhead clearance with its long reach.*



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

*»The absence of cables,  
the built-in camera and the ability to capture  
images are the most important advantages  
I experienced with OPMI VARIO 700.«*

*Alistair Stirling, MD, Department of Spinal Surgery,  
The Royal Orthopaedic Hospital, Birmingham,  
United Kingdom*

*»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*





# 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 tiltable tube 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.

**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.*



»The ergonomics of the microscope are astonishing with respect to degrees of freedom, easy use of the auto-balance function and intuitive menu handling. Working at extreme angles of the optical axis is no longer problematic and enables the surgeon to perform the surgery in a comfortable and relaxed posture.«

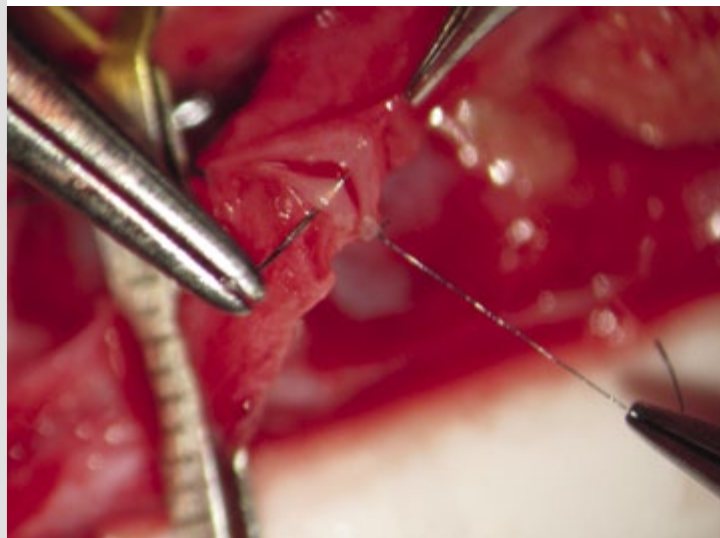
Martin Leinung, MD, Clinic for Otorhinolaryngology,  
Johann Wolfgang Goethe-University, Frankfurt a. M., Germany

»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



# Plastic & Reconstructive Surgery



## Extremely fine movement

Equipped with an optional XY coupler, OPMI VARIO 700 enables extremely fine movement in the XY plane.

The XY coupler offers excellent support when working at high magnifications, for example, during micro-vascular reconstruction.

**OPMI VARIO 700 – Ideally suited for 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.

## 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.



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



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



*»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.«*

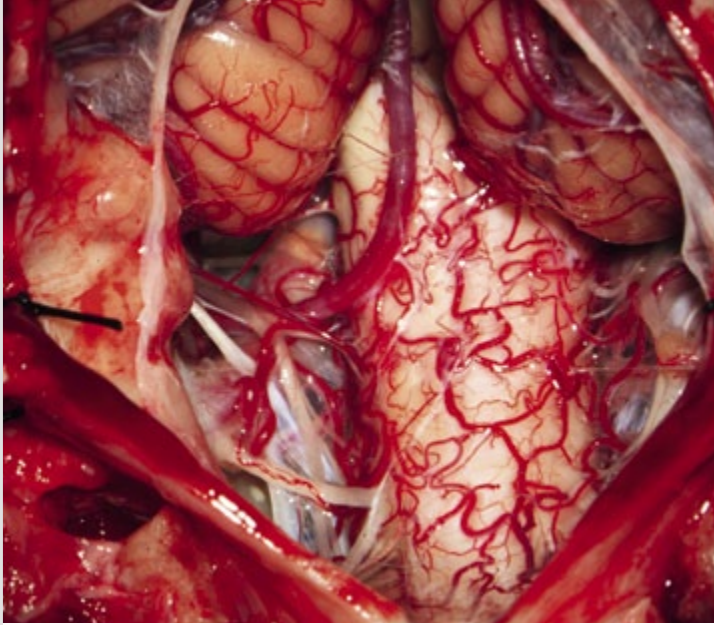
*Christian Busch, MD, Dermatology Clinic, Eberhard-Karls-University, Tübingen, Germany*

*»OPMI VARIO 700 offers decisive benefits thanks to its better ergonomics. Particularly during long surgeries, it enables me to adopt a relaxed head posture. Super optics and excellent focusing range are all really magnificent features. Overall, it is an easy-to-move, easy-to-operate surgical microscope.«*

*Sebastian Kauder, MD, Dermatology Clinic, Eberhard-Karls-University, Tübingen, Germany*



# 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.

## **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**

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.

**OPMI VARIO 700 –  
Ideally suited for neurosurgery.**



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



*»OPMI VARIO 700 is very compact as well as mobile.*

*There are more ergonomic positions possible.«*

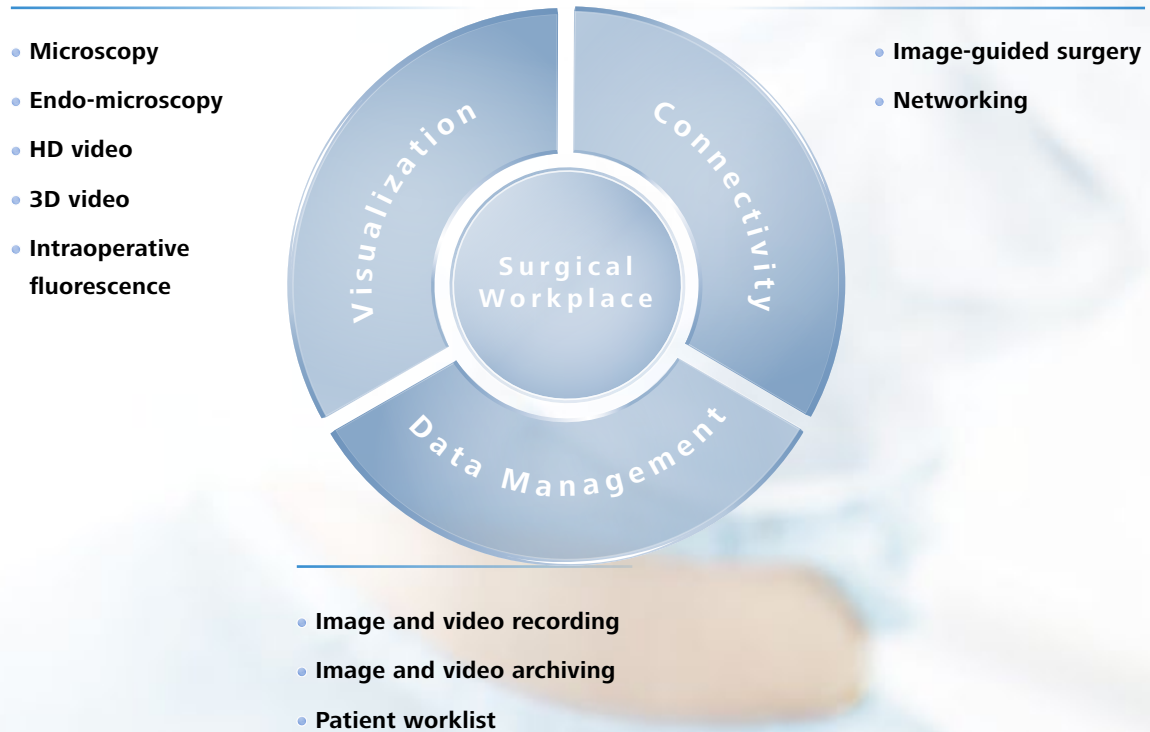
*Günther Feigl, MD, Clinic for Neurosurgery, Tübingen University Clinic, Tübingen, Germany*



# Beyond Visualization

The idea behind the ZEISS Surgical Workplace is simple: a suite of visualization, connectivity and data management solutions. When used in concert, these solutions create an OR environment empowering surgeons to be better informed and more efficient in the pursuit of better patient outcomes.

With the ZEISS Surgical Workplace, the future is now.





# OPMI VARIO 700 -

## A system as individual as you

<b>Apochromatic optics:</b>	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)	○
<b>Illumination:</b>	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	●
	Display of remaining lamp life time	●
<b>System setup:</b>	Manual balance with guidance via user interface	●
	AutoBalance	○
	AutoDrape – automatic air evacuation out of the drape	○
<b>General video:</b>	Integrated 17" digital display	○
	Video SpeedFokus – automated video focus	○
	Adaptation of consumer (SLR) photo / video camera	○
<b>Standard-definition video:</b>	Integrated 3-CCD SD video camera	○
	Integrated image and video recording on USB-media	○
<b>High-definition video:</b>	Integrated 3-CCD HD video camera	○
	External recording devices	○
<b>Connectivity / Data management:</b>	Network connection via shared directory	○
	Video-in for external SD video sources	○
<b>System operation:</b>	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	○
<b>Accessories:</b>	180° tiltable tube, focal length f=170mm	●
	180° tiltable tube, focal length f=200mm	○
	Straight tube, focal length f=170mm	○
	Stereo co-observer	○
	Stereo bridge for face-to-face operation	○
	Interface for micromanipulator	○

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

● Standard

○ Option

# Technical Data

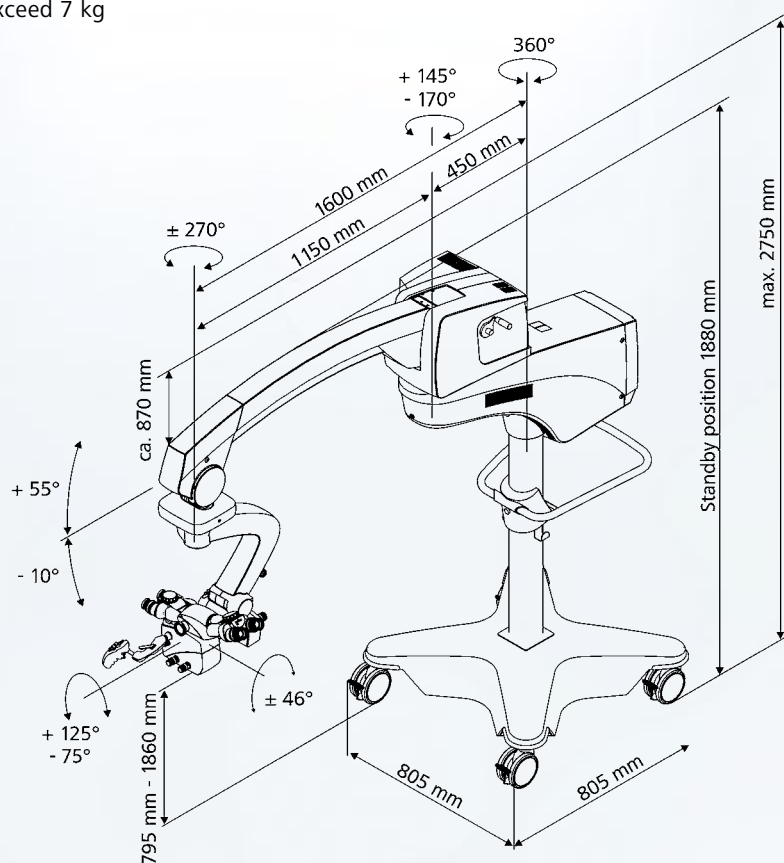
Floor stand system

## Electrical data

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



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